Welfare reform impacts in the SIPP

Data from the Survey of Income and Program Participation (SIPP) suggest that families who left the rolls due to welfare reform were more prone to economic difficulties than other leavers, however, income improved for most post-reform leavers

Richard Bavier

Richard Bavier is a policy analyst at the U.S. Office of Management and Budget. rbavier@omb.eop.gov. The views expressed are the author's personal views and do not represent the views of OMB or the Administration.

Nearly 6 years after enactment of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWO or simply "welfare reform") most analysts have found generally positive outcomes. Welfare dependence has declined; by 1999, average monthly welfare caseloads stood at less than half the 1994 pre-reform peak for the predecessor Aid to Families with Dependent Children (AFDC). In addition, the economic status of women who head families with children, the group affected most directly by welfare reform, has improved according to annual data from the March Current Population Survey (CPS).[1] After a post-1995 dip, even the poorest families showed economic gains in 1999 and 2000, though these were lost in the recession year of 2001.

Analysis of expenditure levels provides a more optimistic picture.[2] Several samples specially created to monitor what happened under the new program, Temporary Assistance to Needy Families (TANF), have also reported income gains. The Urban Institute's National Survey of American Families found that families leaving welfare in 1999 did as well or better economically than 1997 leavers.[3] Researchers employing data from the Women's Employment Project, find that "work pays" for post-reform welfare leavers.[4] However, other researchers have also found that some families lost ground economically after leaving welfare. In their first year off the rolls, nearly half of all leavers had average monthly income lower than their last months on welfare.[5]

These descriptive analyses tell us what has happened, often termed "outcomes," since enactment of welfare reform. A smaller number of analyses has tried to estimate the difference that welfare reform has made for families, often termed "impacts." So far, estimates of welfare impacts have been limited largely to annual data from the March CPS.[6] The earliest CPS analyses focused on how much of the historic post-1994 caseload decline was due to welfare reform and how much was due to the strong economy of the late 1990s.[7] In a 2000 study, Robert Schoeni and Rebecca Blank found positive impacts of pre-reform welfare waivers on the employment, earnings, and income of lower skilled females in the CPS.[8] Neeraj Kaushal and Robert Kaestner,[9] and June O'Neill and M. Anne Hill[10] found even larger positive impacts of welfare reform on welfare participation and employment among subgroups of women likely to be affected by reform. Because, until recently, the March CPS did not permit identification of welfare transitions, these analyses cannot tell us whether the impacts reflect the experience of parents leaving welfare due to reform or parents deterred from welfare by reform. The longitudinal character of the Survey of Income and Program

Participation (SIPP) allows us to estimate impacts of reform on more precisely defined groups. Welfare leavers can be identified and followed in the SIPP. And although identification of deterred persons remains a challenge, the SIPP allows specification of a more precise proxy than the CPS.

Limitations of the SIPP

Sample loss and item nonresponse are the principal cautions with SIPP data. These surveys never manage to collect all the data they want from every household in their sample. Moreover, with panel surveys, some households that provide information at the start, move and are lost, or refuse to provide information at subsequent visits. In addition, households that do provide some information may not answer all the questions they are asked.

Sample loss and item nonresponse, have been growing in national Federal household surveys, including the SIPP. By the end of the 4-year 1996 panel, about one-third of the sample had been lost.[11] Of the households still in the sample, about half did not provide amounts for some types of income. These sample loss and nonresponse levels are higher than those in the 1993 SIPP panel wave files.

The Census Bureau corrects for sample loss by increasing the sample weights, or the number of households each sample household is assigned to represent. And it corrects for item

nonresponse by imputing answers based on other information that the household has provided and responses provided by other households with similar characteristics. As with other surveys, sample loss from the SIPP is not random, but tends to occur more frequently with households that have less economic stability.[12] Analysis of welfare leavers from the first few waves of the 1996 panel found that those who remained in the sample were more likely to have earnings in their exit month.[13] Thus welfare leavers who remain in the sample may be a little more successful than those who are lost.

Income of leavers over 24 months

Findings reported earlier from the first 3 years of the 4-year, 37,000 household SIPP panel that began in 1996 were largely consistent with major themes from the many State-level "leavers studies," and also with analysis of income trends among women who maintain families in the CPS.[14] Release of data from the last year of the 1996 SIPP panel allows us to follow families through 1999. This expands the pool of families for impact analysis. It also provides a reasonably large number of leavers (n=695) who can be observed for 24 months following their exits.[15] The longer observation is significant because many leavers do not realize income gains until their second year off the rolls.

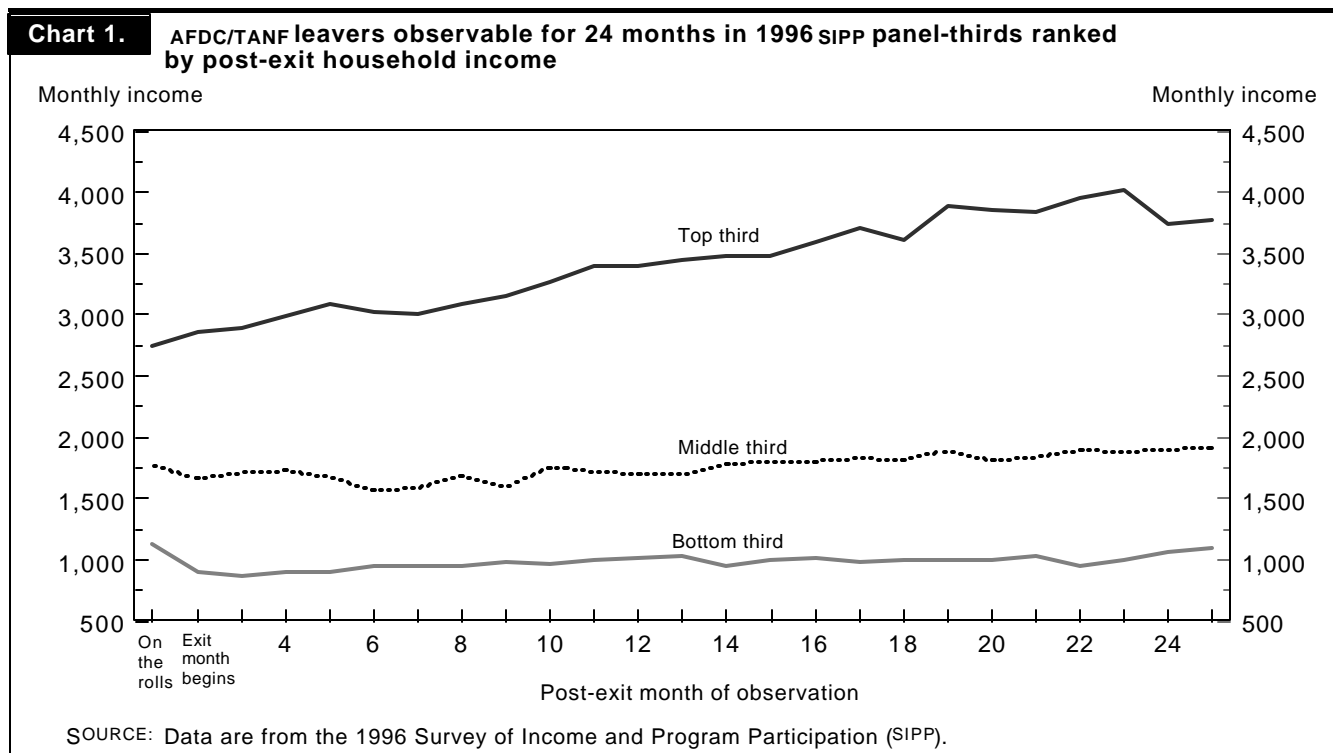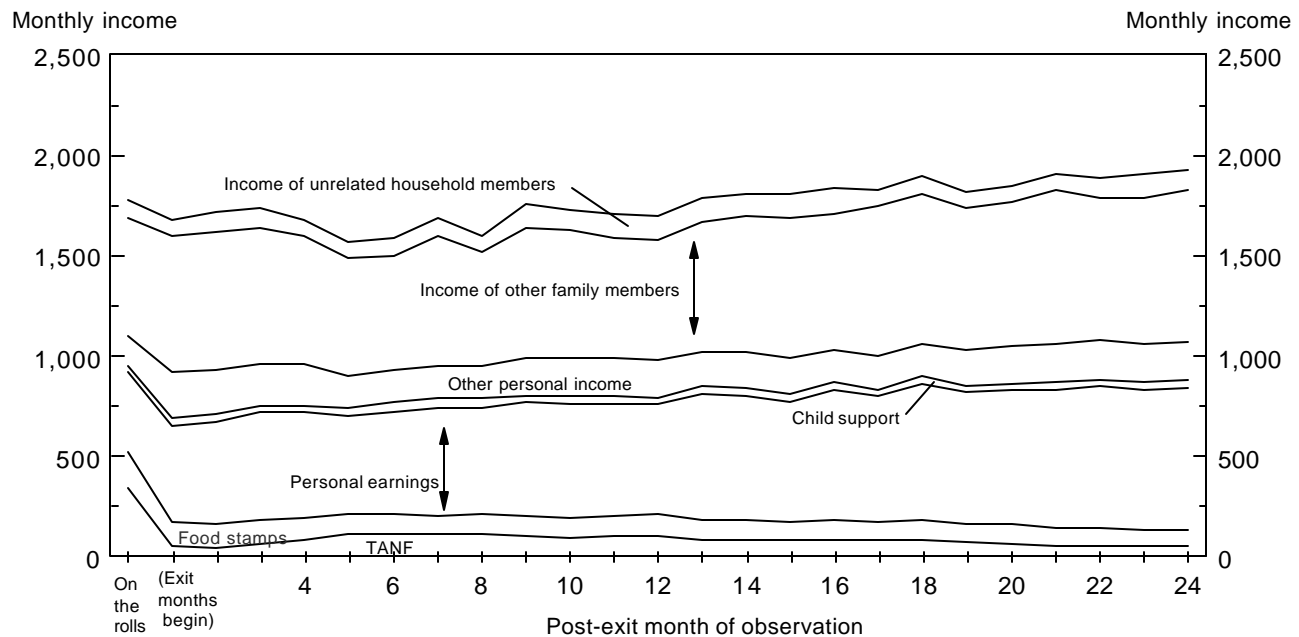Chart 1 shows the monthly household income of AFDC/TANF

Chart 1. AFDC/TANF **leavers observable for 24 months in 1996** SIPP **panel-thirds ranked by post-exit household income**

SOURCE: Data are from the 1996 Survey of Income and Program Participation (SIPP).

leavers who remained in the 1996 SIPP panel sample for at least 24 post-exit months.[16] In chart 1, leavers are grouped into thirds based on their post-exit household money income plus food stamps, adjusted for household size. The top third experienced strong income gains over their first two exit years. The tracks for the middle and bottom thirds are fairly flat.[17]

Chart 2 presents a detailed picture of the incomes of the middle third of all leavers from chart 1. Chart 2 may be regarded as presenting the experience of typical leavers, around the median for all leavers. During the first post-exit year, monthly household income remained below income for the last months on the rolls, but then remained above during the second year. The chart starts at a point labeled "on the rolls." This is the average income of the last two pre-exit months for each leaver. First, notice the changes from the left-most values, labeled "on the rolls," to the first post-exit month. As expected, income from AFDC or TANF declines sharply, and food stamps do too, although less so. The line between "personal earnings" and "child support" does not decline as steeply, showing that earnings made up some of the loss. About half of leavers represented in chart 2 had some earnings in their last month on the welfare rolls, thus income for leavers in a typical month on welfare probably was not as high as the last month.

Leavers sometimes received other transfers besides TANF or food stamps. These transfers are included in the area labeled "other personal income." Five to ten percent of all leavers reported general assistance or some other cash welfare other than TANF. Around one-fifth of all leavers received Supplementary Security Income (SSI), either for themselves or on behalf of a child. Seven percent reported Social Security benefits.

In the exit-month, 29 percent of leavers reported that they were residing in public housing or otherwise receiving rental assistance. However, the monthly amounts of that kind of transfer are not included on the SIPP file and so are not included in charts 1 and 2.

In any single month, between 1 percent and 4 percent of all leavers reported no household money income or food stamps. About the same share reported only food stamps or rental assistance. No leavers had zero household income over the entire 24 month period.

If the Earned Income Tax Credit (EITC) were added to post-exit incomes of eligible earners, income levels would be higher. Similarly, if work expenses, positive income taxes, and payroll taxes were subtracted, net gains would be lower.

Income received by others

In any single month, around half of all leavers lived with other family members with income.[18] The thickest layer on Chart 2 is labeled "income of other family members," which includes earnings, transfers, and other income received by others in the leavers' families. By comparison, in any given

Table 1.	Income of other family members of welfare leavers, 1996 panel, Survey of Income and Program Participation (SIPP)	

| Observed in month 8 of the 1996 SIPP panel	Monthly income
All welfare leavers	
Total family pretax money income plus food stamps	$1,699
Leaver's personal pre-tax money	
income plus food stamps	907
Income of other family members	793
Leavers with a spouse (22 percent)	
Income of spouse	1,305
Earnings of spouse	987
Cash transfers received by spouse	165
Food stamps received by spouse	58
Leavers residing with a parent (17 percent)	
Income of parent	1,477
Earnings of parent	1,145
Cash transfers received by parent	166
Food stamps received by parent	45
Leavers residing with a child 15 or older (13 percent)	
Income of child (15 or older)	681
Earnings of child (15 or older)	560
Cash transfers received by child (15 or older)	113
Food stamps received by child (15 or older)	4

NOTE: The table shows income from other family members of welfare leavers observable for at least 24 post-exit months. Monthly income amounts are from month 8 of the panel, using relationship detail from the topical module from wave 2.

month, only 8 percent or 9 percent of leavers lived with unrelated household members who had income. The amounts of income received by other family members and by unrelated household members were similar—around $2,000 per month by the end of the period. But for all the speculation about the importance of "boyfriends" in understanding falling caseloads, data from the SIPP indicate that leavers were about 5 times as likely to live with other family members than with any kind of unrelated household members. And only 5 percent of leavers in the 1996 SIPP panel described themselves as living with an "unmarried partner."

With wave 2 of the SIPP, the 1996 panel asked very detailed questions about the relationships of everyone in the household to everyone else. These one-time data are the basis of the most complete view of income from other family members.

Table 1 accounts for nearly four-fifths of the income received by other family members in month 8 of the 1996 SIPP. More than one-fifth of leavers with income from other family members resided with a spouse who had income. A little less than one-fifth of leavers with income from other family members resided with at least one parent with income. About 1 in 8 lived with a child (not necessarily a minor) who had some income. On average, earnings made up more than three-fourths of all the income of other family members shown in table 1.

Chart 3.	Mean household income of disadvantaged welfare leavers in the 1996 SIPP panel
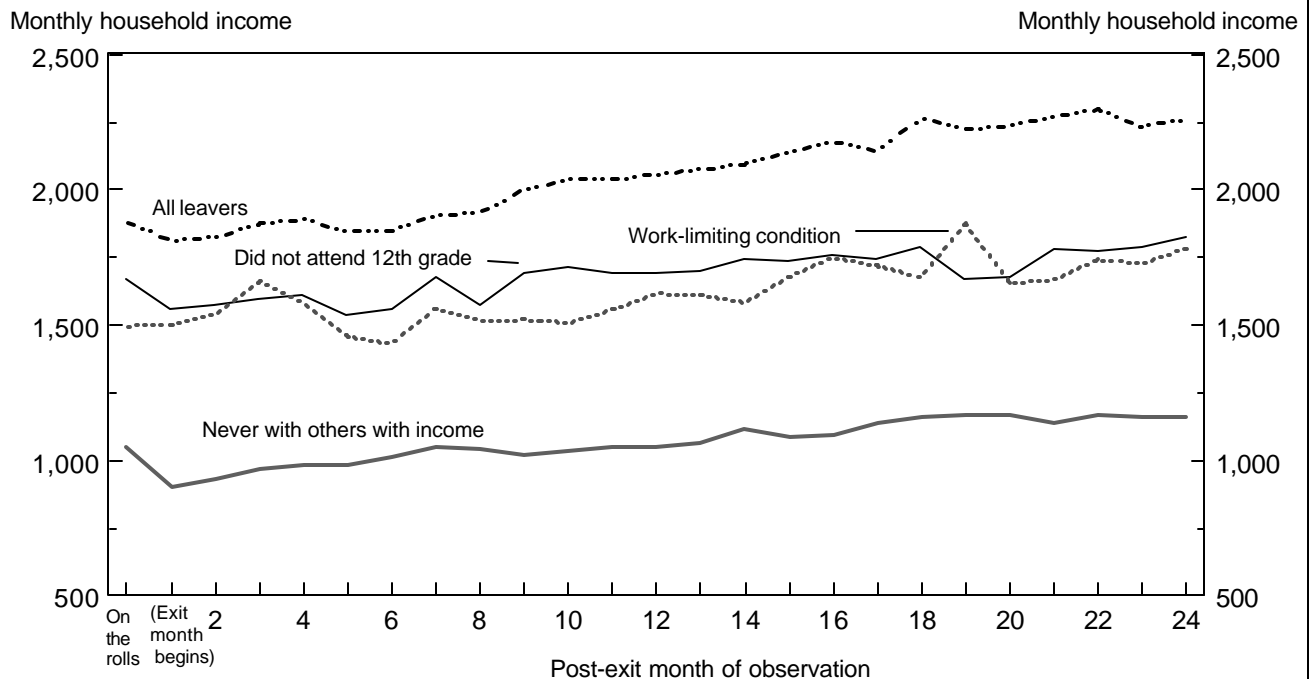
SOURCE: Data are from the 1996 Survey of Income and Program Participation (SIPP).

Disadvantaged groups

Mean household income of leavers with labor market disadvantages display a similar pattern of gradual improvement over the observation period. (See chart 3.) As expected, monthly incomes of these groups fall below the average for all leavers.

About one-fourth of leavers in the 1996 panel did not reside at any point during 24 post-exit months with anyone else who received income. Poverty rates for those who had only their personal incomes throughout stood at 70 percent in the exit month. Still, as chart 3 shows, there was some improvement over the observation period, principally in earnings.

Leavers who did not reach grade 12 constituted 37 percent of all leavers in the 1996 panel. This subgroup worked in 40 percent of all months in their first 2 post-exit years, compared with 63 percent for leavers who attended grade 12.

Among leavers who could be followed for 24 post-exit months, 17 percent reported a medical condition at the time of exit that limited the kind or amount of work they could do. They were employed in only about one-fourth of all months, and were more likely to return to TANF. In any month, from one-fourth to more than one-third of leavers with work

limitations reported receiving Supplemental Security Income for themselves.

Comparisons with earlier periods

Earlier SIPP panels provide perspective on the 1996 panel experience portrayed in charts 1, 2, and 3 above. In chart 4, the income of leavers who could be followed for at least 24 post-exit months in the smaller 1993 SIPP panel shows gradual improvement over the observation period, as in chart 3. Overall, the picture appears very similar to the 1996 panel, with perhaps a little less improvement over time.

Chart 5, which compares monthly income to simulated monthly poverty thresholds in the 1993 and 1996 panels, also suggests that, although the volume of leavers increased dramatically with welfare reform, their experiences off the rolls have been similar to years just prior to enactment.[19]

Multivariate analysis

Descriptive statistics suggest that the experience of recent leavers has not been very different than the experience of earlier leavers. Once off the rolls, leavers typically see improvement over the first 2 years, even those with labor

Chart 4.   Mean household income of disadvantaged welfare leavers in the 1993 SIPP panel

SOURCE: Data are from the 1993 Survey of Income and Program Participation (SIPP).

Chart 5. **Percentage of poor welfare leavers based on monthly household pretax-money plus food stamps and simulated poverty thresholds in the 1993 and 1996 SIPP panels**

Percent poor   Percent poor

Post-exit month of observation

SOURCE: Data are from the 1993 and 1996 panels of the Survey of Income and Program Participation (SIPP).
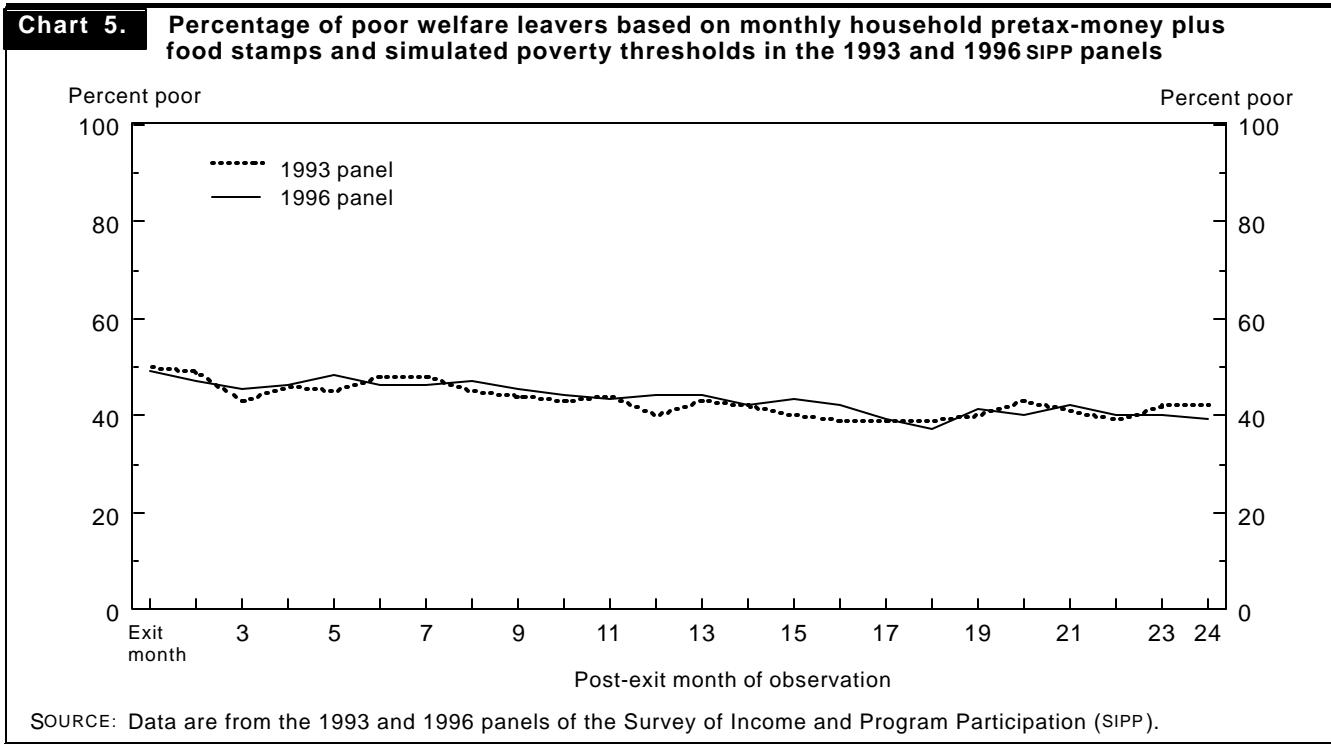
market disadvantages. However, given the stronger economy in the second half of the 1990s, would we not expect 1996 panel leavers to have even steeper income increases compared to 1993 panel leavers? Or, if the volume of leavers swelled in mid-decade with families who otherwise would have stayed on welfare, would we not expect that these welfare reform-induced leavers would depress the income trajectory of leavers as a group? These are questions about the impacts of welfare reform. To answer them, we need to compare what actually happened to estimates of what the poverty and income experience of leavers would have been if PRWO had not been enacted. These estimates are based on the experience of pre-reform leavers, after controlling for differences in the characteristics of the leavers and the strength of the economy.

Positive impacts. The CPS-based impact analyses of O'Neill and Hill and of Kaushal and Kaestner cited earlier found lower welfare participation and positive employment impacts among groups likely to be affected, principally women who maintain families. Starting with the broader group of all women aged 18–65, Schoeni and Blank's preferred approach for isolating TANF impacts found negative impacts on welfare participation and poverty, and positive impacts on employment and income.[20] SIPP data provide evidence of similar beneficial impacts of welfare reform.[21]

The SIPP analysis that follows includes observations from 1993–99, but these years are covered by only two panels.

The 1993 panel includes observations from 1993 to 1995, and the 1996 panel includes observations in that year to the early months of 2000. To first test consistency with the CPS-based findings, independent point-in-time samples of women who maintain families were identified from January 1994 (n=1,868) and from January 1998 (n=3,216). Because only one pre-welfare reform and one post-welfare reform cohort are employed, this design cannot distinguish the effects of welfare reform from other uncontrolled time-varying factors, as the CPS analyses attempt to do.

The model. Whether female *i* receives welfare at any point during a year of observation (Y_i) was estimated with the following logit model:

$$Y_i' = a + b_1 TANF + b_2' \mathbf{x}_i + b_3 state_i \qquad (1)$$

$$Y_i = \begin{cases} 1 \text{ for } Y_i' > 0 \\ 0 \text{ for } Y_i' \le 0 \end{cases}$$

TANF = 1 for the January 1998 cohort.

x_i is a vector of control variables for female *i,* including personal characteristics, household characteristics, and resident State welfare benefits, unemployment rates, and unemployment change.[22]

state is a vector of dummy variables for 41 States with at least one case in each cohort.

Consistent with the positive findings of the CPS-based impact analyses, the *TANF* dummy coefficient is negative and significant for welfare receipt and poverty. [23] It is positive and significant for earnings and monthly household income. Controlling for other demographic and economic variables, women who maintain families in the later cohort are less likely to receive welfare, less likely to be poor, and more likely to have earnings. They have higher real monthly incomes, adjusted for household size. In the later SIPP cohort, women who maintain families also are more likely to live with other family members—an indication that welfare reform changed the way families shared resources and expenses. (Coefficients, standard errors, and significance measures are presented in appendix table A–1.)

Most caseload impacts from exits rather than entries. The impacts of reform on welfare participation could result from impacts on exits from welfare, on entries, or both. The SIPP's longitudinal design permits us to address this issue.

Women who were maintaining families in January 1993 or January 1997, 1 year before the cohorts chosen for appendix table A–1, are disaggregated into those who were receiving welfare and those who were not. From those subgroups, those who could be observed for the next 11 months are identified. Equations like equation 1 are formulated to observe whether the *TANF* dummy variable is significantly associated with exits and entries, after controlling for demographic and economic factors.

Women maintaining families and who reported receiving welfare in January 1997 were more likely to exit the rolls by the following December than were January 1993 recipients. Those not receiving welfare in January 1997 were less likely to receive benefits the following December. The results appear in appendix table A–2. Both exit impacts and entry impacts contributed to the welfare impacts on appendix table A–1. [24]

The magnitude of the exit impacts was larger. By this measure, impacts of PRWO on exits reduced participation among women who maintain families by about 7 percentage points, and entry impacts reduced participation by about 2 percentage points. [25]

Welfare leavers

An inference from the significant coefficient on *TANF* for welfare exits in appendix table A–2 is that leavers shown in charts 1, 2, 3, and 5 include some who would have remained on the rolls longer if PRWO had not been enacted. We do not know which individual exits were policy-induced. However, because parents who stay longer on welfare tend to have less to offer the labor and marriage markets than those who leave, we would expect that policy-induced leavers, who would have remained longer on welfare except for enactment

of PRWO, would have a harder time in the labor market than other leavers.

This line will be explored in two stages. First, the economic experience of post-reform leavers will be compared with pre-reform leavers', controlling for personal characteristics, the strength of the economy, and program parameters. Second, several hypotheses about the incidence of the differences in experience will be tested.

All females in the 1993 (n=338) and 1996 (n=1,002) panels who stopped receiving AFDC or TANF for at least 2 months and remained in the panel for at least 11 consecutive months after the exit month were selected. [26] Models like equation 1 were estimated for a range of outcomes, including whether the leavers had any exit-year earnings, whether the leavers' households were poor in the final quarter of their exit year, whether the mean monthly income in the second half of the observation year was $50 lower or higher than in the first half, and whether the leavers returned to welfare for at least 2 months.

One significant change in the independent variables for the leaver model was the addition of a trend variable. In the two panels, exits that could be followed for 12 months occurred each year from 1993 to 1998. Thus, a trend variable based on the year of exit was added to control for other time-varying factors not explicitly controlled. In the results, this variable generally shows favorable trends—employment rising, and welfare participation and poverty falling. As intended, the coefficients may reflect factors not modeled explicitly, such as expansions of the Earned Income Tax Credit.

A final significant change to the model was the *TANF* variable. Initially, a dummy variable was set at 1 beginning the month the leaver's State of residence converted from AFDC to TANF, or earlier if the State had operated a broadly based waiver demonstration with TANF-like time-limit or sanction policies. This TANF-conversion dummy was negative and significant in predicting any earnings during the exit year, and positive and significant predicting a return to welfare and poverty in the final quarter, but not for a $50 per month change in income over the second half of the exit year. [27]

More significant results were obtained by setting *TANF* to 1 for all exits beginning July 1996 or later. [28] The earnings and poverty coefficients were similar to results with the TANF-conversion dummy. With the July 1996 specification, post-reform leavers were found to be more likely to experience a $50 per month income loss in the second half of the exit year, and less likely to experience a $50 per month income gain. The July 1996 dummy did not predict a return to welfare. Mean values of the independent variables appear in appendix table A–3 and regression results are presented in appendix table A–4. [29]

Whether the impacts appear with conversion to TANF or in mid-1996, they seem to emerge before welfare reform

policies could actually have been applied to individual cases.[30] Consequently, any causal connection measured by the July 1996 or TANF conversion date dummies appears to be, in part, anticipatory. We know that some staff recommended that parents preserve months of eligibility by moving into the workforce as soon as possible, but we do not know how frequently this occurred, or to what effect.[31] Heightened welfare stigma and new "signals" from welfare staff have been reported as well, although, again we have no quantitative measures of their frequency or effect.[32] Moreover, media attention to welfare dependency, and reports of its harmful effects on families, accumulated in the first half of the decade.[33] The message would appeal to parents' natural concern for the well-being of their children. When this new ethos of welfare was publicly confirmed in mid-1996 by enactment of reforms intended to replace welfare with employment, parents may already have been prepared to respond.

TANF sanctions. Although the impacts appear prior to application of welfare reform policies, some link with policies that sanction welfare parents with benefit reductions for failure to comply with program requirements also is suggested. The TANF statute allows for more severe and immediate penalties for noncompliance, and other researchers have found that sanctioned families are less successful than other leavers.[34]

Starting with the 1996 panel, the SIPP asked welfare leavers to provide reasons for up to two exits in each wave. In the early waves of the 1996 panel, it is not possible to identify directly those families whose welfare benefit ends due to noncompliance. However, we can identify leavers who do not report any of three generally positive reasons for their exits: increased earnings; family structure change; a decision not to participate, though eligible. Leavers not offering a positive reason are no more or less likely to have any earnings during their exit year. The positive coefficient on the dummy variable predicting poverty just fails conventional standards of significance, while the positive coefficient on the dummy predicting a return to welfare is significant. If these are sanctioned cases, many appear to be "curable" in program jargon, meaning that benefits are restored after compliance. The size and significance of the coefficients on the sanctions proxy dummy indicate that it should be viewed as a supplemental, rather than a substitute, explanation for economic difficulties among post-reform welfare leavers.[35]

Incidence of exit-year difficulties

The *TANF* dummies in table A–4 are significant after controlling for observable personal characteristics. So the greater likelihood of post-reform economic difficulties is not entirely a matter of greater frequency of low educational attainment, work-limiting conditions, large families, or other observable disadvantages among post-reform leavers. Mean values of independent variables in table A–3 confirm that those with observable labor market disadvantages were represented among leavers at about the same rates before and after reform.[36]

The next step is to test several other hypotheses about the incidence of the greater likelihood of post-exit difficulties among post-reform leavers. The hypotheses are tested by comparing coefficients in models estimated with pre-July 1996 leavers to coefficients estimated with later leavers.

Hypothesis 1 - After mid-1996, the effects of observable labor-market disadvantages, such as low educational attainment, were amplified among both policy-induced leavers and other leavers, regardless of their State of residence.

Hypothesis 2 - The negative impacts measured in the July 1996 dummy were concentrated among leavers in States with rigorous sanction and time-limit policies.

Hypothesis 3 - The negative impacts measured in the July 1996 dummy were concentrated among policy-induced leavers, regardless of their State of residence.

Under the first two hypotheses, welfare reform made exit years harder for both policy-induced leavers and those who would have left anyway. Hypothesis 1 posits that this was a general impact, whereas under hypothesis 2, the impact was concentrated in States that adopted certain policies. Under the third hypothesis, welfare reform changed the composition of the group of families that left welfare by adding families more likely to experience economic difficulties.

Models estimated separately with pre-July 1996 leavers and later leavers, support the third hypothesis.[37] Hypothesis 1 predicts that coefficients on observable characteristics associated with post-exit economic difficulties would be larger and more significant in the post-reform model, but they are not. Hypothesis 2 predicts that the coefficient on a variable identifying States that other researchers have classified as adopting especially rigorous sanction and time-limit policies would be negative and significant for earnings and positive and significant for poverty.[38] But neither coefficient is significant.

By its nature, hypothesis 3 is not subject to direct confirmation with these data because we have not identified policy-induced leavers. We cannot rule out unobserved employment demand or policy factors behind the significant July 1996 dummies on appendix table A–4. But we have reason to expect that leavers who would have remained on the rolls except for welfare reform are more apt than other leavers to possess unmeasured personal characteristics

associated with lower labor market success.

The importance of unobservable characteristics in labor force participation among disadvantaged adults is well-known from the employment and training literature.[39] An expert panel advising the Department of Labor that an experimental design would be necessary to avoid biased estimates of the impacts of the Job Training Partnership Act noted:

> … the decision to enter a program is a result of systematic differences between those who enroll and those who do not, *even if* both groups have the same *observable* demographic characteristics and economic histories before enrollment.[40]

Controlling for selection bias has been a central issue in econometric estimates of the labor market effects of welfare as well.[41]

The concern over unobservables can be illustrated with equation 2, a modification of equation 1 in which V, indicating participation in a voluntary training program, is substituted for *TANF*.

$$Y_i' = a + b_1 V + \boldsymbol{b_2'}\mathbf{x_i} + b_3 state_i \qquad (2)$$

If Y_i' in equation 2 measured whether the person received any earnings (or exited welfare) during the year, we would suspect positive bias in the coefficient on V on the grounds that unobservable variables, such as motivation, both increase the likelihood that someone will participate in a voluntary training program and the likelihood that she will have earnings, whether or not she participated in training. If we could somehow measure the relevant unobservable variables accurately, and add, for example, $b_4 motivation_i$ to equation 2, we would reduce the positive bias in the coefficient measuring the impact of the training program, V.[42]

Introduction of $b_4 motivation_i$ into equation 1 likewise would alter the coefficient on *TANF* in table A–4. However, with equation 1, we expect the improved specification to make the coefficient less *negative*. In this case, the policy variable is not likely to correlate positively with motivation. The new PRWO policy regime is not voluntary, and it applies to all recipients. Rather than identifying a subgroup with relatively higher levels of motivation, table A–2 tells us that *TANF* identifies a group that includes many who would have remained on welfare except for PRWO. We expect motivation to correlate negatively with welfare participation, and those who would have remained on welfare without PRWO to possess lower levels of motivation than those who would have left the rolls anyway. So variation between pre- and post-reform periods in unmeasured *motivation* that correlates with lower probability of post-reform exit-year earnings would be captured by the *TANF* dummy in equation 1.

Hypothesis 3 predicts that if mean values of *motivation* were added to appendix table A–3, levels among pre-reform leavers would be higher than among post-reform leavers. Unfortunately, we cannot measure *motivation* directly. So the support for hypothesis 3 amounts to results that are inconsistent with hypotheses 1 and 2, but consistent with hypothesis 3 and expectations about the likely role of employment-correlated unobservables in the models that generated table A–4.

It is also possible that the TANF program *altered* the motivation of policy-induced leavers. This would seem consistent with the earlier observation of an anticipatory response to reform. If PRWO eliminated all relevant differences in unobservables, such differences between policy-induced leavers and other leavers could not explain the significant coefficients on *TANF*. However, the possibility that welfare reform altered motivation does not entail that the new regime or the new ethos eliminated *all* differences in relevant unobservables.

Unobserved instead of unobservable

The preceding discussion assumed that the July 1996 dummy variable *TANF* reflected the effects of unmeasured personal characteristics that were strictly unobservable, such as motivation and self-confidence. Instead, the relevant unspecified variables may just be unobserved, such as domestic violence, substance abuse, transportation barriers, or other observable characteristics typically not included on national household surveys, even one as content-rich as the SIPP, but linked to lower exit rates and poor employment experience.[43] If we suppose that such characteristics and conditions inhibit employment, we would predict that they would be more common among families that remain on the rolls than among leavers. Then reforms that induced more exits among families that otherwise would have remained on welfare would be expected to increase the proportion of leavers with these barriers, and thereby lower mean economic success among welfare leavers as a group.

Families deterred from welfare

In addition to its impacts on recipients, welfare reform may have deterred or diverted families from joining the welfare rolls in the first place. A decline among welfare entries is evident in administrative data, including among individuals reporting that they had never received welfare before.[44] Like welfare leavers, families that would have joined the welfare rolls but were deterred by reform might be experiencing economic success or economic difficulty on that account.

From appendix table A–2, we see that women who maintain families not on the rolls in January 1997 were less likely to be receiving welfare the following December than a parallel cohort from January 1993. In other words, some families who would

have joined the welfare rolls did not due to reform. Some of these families may actually have been recipients at some point prior to January 1997, and were diverted from returning to welfare. Their experience would be reflected in appendix table A–3 which includes some returning families. However, the lower entry rate of the January 1997 cohort in table A–2 also reflects some parents who were never recipients and who might have been deterred from welfare by reform.

Because persons deterred from welfare are not as easy to identify as leavers, a proxy group must be chosen. For the analysis that follows, women who maintained families at some point in the 1993 panel and received no AFDC at any point during the panel (termed "never on AFDC" here, although they might have received welfare prior to the start of the panel; n=1,422), and a parallel group from the 1996 panel (n=3,315), were selected if they could be followed for 12 consecutive months.[45] Women who maintain families have high welfare participation rates, and if any parents were deterred from welfare by reform, some of the deterred probably were in this subgroup. However, this proxy group will also include unaffected families whose experience may dilute or confound the measure of impacts on the deterred.

Mean monthly household income among high-school dropouts never on AFDC/TANF in the 1996 panel showed improvement over a 2-year observation, increasing from about $1,800 to about $2,900. After controlling for the demographic and economic variables employed throughout, the regression coefficient on the July 1996 dummy variable for any earnings in the observation year among women maintaining families and never on AFDC/TANF was negative, but fell just short of significance by conventional standards. There were no poverty impacts. The July 1996 dummy was positively and significantly associated with the probability that individuals never on AFDC/TANF would reside with other family members at some point during the year. The dummy was positive and significant for marriage in the last observation month, as well.[46] The significant family formation dummies may help explain the lack of poverty impacts despite the negative coefficient on the dummy predicting earnings.[47]

Perspectives

The descriptive statistics examined earlier show post-exit

economic improvement among leavers in the 1996 SIPP panel (although this is not to suggest that no families were worse off economically as a result of reform). In chart 1, most of the income gains appear among the most-successful third of welfare leavers. But even towards the bottom of the distribution of leavers, chart 5 finds declining poverty over the first two post-exit years. Disadvantaged subgroups of leavers in the 1996 panel (chart 3) show improvement as well. A straight-forward reading of chart 2 is that the typical welfare leaver averaged *lower* household income the first post-exit year than on the rolls, but *higher* income the second post-exit year. (And keep in mind that chart 2 does not reflect direct taxes, including the Earned Income Tax Credit, or work expenses, and that income shown for the months before exit probably is higher than income on the rolls most months for these recipients when earnings were less common.) A separate question is whether any of the improvement is attributable to welfare reform. Impact analyses address that question.

From the perspective of all women who maintain families, welfare reform impacts in the SIPP (table A–1) and in the CPS analyses cited earlier were positive. Controlling for other demographic and economic variables, welfare reform reduced welfare participation and poverty among female family heads, changing the number and composition of leavers, and increased employment and household incomes.

Participation impacts were driven principally by exits, although entry impacts were detected as well. There are indications that policy-induced exits among post-reform leavers were more prone to economic difficulties, although the descriptive data and table A–1 do not suggest that policy-induced leavers were generally worse off than if they had remained on welfare.[48] The policy-deterred among women maintaining families but never on welfare may have coped with reform by marriage or otherwise residing with family members.

Once reform had pushed many families off the rolls who otherwise would have remained longer, the July 1996 dummies in table A–4 indicate that the exit-year incomes of policy-induced leavers would have been lower and their poverty rates higher than other leavers', all else being equal. But charts 3, 4, and 5 show that the exit year incomes of 1996 panel leavers were not lower, and poverty rates were not higher, than 1993 panel leavers'.[49] All else was not equal, principally the stronger economy of the late 1990s. □

Notes

[1] The Current Population Survey is a monthly survey of approximately 60,000 households, which provides data on the labor force status of individuals, including demographic characteristics. Wendell Primus, Lynett Rawlings, Kathy Larin, and Kathyrn Porter,

"The Initial Impacts of Welfare Reform on the Economic Well-Being of Single-Mother Families with Children" (Washington, DC, Center on Budget and Policy Priorities, 1999). Richard Bavier, "Material Well-Being," in Douglas Besharov, ed., *Family Well-Being After Welfare Reform* (College Park, MD, University of Maryland School of Public Affairs, 2002), available on the Internet at: **http:// www.welfare-reform-academy.org**.

[2] Bruce D. Meyer and James X. Sullivan, "The Effects of Welfare Reform: The Material Well-Being of Single Mothers in the 1980s and 1990s," Working Paper 206 (Chicago, IL, Joint Center on Poverty Research, 2000).

[3] Pamela Loprest, "How Are Families That Left Welfare Doing? A Comparison of Early and Recent Welfare Leavers," *Assessing the New Federalism* Policy Brief B–36 (Washington, DC, The Urban Institute, 2001).

[4] Sheldon Danziger, Colleen Heflin, Mary E. Corcoran, and Elizabeth Oltmans, "Does It Pay to Move From Welfare to Work?" *Journal of Policy Analysis and Management,* Fall 2001, pp. 671–92.

[5] Maria Cancian, Robert Haveman, Thomas Kaplan, and Daniel Meyer, "Work, Earnings, and Well-Being after Welfare: What Do We Know?" Working Paper 73 (Chicago, IL, Joint Center on Poverty Research, 1999); Richard Bavier, "Welfare reform data from the Survey of Income and Program Participation," *Monthly Labor Review,* July 2001, pp. 13–24; and Sheila Zedlewski, "Family Incomes: Rising, Falling, or Holding Steady?" Panel presentation at the Fall 2001 conference of the Association for Public Policy Analysis and Management.

[6] The Survey of Program Dynamics and the Panel Study of Income Dynamics are other longitudinal surveys that will enable impact analysis of welfare reform. Sandra Hoffreth, Stephen Stanhope, and Kathleen Mullan Harris have used the Panel Study of Income Dynamics to estimate the impacts of policy and economic conditions on exits and returns through the period of welfare waivers ending in 1996. See, "Exiting Welfare in the 1990s: Did Public Policy Influence Recipients' Behavior?" and "Remaining Off Welfare in the 1990s: The Influence of Public Policy and Economic Conditions" (Economic Research Service of the U.S. Department of Agriculture, 2001).

[7] Several reviews of these efforts are available. See Rebecca Blank, "Declining Caseloads/ Increased Work: What Can We Conclude About the Effects of Welfare Reform?" *Economic Policy Review* , vol. 7, no. 2 (NY, Federal Reserve Bank, 2001), pp. 25–36; Stephen H. Bell, "Why are Welfare Caseloads Falling?" *Assessing the New Federalism*, Discussion Paper 01–02 (Washington, DC, The Urban Institute, 2001); Douglas Besharov and Peter Germanis, "Welfare reform - four years later," *The Public Interest,* 2000, vol. 140, pp. 17–35. Methodological issues for these time-series analyses are addressed in, Robert A. Moffitt and Michele Ver Ploeg, eds., *Evaluating Welfare Reform in an Era of Transition* (Washington, DC, National Research Council, 2001).

[8] Robert F. Schoeni and Rebecca Blank, "What has welfare reform accomplished? Impacts on welfare participation, employment, income, poverty, and family structure," Working Paper 7627 (Boston, MA, National Bureau of Economic Research, 2000).

[9] Neeraj Kaushal and Robert Kaestner, "From Welfare to Work: Has Welfare Reform Worked?" *Journal of Policy Analysis and Management*, 2001, vol. 20, no. 4, pp. 699–719 The authors employ March CPS data from 1995–99 and estimate difference-in-differences with comparison groups thought less likely to be influenced by the policy change.

[10] June O'Neill and M. Anne Hill, "Gaining Ground? Measuring the Impact of Welfare Reform on Welfare and Work," *Civic Report*, no. 17 (NY, The Manhattan Institute, 2001). The authors employ March CPS data for 1983–2000 with the effects of TANF measured by a dummy variable set for the month of implementation.

[11] To put that in a way that bears on the current topic, a total of 1,987 people in the 1996 SIPP panel qualify as AFDC/TANF leavers, meaning they received benefits, then did not for at least the next two in-sample months. When these sample cases are projected to the population using the weights they are assigned for their exit months, they represent 5.9 million leavers. (Many returned to TANF at some point, and may have exited more than once. But the 5.9 million counts leavers only once.) Many of the figures presented in this article reflect leavers from 1996–97 who remain in the sample for at least the 24 months following their exit. About 4.0 million people left AFDC/TANF in 1996 or 1997 in the SIPP. However, only 695 sample cases, representing 1.9 million leavers, or about half of all 1996–97 leavers, remained in the sample for 24 post-exit months.

[12] Constance Citro and Graham Kalton, eds., *The Future of the Survey of Income and Program Participation* (Washington, DC, National Research Council, 1993), pp. 103–4.

[13] Bavier, "Welfare reform data from the Survey of Income and Program Participation," 2001.

[14] Bavier, "Welfare reform data from the Survey of Income and Program Participation," 2001.

[15] Descriptive data on welfare leavers presented in this article include all leavers regardless of the sex or marital status of the former recipient. About 9 in 10 SIPP AFDC/TANF leavers are female. In a growing proportion of AFDC/TANF cases, the assistance unit includes only children. In these "child only" cases, the needs of the adult caretaker are not included in the calculation of the grant, and the case is not subject to work and time-limit requirements. SIPP data files did not begin to distinguish these cases directly until wave 8 of the 1996 file. To focus on AFDC/TANF recipients subject to work requirements and time-limits here, both descriptive data and multivariate analysis exclude recipients who also report receiving Supplementary Security Income in their own behalf or who have no natural, step, or adopted children in the AFDC/TANF assistance unit.

[16] The income measure displayed in chart 1 does not include rental assistance or the effect of direct taxes, including the Earned Income Tax Credit. Nor does it net out costs of work expenses and child care. The Earned Income Tax Credit has become a major source of Federal cash assistance for low-income working families with children. Despite efforts to encourage low-income parents to receive their Earned Income Tax Credit in advance throughout the year, virtually all Earned Income Tax Credit is received as a lump sum when returns are filed. If an upper-limit estimate of Earned Income Tax Credit amounts (without considering positive income tax liabilities) based on household earnings were spread out across the year on chart 1, along with the employees' share of payroll taxes, the level of the top third would decline. The middle third would see an income gain of a little less than $200 per month in the first year, and a little more than $100 per month in the second. The bottom third's level would increase a little less than $200 the first year and a little more than $200 the second. These rough estimates apply the 1997 Earned Income Tax Credit parameters for two or more qualifying children to annual household earnings separately over the first and second 12 post-exit months. Of course, if incomes were adjusted to reflect the effects of direct taxes, the underlying distribution of leavers into thirds would also change.

[17] While those who return to welfare are somewhat more common in the bottom third of all leavers, in any month, only about one-fourth of leavers in the bottom third are receiving TANF. The income tracks of leavers who do not return to welfare within the 24-month follow-up are very similar. The middle third displays a slightly more pronounced incline.

[18] Analysis of data from the Three Cities Study also notes the importance of income from other household members. However, the share of household income from the personal earnings of the leaver appears much higher in that urban sample than in the SIPP. Robert Moffitt and Jennifer Roff, "The Diversity of Welfare Leavers," Policy Brief 00–02, *Welfare, Children, and Families: A Three-City Study*, 2000, table 4.

[19] Official poverty thresholds are defined for families of various

compositions. Census includes on the SIPP public use files a threshold amount that treats household members as if they were all family members. Chart 5 compares monthly household income to 1/12 this annual threshold for the household based on household composition that month.

[20] Schoeni and Blank, "What has welfare reform accomplished? Impacts on welfare participation, employment, income, poverty, and family structure," 2001, table 3.

[21] By selecting female family heads as the unit, the analysis here may understate impacts of welfare reform on families with children if welfare reform had impacts on marriage or fertility. Analysis of persons "never on TANF" finds an indication of one such impact. (See the section in this article, "Families deterred from welfare.") Also see: Schoeni and Blank, 2000; Richard Bavier, "Recent Increases in the Share of Young Children with Married Mothers," 2002, manuscript; David T. Ellwood "The Impact of the Earned Income Tax Credit and Social Policy Reforms on Work, Marriage, and Living Arrangements," *National Tax Journal*, 2000, vol. 53, no. 4, pp. 1063–1105; Gregory Acs and Sandi Nelson, "Honey I'm Home. Changes in Living Arrangements in the Late 1990s," *Assessing the New Federalism*, Policy Brief B–38 (Washington, DC, The Urban Institute, 2001); and Alan Dupree and Wendell Primus "Declining Share of Children Lived with Single Mothers in the Late 1990s" (Washington, DC, Center for Budget and Policy Priorities, 2001).

[22] The binary control variables of personal characteristics include: age group; did not exceed 11th grade; African American; report of a condition that limits the kind or amount of work; never married; presence of three or more children; presence of children under 3 years of age. (To test for the possibility that marital status and the presence of children in the 1998 cohort might be influenced by welfare reform, the model was estimated without these variables with the post-reform dummy remaining significant in each case.) Household and residence binary control variables employed are: residence in a metropolitan area; residence in a State with increasing unemployment during the exit year. In addition, the ratio of the resident State's average monthly civilian unemployment rate over the exit year to the U.S. average for 1993 appears as a variable with four discrete levels. AFDC/TANF policy variables included in some models were: maximum AFDC/TANF benefits for a family of three; classification by other researchers as a State with rigorous welfare sanction and time-limit policies.

[23] Applying coefficients from appendix table A–1 to means of the independent variables, the later cohort was 9 percentage points less likely to receive welfare during the year and 13 percentage points more likely to have earnings during the year. For a comparable target group, table 1 in O'Neill and Hill, 2001, shows an annual welfare participation impact on single mothers of 6 percentage points in the CPS data and a positive 7 percentage point impact on employment in the week preceding the survey. Several differences in measurement may contribute to the different results. O'Neill and Hill employ data from 1983–2000 and so can employ a trend variable and an interaction of the trend and state variables. The results in table A–1 compare the experience of a post-reform cohort of female family heads to a cohort drawn from a peak period of welfare caseloads, early calendar year 1994. O'Neill and Hill measure employment impacts on point-in-time employment, while in table A–1, the dependent employment variable measures employment at some point during the exit year.

[24] Analysis of administrative datasets found declines in the number of entries as well as exits, including declines in entries among parents who had never received welfare. Donald Oellerich, "Welfare Reform: Program Entrants and Recipients," prepared for the Fourth Annual Welfare Reform Evaluation Conference, 2001.

[25] The marginal effect of TANF on exits was estimated by applying the coefficient on the dummy TANF variable in the exit model to the proportion of the recipient sample in the January 1997 cohort. That product was multiplied by the proportion of the entire recipient sample that exited within 12 months to estimate the share of all exits that were due to TANF. To estimate the effect of TANF-associated exits on participation rates of female family heads, the share of all exits due to TANF was multiplied by the proportion of the entire sample from January 1993 and January 1997 who were recipients at the start. Entry impacts were calculated by substituting nonrecipient sample and entry values.

[26] Only women were included so that the leaver sample would be similar to the other samples employed in this analysis. The same analysis was performed on all leavers of both sexes with no important differences in results. Around 88 percent of research sample leavers were female.

[27] Output from this model is available from the author.

[28] The following table displays a sensitivity test for placing the post-reform dummy variable at July 1996. Controlling for the changing economy, post-reform welfare leavers were somewhat less likely to have exit-year earnings. The sensitivity test aims to establish the onset of this impact. To screen out effects of earlier and later periods, only 1996 exits are included. It appears that the dummy variable could most reasonably be set for July or August.

Test of alternative definitions of July 1996 dummy variable using only 1996 exits:

1996 exit month	Coefficient	Probability of a large Chi squared
Apr.	−1.6559	.3022
May	−1.4299	.0151
June	−1.167	.0088
July	−1.0606	.003
Aug.	−1.2481	.0003
Sept.	−.728	.0365
Oct.	−1.1909	.0005
Nov.	−6707	.0477

[29] The impacts identified by the dummy July 1996 variable in appendix table A–4 are quite large, and may reflect interaction with other time-varying factors, such as steady improvement in employment. Tests of interaction between the July 1996 dummy and the state unemployment variable did not yield a significant coefficient. The author is grateful to Brian O'Hara of the Census Bureau for suggesting a further specification test. Control variable coefficients developed from the pre-July 1996 leavers were used to predict the proportion of post-July 1996 leavers who would have earnings during their exit years. This estimate was compared to a similar prediction based on coefficients from a model using post-July data. The pre-period coefficients estimated more employment than the post-period, and the difference was significant at the 90 percent confidence level, indicating that the magnitude of negative impact reflected in the July 1996 dummy in appendix table A–4 is too large. At the same time, the post-period coefficients estimated significantly more employment than actually occurred, indicating that the significance of the July 1996 dummy is not disproved by differences in the coefficients of the pre-reform and post-reform control variables. Additional tables showing these findings are available from the author.

[30] It is easy to overlook the early onset of impacts when focusing on the standard administrative data measure, mean monthly caseload, a measure of stock. Mean monthly caseload declines were greatest in 1997. (See Bavier, "Welfare reform data from the Survey of Income and Program Participation," 2002, table A–2.) Welfare exits, a measure of flow, were highest in the second half of 1996 in the SIPP. In the 1993 panel, about 94,000 welfare exits were occurring each month

over 1993–94. In the first 6 months of calendar year 1996, the level was about the same (97,000). Then a surge in exits occurred in the second half of 1996, averaging 146,000 per month, before falling back to 110,000 per month in 1997.

[31] Amy Brown, Dan Bloom, and David Butler, "The View from the Field: As Time Limits Approach, Welfare Recipients and Staff Talk About Their Attitudes and Expectations" (NY, Manpower Demonstration Research Corporation, 1997), pp. 14–15.

[32] Besharov and Germanis, "Welfare reform—four years later," 2000.

[33] See, for example, Leon Dash's series of eight articles about Rosa Lee Cunningham and her family, *The Washington Post*, starting Sept. 18, 1994; Thomas Sancton, "How to Get America Off the Dole," *Time*, May 25, 1992, pp. 44–47; and Ann Blackman, James Carney, Richard N. Ostling, and Richard Woodbury, "Vicious Cycle," *Time*, June 20, 1994, pp. 25–33.

[34] Andrew Cherlin, Linda Burton, Judith Francis, Jane Henrici, Laura Lein, James Quane, and Karen Bogan, "Sanctions and Case Closings for Noncompliance: Who is Affected and Why?" Policy Brief 01–1, *Welfare, Children, and Families: A Three-City Study* (Baltimore, MD, Johns Hopkins University, 2001).

[35] Results supporting this finding are available from the author.

[36] In a related finding, several data sources show that the concentration of such disadvantages in the residual TANF caseload has not grown, as it might have if exits were concentrated among less disadvantaged recipients. Sheila R. Zedlewski and Donald W. Alderson, "Before and After Welfare Reform: How Have Families on Welfare Changed?" Assessing the New Federalism Policy Brief B–32 (Washington, DC, The Urban Institute, 2001); Robert Moffitt and Andrew Cherlin, "Disadvantage Among Families Remaining on Welfare," 2002, prepared for the Joint Center on Poverty Research Conference, "The Hard to Employ and Welfare Reform." While generally in agreement, the SIPP data do show an increase in the share of TANF recipients reporting a health condition that limits the kind or amount of work they can do. This trend continues in preliminary data from the 2001 SIPP panel.

	1996 panel					*2001 panel*
	Month 1	*Month 12*	*Month 24*	*Month 36*	*Month 48*	*Month 1*
Physical or mental work-limiting condition	23	22	26	24	26	33
Work-preventing condition	16	16	19	21	21	25

[37] Results are available from the author.

[38] The classification of States by the rigor of their sanction and time-limits policies was developed from: Ladonna Pavetti and Dan Bloom, "Sanctions and Time-limits." *The New World of Welfare*, Rebecca Blank and Ron Haskins, eds. (Washington, DC, Brookings Institute, 2001), pp. 245–69; Robert Rector and Sarah Youssef , "The Determinants of Welfare Caseload Decline" CDA99–44 (Washington, DC, The Heritage Foundation, 1999).

[39] Gary Burtless and Larry L. Orr, "Are Classical Experiments Needed for Manpower Policy?" *The Journal of Human Resources*, 1986, vol. XXI, no.4, pp. 606–39.

[40] Howard Bloom, and others, "Recommendations of the Job Training Longitudinal Survey Research Advisory Panel" (Washington, D.C., U.S. Department of Labor, 1985), p. 4.

[41] Robert Moffitt, "Incentive Effects of the U.S. Welfare System: A Review," *Journal of Economic Literature,* March 1992, vol. XXX, p. 15.

[42] For convenience, the text refers to employment-correlated unobservables collectively with the positively-correlated variable *motivation*. However, other relevant unobservables may be negatively correlated with employment.

[43] All of the following papers were presented at a February 28 – March 1, 2002 conference organized by the Joint Center on Poverty Research, "The Hard-to-Employ and Welfare Reform." Copies of the papers are available on the Internet at: **www.jcpr.org**. Dan Lewis, Bong Joo Lee, and Lisa Altenbernd "Serious Mental Illness and Welfare Reform," 2002; Peter D. Brandon and Denis P. Hogan, "The Effects of Children with Disabilities on Mothers' Exits from Welfare," 2002; Marcia K. Meyers, Henry Brady, and Eva Y. Seto, "Disabilities in Poor Families: The Consequences for Economic Stability and Welfare Use," 2002; Richard Tolman, Sandra Danziger, and Dan Rosen, "Domestic Violence and Economic Well-being of Current and Former Welfare Recipients," 2002; Cynthia Needles Fletcher, Steven Garasky, and Helen Jensen, "Transiting from Welfare to Work: No Bus, No Car, No Way," 2002; and Harold Pollack, Sheldon Danziger, Rukmalie Jayakody, and Kristin S. Seefeldt," Substance Abuse Among Welfare Recipients: Trends and Policy Responses," 2002.

[44] Oellerich, "Welfare Reform: Program Entrants and Recipients," 2001.

[45] When, as usually was the case, the female family head met the criteria in more than 1 month of the panel, the first month in which the criteria were met was selected for the start of the observation year. Thus an individual can appear only once in the sample.

[46] Impacts on marital status were not found for all female family heads, nor for welfare leavers.

[47] Data are available upon request from the author.

[48] Also see Danziger, and others, "Does it Pay to Move from Welfare to Work?" 2001.

[49] Charts 1, 2, 3, and 5 show all leavers in the 1996 SIPP panel, including those leaving before July 1996. Those who left in July 1996 or later and could be followed for 12 months had simulated exit month poverty rates of 51 percent that declined to 39 percent by the 24th month. Declines among 1993 panel leavers were from 50 percent to 42 percent.

Appendix: Logit models, based on data from the SIPP

Four tables presenting results of logit models mentioned in the text follow. Note that estimates of standard errors do not fully take into account the complex design of the SIPP sample, and will tend to be understated for that reason. Other results mentioned in the text are available upon request from the author.

Table A-1. Logit model results for female family heads with children in January 1994 or January 1998, by welfare status

Dependent variable	With earnings		With welfare		With adult relatives	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Share with dependent variable	0.632	...	0.218	...	0.341	...
Independent variables						
Did not exceed 11th grade	−1.272	³0.079	.842	³0.082	.336	³0.075
African-American	−.263	³.082	.741	³.090	.258	³.075
Work-limiting condition at observation start ...	−1.924	³.114	1.237	³.110	−.088	.104
Three or more children in household at start .	−.502	³.078	.796	³.082	−.103	.076
Child under age 3	−.740	³.080	.256	³.087	.749	³.078
Never-married at start	−.299	³.081	.377	³.088	.357	³.077
Age group	.180	³.025	−.189	³.027	.137	³.023
State unemployment rate............................	−.055	.103	.237	².119	.134	.098
AFDC/TANF benefits	−.001	.001	−.003	².001	−.001	.001
Did not reside in metropolitan area at start ...	−.260	³.097	−.035	.110	.084	.091
1998 cohort	.377	³.138	−.672	³.168	.448	³.132

Dependent variable	Poor		Household income	
	Coefficient	Standard error	Coefficient	Standard error
Share with dependent variable	0.324	...	...	...
Independent variables				
Did not exceed 11th grade	.979	³0.075	−0.918	³0.063
African-American	.595	³.079	−.595	³.062
Work-limiting condition at observation start	.743	³.102	−.746	³.084
Three or more children in household at start	.926	³.074	−.870	³.062
Child under age 3	.147	¹.079	−.137	².064
Never-married at start	.101	.079	−.060	.062
Age group	−.132	³.024	.152	³.018
State unemployment rate...	−.041	.100	.031	.075
AFDC/TANF benefits	−.001	.001	.001	.001
Did not reside in metropolitan area at start	.376	³.093	−.293	³.073
1998 cohort	−.255	¹.137	.288	³.103

¹ Significant at .10.
² Significant at .05.
³ Significant at .01.

Table A–2. Logit model results for female family heads, in January 1993 or January 1997, by welfare status

Dependent variable	January recipient exits during the year		January nonrecipient is welfare recipient in December	
	Coefficient	Standard error	Coefficient	Standard error
Share with dependent variable	0.307	...	0.049	...
Independent variables				
Did not exceed 11th grade	−.089	0.124	.960	[3]0.177
African-American	−.479	[3].148	.661	[3].188
Work-limiting condition at observation start	−.228	.156	.655	[2].270
Three or more children in household at start	−.397	[3].126	.711	[3].176
Child under age 3	−.058	.144	.247	.192
Never-married at start	−.352	[2].143	.280	.189
Age group	−.072	[1].039	−.370	[3].064
State unemployment rate	−.157	.141	.038	.207
State with observation-year unemployment increase	−.254	.285	−.173	.436
AFDC/TANF benefits	.002	.001	.000	.002
Did not reside in metropolitan area at start	.385	[2].168	−.117	.228
1997 cohort	.874	[3].246	−.781	[2].377

[1] Significant at .10.
[2] Significant at .05.
[3] Significant at .01.

Table A–3. Independent variable means for welfare leavers with July 1996 dummy

Independent variable	Exit pre-July 1996	Exit July 1996 or later
Did not exceed 11th grade	0.367	0.342
African-American	.327	.358
Work-limiting condition at observation start	.204	.177
Three or more children in household at start	.387	.384
Child under age 3	344	.317
Never-married at start	.324	.403
Age group	1.806	1.855
State unemployment rate...	3.293	2.332
State with observation-year unemployment increase	.250	.261
AFDC/TANF benefits (in dollars)	$257	$240
Did not reside in metropolitan area at start	.299	.212
Exit July 1996 or later	...	.543

Table A-4. Logit model results for welfare leavers with July 1996 dummy						
Dependent variable	**Returned to welfare during the year**		**Any earnings during the year**		**Poor in final quarter**	
	Coefficient	**Standard error**	**Coefficient**	**Standard error**	**Coefficient**	**Standard error**
Share with dependent variable	0.281	...	0.675	...	0.428	...
Independent variables						
Did not exceed 11th grade	.192	.137	−.771	[3].140	.508	[3].128
African-American	.476	[3].159	−.018	.168	.212	.148
Work-limiting condition at observation start	.488	[3].166	−1.802	[3].171	.576	[3].157
Three or more children in household at start	.306	[2].133	−.398	[3].139	.541	[3].125
Child under age 3	−.128	.147	−.481	[3].154	−.080	.138
Never-married at start	.096	.151	.046	.160	.214	.142
Age group	−.047	.046	−.122	[3].046	.106	[2].042
State unemployment rate..................	−.093	.141	−.142	.154	−.084	.134
State with observation year unemployment increase	−.034	.157	−.012	.162	.086	.145
AFDC/TANF benefits	.001	.003	−.001	.003	.000	.003
Did not reside in metropolitan area at start	−.238	.185	.143	.192	.075	.169
Year of exit	−.104	.088	.123	.093	−.122	.082
Exit July 1996 or later	.143	.262	**−.622**	[2].277	.602	[2].246

Dependent variable	**Income $50 per month lower**		**Income $50 per month higher**	
	Coefficient	**Standard error**	**Coefficient**	**Standard error**
Share with dependent variable	0.385	...	0.523	...
Independent variables				
Did not exceed 11th grade	.091	0.127	−.094	0.124
African-American	.125	.146	−.109	.142
Work-limiting condition at observation start	.073	.156	−.280	[1].152
Three or more children in household at start	.225	[1].123	−.120	.120
Child under age 3	.214	.134	−.210	.131
Never-married at start	.053	.140	−.115	.135
Age group	.033	.042	−.025	.041
State unemployment rate.....................	.031	.130	.028	.126
State with observation year unemployment increase	241	[1].140	−.246	[1].138
AFDC/TANF benefits	−.004	.002	.002	.002
Did not reside in metropolitan area at start	−.116	.167	.136	.162
Year of exit	−.212	[3].081	.217	[3].079
Exit July 1996 or later	.801	[3].244	−.750	[3].235

[1] Significant at .10.
[2] Significant at .05.
[3] Significant at .01.