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# THE EFFECT OF CHILD SUPPORT ON WELFARE EXITS AND RE-ENTRIES

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# THE EFFECT OF CHILD SUPPORT ON WELFARE EXITS AND RE-ENTRIES

## Abstract

Much of the literature on welfare dynamics has focused on the effects of mother's demographics and state characteristics such as welfare benefits and unemployment rate on the length of welfare spells. There has been very little analysis on the role of child support. Thus, this paper, using 1979-96 National Longitudinal Survey of Young Women, examines whether child support payments affect the probability of leaving and re-entering welfare. The results indicate that child support plays an important role in helping young mothers exit and stay off welfare. While cutting welfare benefits or imposing time limit reduces welfare caseloads, our results suggest that enforcing child support not only reduces the caseloads but also increases the economic well-being of single mothers.

Keywords: child support, welfare dynamics.

# THE EFFECT OF CHILD SUPPORT ON WELFARE EXITS AND RE-ENTRIES

## INTRODUCTION

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) is the latest in a string of public policy enactment designed to improve the collection of private child support. An oft-stated rationale for these policies, which date back to the passage of the 1975 Child Support Enforcement Amendments, is to foster self-sufficiency to female-headed households and to enforce parental responsibility in order to eliminate reliance on welfare programs, such as the Aid to Families with Dependent Children program (AFDC) or Temporary Aid to Needy Families Program (TANF) after 1996 welfare reform.

This rationale is largely grounded on economic perspective. Strong child support enforcement reduces the proportion of single mothers who will rely on welfare both by increasing the economic security of mothers outside welfare and by being more complementary to work. Child support payments increase income and thus reduce resident mother's need and eligibility for welfare. In addition, compared to welfare, child support is more complementary to work because as the mother's earnings increase, child support payments fall much less rapidly than welfare benefits and in many states child support does not decline at all. Despite such potential important effects associated with child support, surprisingly few empirical studies on welfare families have taken the effects of child support into account. A large number of studies have emerged over the past twenty years examining the characteristics and events associated with spells of time on welfare, yet we know of only one (Meyer, 1993) that examines the role that child support payments play in determining the length of these spells. The purpose of this paper is to examine whether or not child support payments affect the probability of leaving AFDC and the probability of re-entering AFDC using a national sample of female-headed

households between the years of 1979 and 1996. The next section provides a brief review of child support and child support enforcement policies in the United States and a review of the empirical literature on welfare spells. It is followed by a section describing our methodology, a section on our results, and a concluding section.

## BACKGROUND

Because of the substantial increase in female-headed families, the economic insecurity associated with them, and a growing reluctance to address this economic insecurity through public transfers, the federal government has become increasingly involved in improving private child support collections. These efforts usually address one or more of three ways to improve child support collections: (1) locating and identifying the nonresident parent; (2) increasing payment levels; and (3) increasing the actual payment of child support (Garfinkel, 1992).

The first important piece of legislation designed to improve child support collections was the 1975 Child Support Enforcement Amendments. This law established the federal Office of Child Support enforcement, requiring all states to establish state offices of child support enforcement, and providing federal reimbursement for about three-quarters of each state's enforcement costs. In the 1980's, two other significant pieces of legislation were passed– the 1984 Amendments and the Family Support Act of 1988. Both of them addressed the three goals of improving child support. To improve the identification of the nonresident parent, the 1984 Amendments allowed paternity to be established until the child's eighteenth birthday and encouraged states to develop administrative or bureaucratic processes to replace judicial processes. To increase awards, the amendment required states to adopt numeric child support guidelines. To improve the actual payment of support, the amendments required states to

withhold child support obligations from the wages and income sources if the nonresident parent was one-month delinquent.

The Family Support Act of 1988 also addressed all three of the goals to improve child support. It contained three provisions to improve the identification of the nonresident parent. The first ordered states to increase the number of cases in which they establish paternity. The second required states to obtain the SSN of both parents in conjunction with issuing birth certificates. The third required all parties in a judicial proceeding to take genetic blood test upon request of any part. To increase the amount of awards, the Family Support Act made the guidelines that had been established through the 1984 Amendments the presumptive child support award. Finally, to increase the actual payment of support, the Family Support Act strengthened the 1984 amendments by requiring income withholding from the outset for all cases after 1994 and offering financial incentive for states that tried to collect from nonresident parents in a different state.

Finally, the PRWORA required states to increase paternity establishment rates and to sanction families who do not cooperate in establishing paternity and child support orders. It also required states to expand enforcement mechanisms, such as revoking licenses and imposing work requirements on non-custodial parents that are not paying child support and whose children receive TANF benefits.

As noted, a common purpose of these legislative enactments was to increase the likelihood that welfare recipients achieve self-sufficiency; that is, to leave welfare and not re-enter the rolls. However, research on the determinants of welfare exits and re-entries has largely overlooked the role that child support might play. One of the earliest studies of welfare dynamics (Hutchins, 1981) looked at simple models of transitions on and off the AFDC program.

Bane and Ellwood (1983) are generally credited with the first comprehensive study of AFDC spells. Using data from the Panel Study of Income Dynamics (PSID), they followed a sample of female-headed households over a twelve-year period, which enabled them to characterize the duration of spells and to identify characteristics associated with longer spells. While this work looked at single spells only and thus did not examine welfare re-entries, Ellwood (1986) looked at an additional three years of data and differentiated between single spells and multiple spells. The findings were that most AFDC spells were short, lasting less than two years, but that a substantial number of spells were long-term. Moreover, short-term and long-term recipients differed in several respects, with the latter group being more likely to be high school dropouts, never-married mothers, and those with little previous work experience. O'Neill et al. (1987), using data from the PSID and National Longitudinal Survey of Young Women (NLSY), obtained comparable results.

These studies all used annual AFDC income to determine whether the entire year is included in the spell, an approach which can overestimate usage and bias research on exits and re-entries since receipt in only one month is construed as a one-year spell. To avoid this problem, Blank (1989) used monthly data from the Seattle/Denver Income Maintenance Experiment (SIME/DIME) to calculate AFDC spells. She found the mean length of spells to be 3.1 years and that 62 percent of completed spells (40 percent overall) end within a year after they start.

Recent research has also looked at specific groups of welfare recipients with largely similar results. Gleason et al. (1998) find that inner-city teenage mothers are less likely to leave welfare and, upon exit, more likely to return than older mothers; however, the factors that affect length of stay are similar for teens and non-teens. Both Boisjoly et al. (1998) and Kunz and Born

(1996) examine first-time welfare recipients and find that the length of welfare receipt is affected by the same constellation of events and demographic characteristics for them as for those already on welfare.

None of these studies have specifically looked at the role that child support payments might play in welfare exits and re-entries, which is surprising since economic theory would predict that the availability of child support should reduce a custodial parent's need and eligibility for welfare. Some indirect evidence can be found in studies that look at child support enforcement policies, which have been found to have an impact on events related to welfare receipt such as non-marital births (Case, 1998; Willis, 1999; Garfinkel, Gaylin, Huang, and McLanahan, 2000) and divorce (Nixon, 1997), and to welfare caseloads themselves (Huang, Garfinkel, and Waldfogel, 2000). We know of only one study that has looked at the actual amount of child support received on welfare exits. Meyer (1993) found that large amounts of child support were needed to increase welfare exits although any amount of child support paid made welfare re-entry less likely. However, this study was limited to a single state, Wisconsin, which had a history of high welfare payments and high child support collection during the study period. Thus, in this study, we seek to determine whether this is the case by looking at the role of child support payments in welfare exits and re-entries among a national sample of female-headed households.

## METHODOLOGY

*Data*

The data used in this study came from the 1979 through 1996 waves of the National Longitudinal Survey of Young Women (NLSY). The NLSY, administered by the Center for

Human Resource Research (CHRR) at the Ohio State University, consists of annual interviews begun in 1979 with a nationally representative sample of 12,686 men and women between the ages of 14 and 22. Information gathered from sample members includes monthly welfare receipt information, allowing users to accurately identify welfare participation on a monthly basis. It is important to note that, because of its design, the NLSY is not a representative sample of all welfare recipients in any given year; rather it is representative of the welfare experiences of women who were aged 14-22 in 1979.

In this study, we examine both the first full spell of welfare receipt as well as the first spell of those who exit welfare but later reenter the welfare system. In doing so, we use monthly reports of welfare receipt. As noted above, previous studies have either used annual or monthly data to examine the spells. Using annual data could overestimate welfare use because it does not account for those who leave and/or reenter welfare during the year. On the other hand, previous studies using monthly data usually define a welfare exit as one or two consecutive months of non-receipt, which could lead to an underestimate of welfare use due to administrative errors or welfare churning (Bane and Ellwood, 1994). To minimize this problem, we define a welfare exit as three consecutive months of non-receipt. We think this definition is more likely to capture actual welfare dynamics and avoid welfare churning.

We started with 1,068 mothers whom we observed at the beginning of an AFDC spell over the 1979-1996 period. We call this our "received welfare" sample. More than 99% of the mothers, or 1,057 mothers, left welfare, according to our definition of a welfare exit. We call this our "left welfare" sample. Because our study covers over 17 years of information about welfare receipt (a much longer period of time than earlier studies), we are able to observe the first full welfare spell for almost all the mothers in the sample. Thus, we need to account for

only a small percentage of uncompleted spells, and thus our results more accurately depicts welfare dynamics for these young women. The 1,057 mothers who exited welfare (the "left welfare" samples) are our "at risk" sample of welfare recidivism. Of these mothers, 566 mothers reentered welfare during the study period.

*Model*

The primary analysis technique is Cox's proportional hazard model (Cox, 1972). The model specification is given by

$$\lambda_i (t) = \lambda_0 (t) * \exp(\chi_i' \beta)$$

where $\lambda_i (t)$ is hazard for individual i at time t, and $\lambda_0 (t)$ is the baseline hazard. $\beta$ is a matrix of estimated coefficients for the vector of independent variables, $\chi_i$, controlled by the model. The independent variables include mother's background and state characteristics. Following previous studies, we include mother's demographic characteristics that are expected to have an impact on the probability of exiting and/or re-entering welfare. These background variables are age, race, years of schooling, marital status, number of children, and whether the mother lives in an urban area. A critique of earlier studies is that they may have omitted some variables that belong in the equation, leading to biases both in the measure of duration dependence and in the coefficients of included variables. For example, a woman might have a "distaste" for public benefits, which might make it more likely for her to leave welfare and to collect private child support. By failing to measure this "distaste", we might overestimate the role that private child support payments had in her decision to leave welfare. Similarly, women who are more "competent" (in ways not captured by years of schooling) might also be more likely to leave welfare and to collect child support. Therefore, in addition to the measures included in previous studies, we include two measures that we think should be good proxies for the taste for welfare

and for competence. The first is the answer to a question asked of all woman in 1979, which asked whether she would go on welfare if she could not earn enough money to support her family. The second is the age-adjusted score on the Armed Forces Qualifying Test (AFQT), which is described by Neal and Johnson (1996) as measure of attained basic skills or human capital.

Several socioeconomic variables that vary over time are also included in the model. These variables include the amounts of child support and other family income (total family income minus AFDC benefits and child support), additional years of schooling and additional number of children during the spell. Changes in these variables may provide useful information on the path of welfare dynamics; however, these changes may be a function of welfare experience and thus endogenous to the hazard rate of welfare exiting and recidivism. In order to minimize this potential problem, we use the amounts of child support and other family income reported in the prior year rather than the current year.

To control for differences among states and to remain consistent with previous empirical studies, we include the following state indicators: state unemployment rate, maximum AFDC benefits for a four-person family, and the $10^{th}$ percentile wage of male and female. Unlike previous empirical work, we use the 10th percentile wage instead of median wage because we believe it to be a better measure of welfare mothers' employment environment. Unemployment rates were taken from the Statistical Abstract, U. S. Census Bureau, and AFDC maximum benefits were collected from various Green Books. We calculated the male and female $10^{th}$ percentile wage from the corresponding years of Current Population Survey (CPS). All dollar amounts were converted to real (constant) 1996 dollars using consumer price index. States may differ in other ways that we are unable to measure and that are related to both child support

payment amounts and welfare dynamics. To minimize the effects of our inability to control for these differences, we estimate a state "fixed effect" model whenever we include state-level variables, by including a set of dummy variables for all states in our analyses except for California (the omitted category).

Two sets of welfare dynamic variables are also included to control for period and spell length effects. To account for the period differences, three dummy variables were created to identify the period of each case entering the sample: 1979-85, 1986-90, and 1991-1996. Another set of variables was constructed to control for the differences in spell length: under 1 year (<1), >=1 & <=3 years, >3 & <=5 years, >5 & <=7 years, and > 7 years. These variables allow the underlying hazard rate to be constant within same length and to differ across different lengths.

## RESULTS

*Descriptive Results*

Means and standard deviations of the analysis variables are listed in Table 1. As noted above, there are 1,068 mothers in our "received welfare" sample and 1,057 mothers in our "left welfare" samples. The comparative numbers of pooled mother-month cases are 35,339 and 62,274. In general, the mothers in our sample were relatively young (22.3 and 25.0 for those who received welfare and those who left welfare, respectively) at the beginning of the relevant spell. In addition, on average, they had less than two children and fewer years of schooling (mean years of schooling=11.1 and 11.4, respectively). Around half of them were African-American, and the majority of them were never married (63.4% and 52.3%, respectively) and lived in an urban area. The discrepancy in the proportion of never-married mothers in our two samples suggests that some young women left welfare through marriage. The mean AFQT score

among those who received a spell of welfare was 21.7; among those who left welfare (and were thus at risk of recidivism) was 21.9. Finally, about 62% of both samples said they would apply for welfare if they were unable to support their family.

Comparing the time-varying characteristics of women in both samples, women who left welfare had on average more education (0.37 vs. 0.21 year) during the spell, and they collected more in child support ($454 vs. $222) than those who received welfare. These descriptive statistics suggest that raising human capital and enforcing child support collection may be an important path to help young women out of welfare.

The mean duration for welfare spells was 32.1 months, while the mean duration of staying off welfare among those who left welfare was 57.9 months, which suggests that if a young woman left welfare for three consecutive months, there was a good chance that she could stay off welfare for some time.

*Life Tables*

The life tables of welfare exiting and recidivism are listed in Table 2. We group the duration of the spell into twelve mutually exclusive intervals, with each interval spanning a six-month period (1-6, 7-12, 13-18). The survival rate indicates the percentage of those who entered who are still at risk at the end of each period. As seen in Table 2, the survival rate is substantially decreased in the first eighteen months of the welfare spell. Around 33 percent of the mothers left welfare in the first year of the spell, and another 26 percent left by the end of the second year. The common notion of long-term welfare dependency is thus not supported by this data. As expected, the probability of exiting welfare by the end of the second years estimated in this paper is higher than the ones estimated by annual data (49% from Ellwood and Bane, 1994;

52% from Boisjoly et al., 1997) but lower than the ones by monthly data which usually defined an exit occurred in one or two months (70% from Pavetti, 1993; 66% from Meyer, 1993). Still, the proportion of mothers with long-term spells is not trivial. Around 18 percent of the mothers continually stay on welfare for more than 5 years and 11 percent of them stay for more than 7 years. However, only 1 percent of these young mothers stays on welfare for more than 10 years. The hazard rate is highest in the first eighteen months and then is relatively constant, suggesting the mothers who exit welfare are most like to do so in the early period. Another important finding is that the survival rates are quite different among subgroups. African-American, never-married and high-school dropout mothers have longer spells than other mothers.

About 65 percent of mothers at risk of reentering welfare return to welfare eventually. Again as expected, this number is higher than the one reported in annual data (35% from Bane and Ellwood) and lower than the estimates from monthly data (70% from Pavetti, 1993; over 80% from Meyer, 1993). In general, the hazard rate is highest in the first eighteen months, and then gradually declines. The likelihood that an at-risk mother reenters welfare decreases as she stays off welfare for at least two years. Specifically, 19 percent of at-risk mothers reentered welfare by the end of the first year, and another 19 percent reentered by the end of the second year. Nevertheless, around half of the at-risk mothers stayed off welfare for more than 5 years and most of these mothers remained off welfare for more than 10 years (40.3%). The survival rates are also quite different among subgroups. In particular, never-married and high-school dropout mothers reenter welfare faster than other mothers, and 71% of the never-married mothers re-enter welfare eventually.

In short, the life tables clearly suggest that welfare is not a long-term solution for these mothers. Most of young women in our sample use welfare as a short-term transitional program -

- they usually rely on welfare for less than 2 years. Only a small proportion of them uses welfare for long periods of time. Although three out of five exiting mothers eventually return to welfare, the welfare recidivism is most likely to occur within two years of having exited welfare. It is also more likely to occur among certain subgroups. Women who stay off welfare for continuously three years are relatively unlikely to return. The high return rate within two years suggests that these women have never achieved real independence from welfare, and reflects that the prior exit from welfare may be largely due to some significant short-term changes in family and economic circumstance. In addition, both survival rates of welfare exiting and recidivism vary significantly among subgroups.

The results from these life tables do not control for the effects of other demographic and state environment variables. In the next two sections, we discuss the results obtained when we used multivariate models to control for the effects of these other variables.

*The Determinants of Welfare Exits*

Table 3 presents the hazard ratio of welfare exits, estimated by Cox's proportional hazard model. Five specifications are presented. Model 1 includes only mother's demographic characteristics at the beginning of the spell. Model 2 includes the state variables discussed above. We add time-varying variables into model 3. In Model 4, we add measures for AFQT and attitude towards welfare. Model 5 is identical to model 4 except that child support is specified as step function rather than linear function in model 4.

As expected, results in model 1 show that mothers with more years of schooling are more likely to exit welfare. Specifically, an additional year of schooling increases the hazard of exiting welfare by 1.1, holding everything else constant. In contrast, mothers who were never

married or African-American are less likely to exit welfare. The percent reduction in the hazard rate for never-married mothers, with everything else held constant, is 50%. For African-American mothers, the reduction is 20%. One would expect young mothers are more likely to be trapped on welfare and thus less likely to exit welfare, and this is what we found in the model without controlling for education and marital status variables (results not shown). However, age is not significant once education and marital status are considered. Thus, age per se does not necessarily influence a mother's chances of exiting welfare. Given this result, the stereotype of young mothers trapping on welfare might be because these young mothers have lower educational achievement and/or they are unmarried. The number of children at the beginning of the spell, although negative, was not significant. Finally, the spell length indicators clearly show that the likelihood of exiting welfare decreases over time, suggesting negative duration dependency.

State policy environment variables, and state-level dummies to capture other differences between states, are added into Model 2. While the results in model 1 are largely maintained, state indicators have strong effects on the likelihood that women exit welfare. Specifically, mothers living in states with higher $10^{th}$ percentile female wage are more likely to exit welfare, as are mothers in states with lower unemployment rates. These results demonstrate the importance of statewide economic opportunity in determining length of welfare spells.

Next, we add time-varying variables in model 3. The results show that the changes in socioeconomic characteristics of a mother during the spell have significant effects on a mother's chance of exiting welfare as shown in Table 3. In particular, the amount of child support received has a strong positive effect on the hazard of exiting welfare in model 3. To be specific, the hazard rate of mothers receiving $1,000 in child support per year increases by 1.1.

This results hold in Model 4, where we add our measures of competence and "taste" for welfare, suggesting that our finding in Model 3 that child support payments increase the likelihood of welfare exits is not due to unmeasured differences in these variables. Model 5 further indicates that the effect of child support is not linear. Mothers who receive a small amount of child support (less than $1,200 per year) are not more likely to exit welfare. The likelihood of exiting welfare, however, significantly increases for mothers receiving more than $1,200 per year in child support. This finding is similar to Meyer's (1993), although the threshold of achieving significance is lower than that found in his study. Meyer found that a mother is significantly more likely to exit welfare if she is receiving more than $300 child support per month ($3,600 per year). This threshold difference may be due to the difference in samples. Meyer's sample contained more divorced and separated mothers who were older and with more children than were our samples, which are largely composed of younger mothers who were never-married and with fewer number of children. In addition, Wisconsin has historically provided welfare benefits that were much higher than the national average. Overall, these findings suggest that even a small amount of child support, such as $100 per month, would be a big help for these young mothers to leave welfare. In contrast, other family income (total family income minus AFDC and child support income) did not have a significant effect on welfare exits, although it is positive.

With women's basic socio-demographic variables held constant, the improvement of educational achievement and the changes in family composition during the welfare spell had strong effects on women exiting welfare. Specifically, a mother who earned an additional year of schooling during the spell was more likely to exit welfare; in contrast, a mother who had a child while on welfare was less likely to exit. Overall, including time-varying variables in model

3 through 5 does not significantly change the findings in models 1 and 2. The variables that were significant in models 1 and 2 still hold their significance in model 3 through 5. These findings suggest that models include time-varying variables which are potentially endogenous do not yield biased coefficients for other variables.

*The Determinants of Welfare Recidivism*

Table 4 is identical to Table 3, except that the dependent variable is the hazard rate of welfare recidivism in Table 4. Consistent with previous empirical results, mothers who were never-married, African-American, or had more children are more likely to reenter welfare. In particular, being a never-married mother increases the hazard of welfare recidivism by 1.5. In contrast, mothers who were older and have higher educational attainment are less likely to reenter welfare. Increasing one year of schooling reduces the hazard by 5%.

These results hold when we include state variables (including state level dummies) in Model 2. As expected, higher state unemployment rates increase the chances of welfare returns; however, contrary to our expectations, so do states with higher $10^{th}$ percentile female wage. Recall that mothers living in states with higher $10^{th}$ percentile female wage are more likely to exit welfare in table 3, the high return rate in table 4 suggests that these women have never achieved real independence from welfare, and reflects that the prior exit from welfare may be largely due to short-term changes in economic circumstance.

Model 3 adds time-varying variables. While including time-varying variables do not change the effects of other socio-demographic variables, the effect of child support amount is estimated to have a strong negative effect on the hazard of welfare recidivism. Specifically, if a mother received additional $1,000 in child support in previous year, the hazard rate of re-

entering welfare could be reduced by 15%. Model 4 includes AFQT and the welfare attitude. Neither of these variables is significantly associated with returns to welfare, nor does their inclusion affect the results just presented. Model 5 further indicates that while mothers receiving small amount of child support (less than 1,200 per year) might still be more likely to re-enter welfare, those mothers who received more than $1,800 per year in child support are less likely to re-enter welfare. In general, our finding is similar to that in Meyer's (1993) study, although the specification of child support used in both papers is different. Meyer used the amount of child support received in previous month, while we used the amount received in previous year. The amount of child support in previous month might be more relevant to the decision about re-entering welfare in the next month; at the same time, its inclusion in the model may exacerbate the problem of endogeneity. In other words, it is plausible that some mothers might be motivated to collect child support in order not to remain off welfare. If this is the case, then the effect associated with the amount of child support in previous month on the probability of re-entering welfare is not due to the effect of child support per se, rather it is more likely to be the effect of motivation. In sum, our results indicate that with small amount of child support each month (such as $100), the likelihood of re-entering welfare could be reduced substantially. Furthermore, unlike the results in welfare exiting models, the effect of other family income is estimated to be significant and negative on welfare recidivism. Specifically, mothers with $1,000 more in other family income per year would decrease the hazard by 2%. It is worth noting that the magnitude of child support is bigger than that of other family income, suggesting that child support might be more effective than other family income in preventing mothers from re-entering welfare.

## DISCUSSION/CONCLUSION

Much of the public debate on welfare dynamics has focused on the alleged enabling effects of mother's demographics as well as state characteristics. However, there has been very little discussion or analysis of the enabling effects of child support enforcement. Given the theoretical prediction and the improvement in child support enforcement over the years, the effect of child support on welfare dynamics should not be overlooked. This paper has empirically examined the determinants of welfare dynamics of young mothers, with particular attention to the effects of child support that have been ignored in previous studies. The results suggest that, in addition to the effects of mother's own demographics and state policy environment, the amount of child support received has a strong effect both welfare exits and welfare returns for young mothers. To be specific, being never-married or being African-American is negatively associated with the likelihood of exiting welfare but positively associated with the likelihood of re-entering welfare, while mother's educational attainment and the amount of child support exert the opposite effect.

This paper provides evidence that child support plays an important role in helping young mothers exit and stay off welfare. While cutting welfare benefits or imposing time limit reduces welfare caseloads, our results suggest that enforcing child support might also lead to caseload reduction by means of accelerating the welfare exiting and preventing welfare recidivism. More importantly, child support increases the economic well-being of single mothers which could not be achieved by reducing welfare benefits. Thus, policies that shift the cost of childrearing from the shoulder of resident parents and the public to that of non-resident parents seem to be likely to have more favorable impact on helping young mothers.

## REFERENCE


Bane, M. and D. Ellwood. 1994. *Welfare Realities: From Rhetoric to Reform*. Cambridge: Harvard University Press.

Bane, Mary Jo and David Ellwood. 1983. *The Dynamics of Dependence: The Routes to Self-Sufficiency*. Cambridge:Urban Systems Research and Engineering, Inc.

Blank, R. M. 1989. Analyzing the Length of Welfare Spells. *Journal of Public Economics*, 39: 245-73.

Blank, R. and P. Ruggles. 1996. When Do Women Use Aid to Families with Dependent Children and Food Stamps? The Dynamics of Eligibility versus Participation. *Journal of Human Resources*, 31 (1):57-89.

Boisjoly, J., K. Harris, and G. Duncan. 1998. Trends, Events, and Duration of Initial Welfare Spells. *Social Service Review*, 72 (4): 466-92.

Case, Anne. 1998. The Effects of Stronger Child Support Enforcement on Non-marital Fertility. In Irwin Garfinkel, Sara McLanahan, Daniel Meyer, and Judith A. Seltzer (eds.), *Fathers Under Fire: The Revolution in Child Support Enforcement*. New York: Russell Sage Foundation.

Cox, D. R. 1972. Regression Models and Life Tables. *Journal of the Royal Statistics Society*, 34: 187-220.

Ellwood, David. 1986. *Targeting 'Would Be' Long-Term Recipients of AFDC*. Cambridge: Mathematica Policy Research, Harvard University.

Garfinkel, Irwin, *Assuring Child Support*, New York, Russell Sage, 1992.

Garfinkel, Irwin, Daniel Gaylin, Chien-Chung Huang, and Sara Mclanahan. 2000. "Will Child Support Enforcement Reduce Nonmarital Childbearing" Unpublished paper.

Gleason, P., A. Rangarajan, and P. Schochet. 1998. The Dynamics of Receipt of Aid to Families with Dependent Children among Teenage Parents in Inner Cities. *Journal of Human Resource*, 33 (4): 988-1002.

Huang, Chien-Chung, Irwin Garfinkel, and Jane Waldfogel. 1999. Child Support and Welfare Caseload. Paper presented in the 1999 Annual Workshop of National Association for Welfare Research and Statistics in Cleveland, Ohio (August 11).

Hutchins, Robert. 1981. "Entry and Exit Transitions in a Government Transfer Program: The Case of Aid to Families with Dependent Children. *Journal of Human Resources*, 16, 217-237.

Kunz, J. and Born, CE. 1996. The relative importance of economic and cultural factors in determining length of AFDC receipt. *Social Work Research*, 20, 196-202.

Meyer, Daniel. 1993. "Child Support and Welfare Dynamics: Evidence from Wisconisn" *Demography,* 30(1) 45-62.

Neal, D. and Johnson, W. 1996. The role of premarket factors in black-white wage differences. *Journal of Political Economy*, 104, 869-895.

Nixon, Lucia A. 1997. "The Effect of Child Support Enforcement on Marital Dissolution" *Journal of Human Resources*, 32: 159-181.

O'Neill, June A., Laurie J. Bassi and Douglas A. Wolf. 1987. "The Duration of Welfare Spells." *Review of Economics and Statistics*, 69: 41-248.

Pavetti, L. 1993. *The Dynamics of Welfare and Work: Exploring the Process by Which Women Work Their Way Off Welfare*." Ph.D. dissertation, Harvard University.

Willis, R. J. 1999. A theory of out-of-wedlock childbearing. *Journal of Political Economy*, 1999, vol. 107, no. 6, pp.33-64.

Table 1: Mean and Standard Deviation of Main Variables

| | Among Those Who Received Welfare | Among Those Who Left Welfare |
|---|---|---|
| | **Mean (S.D.)** | **Mean (S.D.)** |
| **Value at Start of Spell** | | |
| Years of Scholling | 11.10 (1.74) | 11.41 (3.15) |
| Mother's age | 22.34 (4.24) | 24.97 (4.75) |
| Number of Children | 1.35 (0.71) | 1.51 (1.02) |
| Black | 50.00 | 49.95 |
| Never-Married | 63.38 | 52.31 |
| Urban | 77.24 | 75.87 |
| AFQT (Age adjusted) | 21.74 (18.72) | 21.85 (18.77) |
| Welfare Attitude | 62.07 | 61.87 |
| **Time-Varying Variables** | | |
| Add Years of Schooling | 0.21 (0.64) | 0.37 (3.89) |
| Add Number of Children | 0.42 (0.76) | 0.51 (0.79) |
| Child Support Amounts [$ real 1996] | 222 (811) | 454 (1573) |
| With child support payments | 16.70 | 18.28 |
| $ 1-$ 600 / year | 5.66 | 3.36 |
| $ 600-$1200 / year | 5.22 | 2.80 |
| $1200-$1800 / year | 1.66 | 2.93 |
| $1800 and above / year | 4.16 | 9.19 |
| Other Income [$1,000 real 1996] | 13.1 (21.3) | 20.9 (26.1) |
| **State-Level Variables** | | |
| Maximum AFDC Level | 603 (246) | 531 (238) |
| Unemplyment Rate | 7.2 (2.2) | 6.5 (1.8) |
| Women 10th Percentile Wage | 3.8 (0.7) | 3.3 (0.6) |
| Men 10th Percentile Wage | 5.3 (1.4) | 4.4 (1.1) |
| Duration | 32.1 (39.0) | 57.9 (57.6) |
| Unpooled N | 1068 | 1057 |
| Pooled N | 35339 | 62274 |

*Note:*
*For time-varying covariates, the mean and standard deviation across person-months are reported.*
*For values at the first entry, the mean and standard deviation across women are reported.*
*Other income = family total income - AFDC benefits - child support amounts.*

Table 2: Life Tables of Exiting and Re-entering AFDC

| Sample | | | All | | | Black | Never-Married | Drop-Out |
|---|---|---|---|---|---|---|---|---|
| From Month | On Welfare | Left Welfare | Censored | Hazard | Survival | | Survival | |
| **Exiting AFDC** | | | | | | | | |
| 1-6 | 1068 | 214 | 0 | 0.0318 | 0.7996 | 0.8390 | 0.8510 | 0.8141 |
| 7-12 | 854 | 142 | 1 | 0.0302 | 0.6666 | 0.7285 | 0.7296 | 0.6952 |
| 13-18 | 711 | 224 | 0 | 0.0623 | 0.4566 | 0.4994 | 0.4870 | 0.5093 |
| 19-24 | 487 | 51 | 1 | 0.0184 | 0.4087 | 0.4468 | 0.4471 | 0.4665 |
| 25-36 | 435 | 125 | 1 | 0.0280 | 0.2911 | 0.3323 | 0.3393 | 0.3550 |
| 37-48 | 309 | 76 | 0 | 0.0234 | 0.2195 | 0.2516 | 0.2571 | 0.2900 |
| 49-60 | 233 | 47 | 1 | 0.0187 | 0.1752 | 0.2122 | 0.2081 | 0.2379 |
| 61-72 | 185 | 34 | 0 | 0.0169 | 0.1430 | 0.1686 | 0.1711 | 0.1967 |
| 73-84 | 151 | 32 | 0 | 0.0198 | 0.1127 | 0.1326 | 0.1323 | 0.1536 |
| 85-120 | 119 | 62 | 3 | 0.0199 | 0.0532 | 0.0871 | 0.0758 | 0.0731 |
| 121-180 | 54 | 42 | 2 | 0.0219 | 0.0110 | 0.0213 | 0.0217 | 0.0169 |
| 181-214 | 10 | 8 | 2 | 0.0471 | 0.0012 | 0.0043 | 0.0043 | 0.0000 |

| Sample | | | All | | | Black | Never-Married | Drop-Out |
|---|---|---|---|---|---|---|---|---|
| From Month | Off Welfare | Returned to Welfare | Censored | Hazard | Survival | | Survival | |
| **Re-entering AFDC** | | | | | | | | |
| 1-6 | 1057 | 106 | 58 | 0.0155 | 0.8969 | 0.9091 | 0.8684 | 0.8825 |
| 7-12 | 893 | 89 | 9 | 0.0176 | 0.8070 | 0.8242 | 0.7711 | 0.7857 |
| 13-18 | 795 | 138 | 3 | 0.0317 | 0.6667 | 0.6631 | 0.5712 | 0.6258 |
| 19-24 | 654 | 44 | 8 | 0.0117 | 0.6216 | 0.6273 | 0.5328 | 0.5793 |
| 25-36 | 602 | 65 | 36 | 0.0098 | 0.5524 | 0.5356 | 0.4432 | 0.5022 |
| 37-48 | 501 | 29 | 19 | 0.0051 | 0.5198 | 0.4931 | 0.4002 | 0.4728 |
| 49-60 | 453 | 21 | 22 | 0.0041 | 0.4951 | 0.4681 | 0.3750 | 0.4474 |
| 61-72 | 410 | 18 | 19 | 0.0038 | 0.4728 | 0.4466 | 0.3542 | 0.4206 |
| 73-84 | 373 | 16 | 39 | 0.0039 | 0.4514 | 0.4268 | 0.3449 | 0.4013 |
| 85-120 | 318 | 29 | 86 | 0.0031 | 0.4038 | 0.3797 | 0.3032 | 0.3504 |
| 121-180 | 203 | 10 | 160 | 0.0014 | 0.3710 | 0.3607 | 0.2875 | 0.3276 |
| 181-214 | 33 | 1 | 32 | 0.0018 | 0.3492 | 0.3382 | 0.2875 | 0.3276 |

Table 3: Determinants of Welfare Exits

| | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Variables** | **Hazard Ratio** | **P** | **Hazard Ratio** | **P** | **Hazard Ratio** | **P** | **Hazard Ratio** | **P** | **Hazard Ratio** | **P** |
| **Value at Start of Spell** | | | | | | | | | | |
| Age | 1.0061 | | 1.0149 | | 1.0221 | | 1.0273 | | 1.0270 | |
| Years of Schooling | 1.1106 | *** | 1.1507 | *** | 1.1439 | *** | 1.0921 | *** | 1.0972 | *** |
| Number of Children | 0.9399 | | 0.8646 | * | 0.8409 | ** | 0.8415 | ** | 0.8451 | ** |
| Black | 0.8042 | ** | 0.6252 | *** | 0.6327 | *** | 0.6973 | *** | 0.6827 | *** |
| Never Married | 0.5066 | *** | 0.5211 | *** | 0.5192 | *** | 0.5404 | *** | 0.5453 | *** |
| Urban | 0.9926 | | 1.1366 | | 1.1356 | | 1.2028 | | 1.2236 | |
| AFQT (Age adjusted) | ---- | | ---- | | ---- | | 1.0082 | ** | 1.0079 | ** |
| Welfare Attitude | ---- | | ---- | | ---- | | 0.7238 | *** | 0.7245 | *** |
| **Time-Varying Variables** | | | | | | | | | | |
| Add Years of Schooling | ---- | | ---- | | 1.2235 | *** | 1.1526 | * | 1.1526 | * |
| Add Number of Children | ---- | | ---- | | 0.8309 | ** | 0.8266 | ** | 0.8317 | ** |
| Child Support Payments [$1000 real 1996] | ---- | | ---- | | 1.1312 | *** | 1.1322 | *** | ---- | |
| $ 1-$ 600 / year | ---- | | ---- | | ---- | | ---- | | 1.1364 | |
| $ 600-$1200 / year | ---- | | ---- | | ---- | | ---- | | 0.9765 | |
| $1200-$1800 / year | ---- | | ---- | | ---- | | ---- | | 1.5948 | * |
| $1800 and above / year | ---- | | ---- | | ---- | | ---- | | 1.4943 | ** |
| Other income [$1000 real 1996] | ---- | | ---- | | 1.0007 | | 1.0006 | | 1.0005 | |
| **State-Level Variables** | | | | | | | | | | |
| Maximum AFDC Level [$ real 1996] | ---- | | 1.0002 | | 1.0005 | | 1.0005 | | 1.0007 | |
| Unemplyment Rate | ---- | | 0.9366 | ** | 0.9335 | ** | 0.9316 | ** | 0.9315 | ** |
| Women 10th Percentile Wage | ---- | | 1.4770 | * | 1.4880 | * | 1.5288 | * | 1.5206 | * |
| Men 10th Percentile Wage | ---- | | 1.0434 | | 1.0222 | | 1.0068 | | 1.0077 | |
| **Indicator Variables** | | | | | | | | | | |
| Spell Began | | | | | | | | | | |
| 1986-90 | 1.1355 | | 1.3759 | * | 1.3117 | + | 1.3164 | + | 1.3208 | + |
| 1991-96 | 1.3413 | + | 1.8490 | ** | 1.6889 | * | 1.5986 | * | 1.5538 | + |
| Duration Year | | | | | | | | | | |
| 2-3 Years | 2.3E-06 | *** | 6.1E-06 | *** | 3.4E-06 | *** | 5.3E-06 | *** | 8.4E-06 | *** |
| 4-5 Years | 1.4E-11 | *** | 4.4E-11 | *** | 1.6E-11 | *** | 4.0E-11 | *** | 8.8E-11 | *** |
| 6-7 Years | 1.9E-16 | *** | 6.2E-16 | *** | 1.5E-16 | *** | 5.7E-16 | *** | 1.7E-15 | *** |
| 8 Years and over | 2.5E-21 | *** | 1.1E-20 | *** | 1.9E-21 | *** | 1.1E-20 | *** | 4.5E-20 | *** |
| State Fixed Effects | ---- | | Yes | | Yes | | Yes | | Yes | |
| N | 35339 | | 35339 | | 35339 | | 35339 | | 35339 | |
| Log Likelihood | -8657 | | -8547 | | -8520 | | -8502 | | -8508 | |
| Pseudo $R^2$ | 0.1511 | | 0.1619 | | 0.1645 | | 0.1662 | | 0.1657 | |

*Note: + p < .10; * p < .05; ** p < .01; *** p < .001.*

Table 4: The Determinants of Welfare Returns

| | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Variables** | **Hazard Ratio** | **P** | **Hazard Ratio** | **P** | **Hazard Ratio** | **P** | **Hazard Ratio** | **P** | **Hazard Ratio** | **P** |
| **Value at Start of Spell** | | | | | | | | | | |
| Age | 0.9198 | *** | 0.9619 | + | 0.9482 | * | 0.9505 | * | 0.9501 | * |
| Years of Schooling | 0.9464 | * | 0.9259 | ** | 0.9682 | | 0.9820 | | 0.9827 | |
| Number of Children | 1.2246 | *** | 1.2699 | *** | 1.3283 | *** | 1.3263 | *** | 1.3312 | *** |
| Black | 1.0780 | | 1.3638 | * | 1.3248 | * | 1.2889 | * | 1.2902 | * |
| Never Married | 1.5448 | *** | 1.6761 | *** | 1.4676 | *** | 1.4477 | *** | 1.4345 | *** |
| Urban | 1.1556 | | 1.3938 | * | 1.4203 | * | 1.4074 | * | 1.4279 | * |
| AFQT (Age adjusted) | ---- | | ---- | | ---- | | 0.9962 | | 0.9962 | |
| Welfare Attitude | ---- | | ---- | | ---- | | 0.9845 | | 0.9895 | |
| **Time-Varying Variables** | | | | | | | | | | |
| Add Years of Schooling | ---- | | ---- | | 0.9435 | | 0.9488 | | 0.9445 | |
| Add Number of Children | ---- | | ---- | | 1.0313 | | 1.0270 | | 1.0231 | |
| Child Support Payments [$1000 real 1996] | ---- | | ---- | | 0.8533 | ** | 0.8572 | ** | ---- | |
| $ 1-$ 600 / year | ---- | | ---- | | ---- | | ---- | | 0.9219 | |
| $ 600-$1200 / year | ---- | | ---- | | ---- | | ---- | | 1.4895 | + |
| $1200-$1800 / year | ---- | | ---- | | ---- | | ---- | | 0.7224 | |
| $1800 and above / year | ---- | | ---- | | ---- | | ---- | | 0.4967 | *** |
| Other income [$1000 real 1996] | ---- | | ---- | | 0.9747 | *** | 0.9572 | *** | 0.9751 | *** |
| **State-Level Variables** | | | | | | | | | | |
| Maximum AFDC Level [$ real 1996] | ---- | | 1.0003 | | 1.0004 | | 1.0004 | | 1.0004 | |
| Unemplyment Rate | ---- | | 1.0516 | + | 1.0480 | | 1.0479 | | 1.0494 | + |
| Women 10th Percentile Wage | ---- | | 1.8151 | * | 1.8280 | * | 1.8299 | * | 1.8077 | * |
| Men 10th Percentile Wage | ---- | | 1.0568 | | 1.0692 | | 1.0773 | | 1.0870 | |
| **Indicator Variables** | | | | | | | | | | |
| Spell Began | | | | | | | | | | |
| 1986-90 | 1.1035 | | 1.6198 | ** | 1.5829 | ** | 1.5583 | ** | 1.5461 | * |
| 1991-96 | 1.1367 | | 1.9315 | * | 2.0768 | * | 2.0248 | * | 2.0365 | * |
| Duration Year | | | | | | | | | | |
| 2-3 Years | 1.0E-06 | *** | 1.5E-06 | *** | 2.2E-06 | *** | 1.1E-06 | *** | 8.7E-07 | *** |
| 4-5 Years | 9.4E-13 | *** | 3.3E-12 | *** | 6.9E-12 | *** | 1.8E-12 | *** | 1.1E-12 | *** |
| 6-7 Years | 4.6E-18 | *** | 3.4E-17 | *** | 9.9E-17 | *** | 1.4E-17 | *** | 6.1E-18 | *** |
| 8 Years and over | 9.0E-24 | *** | 1.9E-22 | *** | 7.7E-22 | *** | 5.9E-23 | *** | 1.9E-23 | *** |
| State Fixed Effects | ---- | | Yes | | Yes | | Yes | | Yes | |
| N | 62274 | | 62274 | | 62274 | | 62274 | | 62274 | |
| Log Likelihood | -4932 | | -4862 | | -4827 | | -4826 | | -4823 | |
| Pseudo $R^2$ | 0.1797 | | 0.1913 | | 0.1972 | | 0.1974 | | 0.1979 | |

*Note: + p < .10; * p < .05; ** p < .01; *** p < .001.*