

The Effect of Child Support on Welfare Exits and Re-Entries

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Abstract

Much of the literature on welfare dynamics has focused on the effects of recipient characteristics and state-level characteristics such as welfare benefits and economic conditions; there has been very little analysis on the effects of child support. This paper, using the 1979-1996 National Longitudinal Survey of Youth, examines whether child support affects the likelihood of leaving and re-entering welfare. The results indicate that strong child support enforcement is important in helping young mothers exit and stay off welfare. Women with \$1000 child support payments in the previous year were 18 percent more likely to exit welfare and 12 percent less likely to re-enter welfare. Compared with women in states that pursued child support least vigorously, women in states that had passed extensive child support enforcement legislation and that spent more money on child support enforcement were 79 percent more likely to exit welfare and about 60 percent less likely to re-enter welfare. © 2002 by the Association for Public Policy Analysis and Management.

INTRODUCTION

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) is the most recent noteworthy public policy enactment designed to improve the collection of private child support. An oft-stated rationale for these policies, which dates back to the passage of the 1975 Child Support Enforcement Amendments, is to foster self-sufficiency in 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). This rationale is largely grounded in an 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 and by being more complementary to work. Child support payments increase income and thus reduce the mother's need and eligibility for welfare. In addition, compared with welfare, child support is less likely to reduce incentives to work and therefore more compatible with work, particularly for women who are more likely to end up on welfare (Garfinkel, Heintze, and Huang, 2001).

Manuscript received September 2000; review completed January 2001; revision completed January 2002; accepted May 2002.

Journal of Policy Analysis and Management, Vol. 21, No. 4, 557-576 (2002)

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Published by Wiley Periodicals, Inc. Published online in Wiley InterScience (www.interscience.wiley.com)

DOI: 10.1002/pam.10073

Despite such potential important effects associated with child support, surprisingly few empirical studies on welfare families have examined the role that child support might play in family well-being. Many studies have emerged over the past 20 years examining the characteristics and events associated with welfare dynamics, yet only two (Cancian, Meyer, and Wallace, 2001; Meyer, 1993) examine the effects of child support on such dynamics. The purpose of this paper is to examine whether child support affects the probability of leaving and re-entering AFDC (welfare will be used hereafter). The effects of child support are examined at the individual and aggregate level: the amount of child support payment a woman receives and the vigorousness with which the state pursues child support enforcement.

BACKGROUND

Child Support Enforcement

Because of the substantial increase in the number of 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 collection. Federal involvement began with the passage of the 1975 Child Support Enforcement Amendments, which established the federal Office of Child Support Enforcement, required all states to establish similar state offices and provided federal partial reimbursement for enforcement efforts. In the 1980s, two other significant pieces of legislation were passed—the 1984 Amendments and the Family Support Act of 1988. Both laws contain provisions aimed at the three goals of child support enforcement: to improve the identification of the nonresident parent, to increase the number and level of awards, and to improve the actual payment of support (Garfinkel, 1992).

The PRWORA also contains child support enforcement provisions aimed at these three goals; however, at the same time, it changes welfare in ways likely to enhance the importance of child support. The time limit and work requirement provisions of PRWORA reduce the value of welfare benefits and thereby increase the importance of non-welfare sources of income such as child support. In addition, whereas federal AFDC law from 1984 to 1996 required states to give recipients as much as \$50 a month in child support payments, PRWORA allows the states full discretion about how much child support to give recipients; most states do not allow a mother on welfare to keep any of the child support she receives from the father. Elimination of the “pass-through” increases the relative value of child support for mothers who are not on welfare.

While these are the most noteworthy legislative enactments, they are not the only ones; in fact, from 1981 through 1999 (with the exception of 1983, 1985, and 1991), Congress passed new laws every year to strengthen child support enforcement (Lerman and Sorenson, 2000). In short, the collection system has been changing from one where payment was often discretionary to one where payment is compelled and automatic (Legler, 1996; Wolk and Schmahl, 1999). As a result of this legislation, both federal and state governments have devoted considerable resources to child support enforcement. Real spending on child support enforcement for AFDC/TANF clients by state and local governments increased from \$0.8 billion to \$1.8 billion between 1980 and 1997 (in 1997 dollars); over this period, total AFDC/TANF child support collections rose from \$1.3 billion to \$2.8 billion. AFDC/TANF child support collections represented 5 percent of total AFDC/TANF

payments to clients in 1980 and 12 percent of payments in 1997 (U.S. House of Representatives, 1983, 2000; U.S. Department of Health and Human Services, 1980, 1998).

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, in research on the determinants of welfare exits and re-entry, studies have largely focused on the effects of welfare benefits and overlooked the role child support might play.

For a number of reasons, this omission is both surprising and regrettable. First, policymakers strengthened child support enforcement in the belief that doing so would improve child support payments and thereby help welfare mothers get off, and stay off, welfare. Second, there is evidence that child support enforcement has improved collection, especially among fathers whose children are likely to be on welfare. Third, as shown below, there are good reasons to expect that strong child support enforcement will affect welfare dynamics, and furthermore, fairly strong empirical evidence to support this belief. Finally, while cutting welfare benefits and strengthening child support enforcement both affect welfare dynamics, the former reduces the economic well-being of single-mother families while the latter increases it.

Related Studies of Welfare Dynamics

Early studies of welfare dynamics looked at simple models of transition on and off the AFDC program and found that higher welfare benefits and poor economic alternatives increased welfare dependency (Hutchins, 1981; Plotnick, 1983). Findings from subsequent work, which included a richer set of demographic variables, covered a larger window of time, and sometimes accounted for state effects, differentiated between long-term and short-term recipients (Bane and Ellwood, 1983), and examined factors associated with long-term welfare use (Bane and Ellwood, 1994; Boisjoly, Harris, and Duncan, 1998; Fitzgerald, 1995; Gleason, Rangarajan, and Schochet, 1998; Hoynes and MaCurdy, 1994; Kunz and Born, 1996; O'Neill, Bassi, and Wolf, 1987; Petersen, 1995). Overall, these studies found that disadvantaged women (such as those never-married, younger, disabled, poorly educated, with more or younger children, low expected wage, etc.) were less likely to leave welfare, as were those who lived in states with higher welfare benefits and poor labor market conditions. The effects of welfare benefits, however, decreased substantially in the models that controlled for state effects, suggesting that the effect of alleged welfare generosity is largely due to differences among states. Other studies examined welfare re-entry, finding that returns are more likely to occur within 2 years of welfare exit and that the determinants of welfare re-entry are similar to those influencing welfare duration (Bane and Ellwood, 1994; Blank and Ruggles, 1994; Ellwood, 1986; Lane and Stevens, 1995). Finally, some studies have examined monthly, rather than yearly, AFDC income and found shorter welfare duration and earlier re-entries (Blank, 1989; Blank and Ruggles, 1994, 1996; Fitzgerald, 1991; Gritz and MaCurdy, 1991; Harris, 1993, 1996; Pavetti, 1993).

None of these studies have specifically looked at the role child support might play in welfare exits and re-entries. This is surprising given that economic theory predicts that the availability of child support should reduce a custodial parent's need and eligibility for welfare, and given the improvement in child support enforcement over time. Some indirect evidence can be found in studies that look at child support enforcement policies. These have been found to have influence events related to welfare receipt such as non-marital births (Case, 1998; Garfinkel et al., forthcoming;

Huang, 2002; Willis, 1999), divorce (Nixon, 1997), income (Garfinkel, Heintze, and Huang, 2001), and to welfare caseloads themselves (Huang, Garfinkel, and Waldfogel, 2000). Only two studies have looked at the effect of the actual amount of child support received on welfare dynamics. Cancian, Meyer, and Wallace (2001) examine the role of child support in movement along Wisconsin's "self-sufficiency ladder," implemented after passage of PRWORA, and find that child support is associated with transitions from some rungs of the ladder. 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, Meyer's study did not control for variables that may affect child support payments and welfare participation at the same time, such as attitudes toward welfare and personal competence. The study was also limited to divorced women resident in a single state, Wisconsin, which had a history of high welfare payments and high child support collection during the study period. The work under discussion extends Meyer's work by controlling for these omitted variables in the analysis, by adding differences among states and over time in child support enforcement, and by extending the sample to never-married women.

METHOD

Data

The main data used in this study come from the 1979 through 1996 waves of the National Longitudinal Survey of Youth (NLSY). The NLSY, administered by the Center for Human Resource Research (CHRR) at 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 identify accurately 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 to 22 in 1979.

This study examines both the first full spell of welfare receipt and the first spell of those who exit welfare but later re-enter the welfare system. In doing so, monthly reports of welfare receipt were used. As noted, previous studies have used either annual or monthly data to examine the spells. Using annual data could overestimate welfare use because it does not account for those who leave or re-enter 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 (Bane and Ellwood, 1994). To minimize this problem, welfare exit is here defined as three consecutive months of non-receipt, a definition more likely to capture actual welfare dynamics.

Because this study covers more than 17 years of information about welfare receipt (a much longer period than earlier studies), the first full welfare spell for most mothers in the sample can be observed. Thus, only a small percentage of uncompleted spells need be accounted for, and so results more accurately depict welfare dynamics for these young women.

State child support enforcement, welfare benefits, and economic environment are also included to assess the effects of state environment on welfare dynamics. Both state child support legislation and expenditure are used to represent a state's vigor-

ousness in child support enforcement. As shown in previous studies (Freeman and Waldfogel, 2001; Garfinkel, Heintze, and Huang, 2001), effective child support enforcement depends on a combination of laws rather than individual pieces of legislation; therefore, a legislative index is created to measure the extent to which states have adopted child support enforcement legislation. This legislative index covers each step of the enforcement process: establishing paternity, obtaining an award, and collecting payments. Specifically, the index includes eight forms of child support legislation: genetic tests, paternity establishment, numerical guidelines, presumptive guidelines, wage withholding under delinquency, immediate wage withholding for new cases, universal wage withholding, and state income tax intercept. Genetic testing permits the father's genetic test results to be used to establish paternity, and paternity establishment allows for the chance to establish the paternity throughout the child's minority until age 18. Numerical guidelines introduce a nonbinding set of guidelines to advise judges in their enforcing child support laws. Presumptive guidelines require that these guidelines be used unless the judge can cite "good reason" to deviate. Wage withholding under delinquency indicates that the state has developed a system similar to income tax withholding that allows child support obligations and any arrearages to be deducted from the obligor's paycheck. The law now requires all new or modified support orders for welfare recipients to include immediate withholding of support. This was to be extended to all cases irrespective of welfare status through universal withholding laws. Finally, state income tax intercept indicates that the state has procedures available to garnish state income tax refunds up to the amount of overdue child support.

The index ranges from 0 for states with no law to 8 for states with all eight laws. The information on this legislation was collected mainly from various years of the State Legislative Summary from the National Conference of State Legislatures (NCSL-SLS) and the OCSE Legislative Tracking System Report (OCSE-LTSR) from the U.S. Department of Health and Human Services. The inconsistencies between NCSL-SLS and OCSE-LTSR were resolved by examining each state's existing laws. It is important to note that a 1-year lag between legislative enactment and implementation is assumed. Appendix 1 lists the year of child support legislation enacted. To obtain the measure of child support expenditure for each state, the expenditures reported by OCSE are divided by the number of single-mother families in that state. These data are collected from the March Current Population Survey (CPS). The total cash value of AFDC, food stamps, and Medicaid for a family of four with no other income is used to measure welfare generosity in each state and collected from the U.S. House of Representatives (1980-1998).¹ Female median wage is used to measure state economic environment and calculated from the 1979-1996 March CPS.²

Model

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

$$\lambda_i(t) = \lambda_0(t) * \exp(\chi_i' \beta) \quad (1)$$

¹ We experimented with AFDC alone and AFDC plus food stamps. Results are similar with the ones reported here.

² Male median wage, male 10th percentile wage, and female 10th percentile wage are also tested. Female median wage yields the most robust results.

where $\lambda_i(t)$ is hazard for individual i at time t , and $\lambda_0(t)$ is the baseline hazard. β is a matrix of estimated coefficients for the vector of independent variables, χ_i , controlled by the model. The independent variables include personal characteristics and state environment. For personal characteristics, we include characteristics that are expected to affect the probability of exiting or re-entering welfare. These variables include age, race, education, marital status, number of children, and whether the mother lived in an urban area at the beginning of the spells. These variables are also modeled as time-varying covariates in models, except race. Child support payments and other unearned income are included in some models to examine the effects of child support payments and to compare the different effects of unearned income. Other unearned income includes family income from interest, dividends, and rent. Both child support and other unearned income are time-varying and measured at one previous year ($t-1$) rather than the current year in order to minimize the endogeneity problem. The spell length, or duration dummy (less than 12 months, 13-36 months, 37-60 months, 61 months and longer), is included and allows the underlying hazard rate to be constant within the same length and to differ across different lengths. State environment includes the child support legislative index, child support expenditure per single-mother family, welfare benefits, and female median wage. All these variables are time-varying covariates and measured at one previous year at the state level. State and year dummies are also included to control for differences among states and time. All dollar amounts were converted to real (constant) 1996 dollars using the consumer price index. Robust standard errors are used to take into account the fact that all women occur in the sample more than once. Without this correction, the standard errors produced by the model would be underestimated.

Earlier studies 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," the role private child support payments had in her decision to leave welfare might be overestimated. Similarly, women who are more "competent" (in ways not captured by education) might also be more likely to leave welfare and to collect child support. Therefore, in addition to the measures included in previous studies, two measures are included that should be good proxies for the attitude toward welfare and for competence. The first is the answer to a question asked of all women 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), described by Neal and Johnson (1996) as a measure of attained basic skills or human capital.

RESULTS

Descriptive Results

The full sample consists of the 1068 mothers observed at the beginning of a welfare spell over the 1979-1996 period. These women ("women on welfare") are included in the analyses of welfare exits. As noted, because this study covers many years, the first full welfare spell was observed for almost all mothers in the sample. Thus, more than 99 percent of the mothers (1057) left welfare, according to this definition of a welfare

Table 1. Descriptive statistics of main variables.

Sample	Welfare Spells		Off Welfare Spells	
	At Start of Spell	Over the Spell	At Start of Spell	Over the Spell
Individual-level Variables				
Black [%]	50	58	50	47
Age	22 (4)	24 (4)	25 (5)	28 (5)
Never-Married [%]	63	70	52	34
Education [%]				
Below High School	50	53	44	38
High School	37	36	38	39
Above High School	13	11	18	24
Number of Children	1.4 (0.7)	1.7 (1.0)	1.5 (1.0)	1.8 (1.0)
Urban [%]	77	79	76	80
AFQT (Age adjusted)	21.7 (18.7)	17.7 (16.7)	21.9 (18.8)	25.0 (20.4)
Attitude toward Welfare [%]	62	70	62	60
Child Support Amounts				
[\$ real 1996]	272 (917)	222 (780)	412 (1182)	435 (1260)
Other Unearned Income				
[\$ real 1996]	102 (684)	51 (461)	38 (352)	97 (891)
State-Level Variables				
Welfare Benefits				
(AFDC + Food Stamp + Medicaid)	1095 (336)	983 (282)	949 (282)	814 (225)
Women's Median Wage	7.2 (1.3)	6.6 (1.1)	6.6 (1.2)	6.0 (1.1)
Child Support Legislative Index	2.0 (2.1)	3.0 (2.4)	3.1 (2.5)	4.7 (2.5)
Child Support Expenditure				
per Eligible Family	159 (90)	183 (95)	208 (112)	250 (123)
Duration [Months]		32.1 (39.0)		57.9 (57.6)
Unpooled N		1068		1057
Pooled N				
(Person-month Observations)		35339		62274

Note: Standard deviation appears in parentheses.

exit, during the study period. These 1057 mothers (women subsequently referred to as “women who left welfare”) are included in analyses of welfare re-entries.

Descriptive statistics of the main variables for these two groups of women are listed in Table 1. Overall, the mean duration for welfare spells was 32.1 months and the duration of time off welfare among those who left welfare was 57.9 months. The results indicate that if a young woman left welfare for three consecutive months, there was a good chance that she would stay off welfare for some time.

The first column of Table 1 shows the values of individual- and state-level variables for the full sample of women on welfare, measured at the beginning of their first spell. In general, the mothers were young, poorly educated, and likely to be black and never-married. The values of these variables, measured over the course of the welfare spell, are listed in the second column. Compared with the values at the beginning of the spell, women who were black, had never been married, had little education, and received low child support payments were more likely to stay on welfare. Columns 3 and 4 present corresponding values for variables of interest for

Table 2. Life tables of welfare exits and re-entries.

Sample From Month Welfare Exits	On Welfare	Left Welfare	All Censored	Hazard	Survival	Black	Never married Survival	Drop-out
1-6	1068	214	0	0.029	0.800	0.839	0.851	0.814
7-12	854	142	1	0.028	0.667	0.729	0.730	0.695
13-18	711	224	0	0.053	0.457	0.499	0.487	0.509
19-24	487	51	1	0.018	0.409	0.447	0.447	0.467
25-36	435	125	1	0.024	0.291	0.332	0.339	0.355
37-48	309	76	0	0.021	0.220	0.252	0.257	0.290
49-60	233	47	1	0.017	0.175	0.212	0.208	0.238
61-72	185	34	0	0.015	0.143	0.169	0.171	0.197
73-84	151	32	0	0.018	0.113	0.133	0.132	0.154
85-120	119	62	3	0.015	0.054	0.087	0.076	0.073
121-180	54	42	2	0.013	0.012	0.021	0.022	0.017
181-214	10	8	2	0.024	0.002	0.004	0.004	0.000

Sample from month Welfare Re-Entries	Off welfare	Returned to welfare	All Censored	Hazard	Survival	Black	Never married Survival	Drop-out
1-6	1057	106	58	0.014	0.900	0.909	0.868	0.883
7-12	893	89	9	0.017	0.810	0.824	0.771	0.786
13-18	795	138	3	0.029	0.669	0.663	0.571	0.626
19-24	654	44	8	0.011	0.624	0.627	0.533	0.579
25-36	602	65	36	0.009	0.557	0.536	0.443	0.502
37-48	501	29	19	0.005	0.525	0.493	0.400	0.473
49-60	453	21	22	0.004	0.500	0.468	0.375	0.447
61-72	410	18	19	0.004	0.478	0.447	0.354	0.421
73-84	373	16	39	0.004	0.458	0.427	0.345	0.401
85-120	318	29	86	0.003	0.416	0.380	0.303	0.350
121-180	203	10	160	0.001	0.396	0.361	0.288	0.328
181-214	33	1	32	0.001	0.384	0.338	0.288	0.328

Note: Kaplan-Meier method is used to adjust censored observations.

the women who left welfare and show that women who were back, never-married, and poorly educated were more likely to return to welfare.

As for the proxies for competence and attitude toward welfare, the comparison indicates that women with a higher AFQT score and a more negative attitude toward welfare were more likely to leave and less likely to re-enter welfare.³ As for the state policy and economic environment, real welfare benefits and female median wage decreased over time, while states strengthened their child support legislation and increased their spending on child support enforcement. Overall, the descriptive statistics suggest that women on welfare are not homogeneous and the state environment in which they lived became more strict about child support

³ The question regarding attitude toward welfare was asked in 1979, and about 62 percent of women in the sample said they would apply for welfare if they could not support their family. In 1979, 63 women (5.9 percent) started welfare and therefore may have been biased on this question. Indeed, 81 percent of these 63 women favored welfare. Excluding these women, however, does not yield significantly different results for other variables in the multivariate analysis.

enforcement and less generous with welfare benefits over time. Improving human capital, encouraging marriage, and enforcing child support collection could be important paths to help these young women to get off and stay off welfare.

Life Tables

The life tables of welfare exits and re-entries are listed in Table 2. The Kaplan-Meier method was used to adjust censored observations and group the duration of the spell into 12 mutually exclusive intervals, 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. The probability of exiting welfare by the end of the second year estimated in this paper is higher than that estimated by annual data (49 percent [Bane and Ellwood, 1994]; 52 percent [Boisjoly et al., 1998]) but lower than that found by monthly data, which usually defined an exit as occurring in one or two months⁴ (70 percent [Pavetti, 1993]; 66 percent [Meyer, 1993]; 64 percent [Harris, 1993]). Likewise, this degree of recidivism within 2 years is higher than the one reported in annual data (23 percent [Bane and Ellwood, 1994]) and lower than the estimates from monthly data (55 percent [Meyer, 1993]; 42 percent [Harris, 1996]). Overall, most young women in this sample consecutively used welfare as a short-term transitional program—they usually relied on welfare for less than 2 years. Only a small proportion consecutively used welfare for a long period.⁵ Although three of five exiting mothers eventually returned to welfare, recidivism is most likely to occur within 2 years of having exited. It is also more likely to occur among certain subgroups. Women who stay off welfare continuously for 3 years are relatively unlikely to return. The high return rate within 2 years suggests that these women have never achieved real independence from welfare, and indicates that the prior exit from welfare may be largely due to some significant short-term changes in family and economic circumstances. In addition, both survival rate of welfare exiting and recidivism differ significantly among subgroups. The results from these life tables do not control for the effects of personal characteristics and state environment.

Determinants of Welfare Exits

Table 3 presents the effects of personal characteristics on the probability of welfare exits, estimated by Cox's proportional hazard model. Three specifications are presented. Model 1 includes only personal characteristics at the beginning of the spell. Added are child support payments and other unearned income in the second model, as well as two proxies of competence (AFQT) and attitude toward welfare. All variables except race, AFQT, and welfare attitude are assumed to be time-varying covariates. 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 decision of welfare exiting. State and year dummies are also controlled for in model 2 to take into account differences among states and over time. In model 3, child support payments and other unearned income were replaced with state environment variables, including welfare benefits,

⁴ In this sample, 31 mothers (2.9 percent) had a two-month exit before they exited welfare for three consecutive months. If we define a welfare exit as two months of non-receipt of welfare, as previous studies did, the exiting probability within 2 years increased to 60 percent from 59 percent.

⁵ We do not analyze multiple spells and therefore do not know the distribution of cumulative long-term users.

Table 3. The determinants of welfare exits.

Variables	Model 1			Model 2			Model 3		
	Coeff.	Robust SE	P	Coeff.	Robust SE	P	Coeff.	Robust SE	P
Individual-Level Variables									
Black	-0.363	0.074	***	-0.339	0.105	***	-0.336	0.103	***
Age	0.025	0.010	**	-0.037	0.020	*	-0.031	0.020	+
Number of Children	-0.042	0.054		-0.185	0.052	***	-0.167	0.050	***
Urban	0.011	0.088		0.178	0.131		0.185	0.133	
Never Married	-0.425	0.084	***	-0.769	0.099	***	-0.782	0.099	***
High School Education	0.233	0.088	***	0.146	0.092	+	0.170	0.091	*
Above High School Education	0.711	0.124	***	0.620	0.129	***	0.584	0.128	***
AFQT (Age adjusted)	-	-		0.008	0.003	***	0.008	0.003	***
Attitude toward Welfare	-	-		-0.356	0.090	***	-0.379	0.090	***
Child Support Payments [\$1000 real 1996]	-	-		0.161	0.039	***	-	-	
Other Unearned Income [\$1000 real 1996]	-	-		-0.060	0.097		-	-	
State-Level Variables									
Welfare Benefits [\$100]	-	-		-	-		-0.045	0.075	
Women Median Wage	-	-		-	-		0.340	0.207	*
Low Legislative Index, Low Expenditure	-	-		-	-		-	-	
Low Legislative Index, Medium Expenditure	-	-		-	-		-0.115	0.200	
Low Legislative Index, High Expenditure	-	-		-	-		0.537	0.347	+
Medium Legislative Index, Low Expenditure	-	-		-	-		0.211	0.169	
Medium Legislative Index, Medium Expenditure	-	-		-	-		0.155	0.203	
Medium Legislative Index, High Expenditure	-	-		-	-		0.515	0.249	**
High Legislative Index, Low Expenditure	-	-		-	-		0.133	0.397	
High Legislative Index, Medium Expenditure	-	-		-	-		0.496	0.275	*
High Legislative Index, High Expenditure	-	-		-	-		0.585	0.311	*
Duration Dummies		Yes			Yes			Yes	
Year Dummies		No			Yes			Yes	
State Dummies		No			Yes			Yes	
Log Likelihood		-8701			-8540			-8544	
Pseudo R ²		0.1399			0.1625			0.1621	

Note: + p < 0.15; * p < 0.10; ** p < 0.05; *** p < 0.01. N (Person-month Observations) = 35,339.

All variables are the values at the start of welfare spell for model 1.

All variables are time-varying covariates in models 2 and 3, except black, AFQT, and attitude toward welfare.

women's median wage, and child support enforcement. Following previous studies on child support enforcement (Freeman and Waldfogel, 2001; Garfinkel, Heintze, and Huang, 2001), the interaction effects of child support legislation and expenditures were examined (the additive effects of child support legislation and expenditures are presented in Table 4).

Consistent with previous findings, the results in model 1 suggest that four personal characteristics have a strong association with welfare exiting: marital status, race, education, and age. Women who were never-married, black, younger, and had less than a high school education at the time they began the spell were less likely to exit welfare. Specifically, compared to previously married women, never-married women were 35 percent ($e^{-0.4247} = 0.65$) less likely to leave welfare. For black women, the reduction was 30 percent. Women with high school diplomas were 26 percent more likely to exit welfare than women who were high school dropouts. The exiting probability increased to 104 percent if the women had some college education. Being 1 year older at the time they began the spell increased the chance of exiting welfare by 3 percent.

The main variable with which this study is concerned here—child support payments—has significant and positive effects on welfare exiting. Women who received \$1000 in child support payments in the previous year were 18 percent more likely to exit welfare.⁶ On the other hand, other unearned income does not have an effect on welfare exiting. The findings indicate that, compared with other unearned income, child support payments are more effective in helping these young women out of welfare. The two proxies of competence and attitude toward welfare show strong effects on welfare exiting in model 2. An increase of one standard deviation, 18.7 points, of the AFQT score would increase the likelihood of exiting welfare by 16 percent, while women who favored welfare were 30 percent less likely to leave welfare. Most of the other variables, as expected, reduce the magnitude of the estimated coefficients in model 2, except never-married and number of children. Women who have never been married over the spell would be 54 percent less likely to exit welfare ($e^{-0.7693} = 0.46$). A woman who had one more child over the spell would reduce her chance of leaving welfare by 17 percent. The results suggest that the changes in marital status and family composition during the spell have significant effects on a mother's chance of exiting welfare.

The results in model 3 reinforce the findings in model 2 of the importance of child support. The set of child support coefficients is significant. Although the coefficients are not perfectly ordered, the positive effects of stronger enforcement are apparent. For example, compared with women living in states with low levels of child support legislation and low expenditure on enforcement, women resident in states with both high levels of child support legislation and expenditure were 79 percent more likely to exit welfare. There is also a positive effect of state wage rates on exits. An increase of one standard deviation of the median wage, \$1.34, raises the exiting probability by 58 percent. State welfare benefits, however, do not have significant effects on welfare exits. Reducing welfare benefits by \$100 would only increase the chance of exiting welfare by 4 percent.

⁶ During the period of our sample, 1979-1996, welfare mothers should have received a maximum of \$50 of child support per month, or \$600 per year. Of mothers in our "received welfare" sample, however, 7 percent had child support amounts of more than \$600. We believe this is partly due to the fact that the measurement comes from the previous year when the mother may not have been on welfare, and partly to informal child support payments. We experimentally limited the amount to \$600; the estimation for other variables is not significantly different from the one we report here, while the child support coefficient increases to 0.44 from 0.16.

Table 4. The sensitivity of state policy and environment on welfare exits.

Variables	Model 1			Model 2			Model 3			Model 4		
	Coeff.	Robust SE	P	Coeff.	Robust SE	P	Coeff.	Robust SE	P	Coeff.	Robust SE	P
Specification 1												
Welfare Benefits [\$100]	-0.196	0.033	***	-0.215	0.038	***	-0.073	0.061		-0.031	0.068	
Women Median Wage	0.335	0.074	***	0.291	0.081	***	0.323	0.139	**	0.311	0.207	+
Child Support Legislative Index	0.011	0.027		0.054	0.036	+	0.043	0.032		0.114	0.046	**
Child Support Expenditure [\$100]	-0.001	0.058		0.021	0.069		0.206	0.088	**	0.155	0.097	+
Log Likelihood		-8698			-8639			-8607			-8546	
Pseudo R ²		0.1470			0.1528			0.1559			0.1619	
Specification 2												
Low Index, Low Expenditure	-	-		-	-		-	-		-	-	
Low Index, Medium Expenditure	-0.282	0.167	*	-0.107	0.177		-0.042	0.197		-0.115	0.200	
Low Index, High Expenditure	0.255	0.242		0.426	0.265	+	0.730	0.335	**	0.537	0.347	+
Medium Index, Low Expenditure	0.012	0.134		0.099	0.146		0.268	0.160	*	0.211	0.169	
Medium Index, Medium Expenditure	-0.085	0.144		0.127	0.169		0.288	0.182	+	0.155	0.203	
Medium Index, High Expenditure	0.183	0.152		0.492	0.202	**	0.720	0.229	***	0.515	0.249	**
High Index, Low Expenditure	0.129	0.352		0.336	0.372		0.199	0.376		0.133	0.397	
High Index, Medium Expenditure	-0.037	0.188		0.469	0.251	*	0.253	0.224		0.496	0.275	*
High Index, High Expenditure	-0.070	0.181		0.283	0.270		0.681	0.253	***	0.585	0.311	*
Log Likelihood		-8690			-8629			-8601			-8544	
Pseudo R ²		0.1478			0.1538			0.1565			0.1621	
Year Dummies		No			Yes			No			Yes	
State Dummies		No			No			Yes			Yes	

Note: + p < 0.15; * p < 0.10; ** p < 0.05; *** p < 0.01. N (Person-month Observations) = 35,339. All models control for variables shown in model 3 of Table 3, except year and state dummies.

Furthermore, the sensitivity of state environment was examined by controlling for various combinations of state and year dummies in Table 4. Two specifications are presented. Four specific state-level variables are taken into account in the first specification, in addition to all the personal variables controlled for in the third model of Table 3. The interaction effects of child support legislation and expenditures are examined in the second specification.

Consistent with previous findings, the results in the first specification show that state welfare benefits have significantly negative effects on welfare exit only in the

models without state effects. Once state and year effects are accounted for, however, welfare benefits have insignificant effects. On the other hand, child support enforcement has weak effects in the models without state effects, and shows strong effects in the model where state and year effects were controlled for. The estimations of model 4 suggest that the existence of each additional piece of child support legislation raised the exiting probability by 12 percent, and an additional \$100 spent per mother on child support enforcement increased the likelihood of exiting welfare by 17 percent.⁷ Women's median wage shows more stable estimation across models. An increase of one standard deviation of the median wage, \$1.34, increased the exiting probability by about 50 percent.

The findings in the second specification further suggest that the effect of child support enforcement is more powerful when a large number of child support legislative initiatives are well enforced through a high level of expenditure. Women who lived in states with both high levels of child support legislation and expenditure were 79 percent more likely to exit welfare than those in states with low levels of child support legislation and low expenditure on enforcement. Overall, the findings in Table 4 provide strong support to the idea that state child support enforcement and economic opportunity have important effects on the decision to exit welfare for these young women, while providing little support to the notion that cutting welfare benefits would have an effect on such decisions.

Determinants of Welfare Re-Entries

Tables 5 and 6 are identical to Tables 3 and 4, respectively, except that the dependent variable is the hazard rate of welfare re-entries. For model 1 of Table 5, the results suggest that four personal characteristics have a strong association with re-entering welfare: marital status, age, number of children, and education. Women who were never married and younger, and had more children and less education at the time they began the spell were more likely to reenter welfare. In particular, never-married women were 37 percent more likely to re-enter.

Personal competence, as estimated by the AFQT score, has strong effects on the decision to re-enter welfare, as shown in model 2. An increase of one standard deviation of the AFQT score, 18 points, reduces the likelihood of recidivism by 11 percent. Child support payments are estimated to have a strong negative effect on the likelihood of re-entry. Receiving \$1000 in child support payments in the previous year reduces welfare recidivism by 12 percent.⁸ Again, other unearned income does not affect the decision to re-enter. Most of the other variables, as expected, reduce the magnitude of the estimated coefficients in model 2, except for never-married and black women. For women who were never married over the spell, the chance of re-entering welfare increased by 67 percent. Black women were 27 percent more likely to return than non-black women. Overall, the results in Table 5 suggest that the decision to re-enter welfare is related to personal background and socioeconomic characteristics. Women who were black and had low levels of competence, less education, and more children and who remained unmarried over the spell were

⁷In results not reported in the table, we reran models 2 and 3 without controlling for changes in marital status, which may be endogenous to both welfare and child support. As expected, the child support coefficients became somewhat stronger, but the welfare coefficient turned positive though remaining insignificant.

⁸Further analysis indicates that those mothers who received more than \$1800 per year in child support are less likely to re-enter welfare, while mothers receiving small amounts of child support (less than \$1200 per year) might still be more likely to re-enter welfare. The results indicate that, with a small amount of child support each month (such as \$150), the likelihood of re-entering welfare could be reduced substantially.

Table 5. The determinants of welfare re-entries.

Variables	Model 1			Model 2			Model 3		
	Coeff.	Robust SE	P	Coeff.	Robust SE	P	Coeff.	Robust SE	P
Individual-Level Variables									
Black	0.090	0.100		0.243	0.128	*	0.229	0.128	*
Age	-0.067	0.014	***	-0.056	0.024	**	-0.056	0.025	**
Number of Children	0.207	0.047	***	0.203	0.047	***	0.196	0.047	***
Urban	0.184	0.113	+	0.000	0.152		0.010	0.152	
Never Married	0.314	0.102	***	0.512	0.111	***	0.520	0.111	***
High School Education	-0.150	0.105		-0.136	0.122		-0.148	0.122	
Above High School Education	-0.430	0.145	***	-0.305	0.168	*	-0.325	0.167	*
AFQT (Age adjusted)	-	-		-0.007	0.003	**	-0.007	0.003	**
Attitude toward Welfare	-	-		0.044	0.106		0.064	0.108	
Child Support Payments [\$1000 real 1996]	-	-		-0.120	0.049	**	-	-	
Other Unearned Income [\$1000 real 1996]	-	-		0.028	0.052		-	-	
State-Level Variables									
Welfare Benefits [\$100]	-	-		-	-		0.138	0.112	
Women Median Wage	-	-		-	-		0.198	0.257	
Low Legislative Index, Low Expenditure	-	-		-	-		-	-	
Low Legislative Index, Medium Expenditure	-	-		-	-		-0.648	0.263	**
Low Legislative Index, High Expenditure	-	-		-	-		-0.008	0.381	
Medium Legislative Index, Low Expenditure	-	-		-	-		-0.228	0.223	
Medium Legislative Index, Medium Expenditure	-	-		-	-		-0.274	0.306	
Medium Legislative Index, High Expenditure	-	-		-	-		-0.691	0.331	**
High Legislative Index, Low Expenditure	-	-		-	-		-0.787	0.459	*
High Legislative Index, Medium Expenditure	-	-		-	-		-1.146	0.416	***
High Legislative Index, High Expenditure	-	-		-	-		-0.858	0.412	
Year Dummies		No			Yes			Yes	
State Dummies		No			Yes			Yes	
Log Likelihood		-4991			4887			4882	
Pseudo R ²		0.1699			0.1872			0.1881	

Note: + p < 0.15; * p < 0.10; ** p < 0.05; *** p < 0.01. N (Person-month Observations) = 62,274.

All variables are the values at the start of welfare spell for model 1.

All variables are time-varying covariates in model 2 and 3, except black, AFQT, and attitude toward welfare.

more likely to return to welfare. Other unearned income is much less effective than child support payments probably because there is so little of it. State child support enforcement shows strong effects on welfare re-entries in model 3.

Women resident in states with high levels of child support legislation and with at least medium amounts of child support expenditure were less likely to re-enter welfare by 58 to 68 percent than those living in states with low levels of such legislation and expenditure. Women's median wage and welfare benefits, however, do not have significant effects on welfare re-entries.

The findings in Table 6 are similar to those in Table 4, though overall, the effects lessen in magnitude. State welfare benefits have effects only in the models without state effects and have no effects in the models with state and year effects. The female median wage level does not have a significant effect on welfare re-entries. Child support enforcement has a stronger effect across the models. The estimations of model 4 suggest that additional child support legislation would reduce the re-

Table 6. The sensitivity of state policy and environment on welfare re-entries.

Variables	Model 1			Model 2			Model 3			Model 4		
	Coeff.	Robust SE	P	Coeff.	Robust SE	P	Coeff.	Robust SE	P	Coeff.	Robust SE	P
Specification 1												
Welfare Benefits [\$100]	0.115	0.045	***	0.141	0.048	***	-0.054	0.091		0.017	0.105	
Women Median Wage	-0.026	0.100		-0.075	0.107		0.196	0.198		0.215	0.256	
Child Support Legislative Index	-0.012	0.033		-0.035	0.043		-0.063	0.045		-0.093	0.058	*
Child Support Expenditure [\$100]	-0.096	0.055	*	-0.111	0.066	*	-0.101	0.092		-0.070	0.106	
Log Likelihood		-4957			-4938			-4908			-4889	
Pseudo R ²		0.1755			0.1788			0.1837			0.1868	
Specification 2												
Low Index, Low Expenditure	-	-		-	-		-	-		-	-	
Low Index, Medium Expenditure	-0.485	0.191	**	-0.589	0.204	***	-0.548	0.249	**	-0.648	0.263	**
Low Index, High Expenditure	-0.202	0.276		-0.421	0.314		0.141	0.353		-0.008	0.381	
Medium Index, Low Expenditure	0.038	0.155		-0.226	0.189		0.043	0.190		-0.228	0.223	
Medium Index, Medium Expenditure	0.094	0.178		-0.243	0.252		0.037	0.235		-0.274	0.306	
Medium Index, High Expenditure	-0.351	0.198	*	-0.721	0.261	***	-0.358	0.277		-0.691	0.331	**
High Index, Low Expenditure	-0.488	0.330	+	-0.938	0.398	**	-0.400	0.377		-0.787	0.459	*
High Index, Medium Expenditure	-0.914	0.288	***	-1.300	0.361	***	-0.809	0.320	**	-1.146	0.416	***
High Index, High Expenditure	-0.486	0.243	**	-0.868	0.328	***	-0.587	0.324	*	-0.858	0.412	**
Log Likelihood		-4944			-4928			-4897			-4882	
Pseudo R ²		0.1778			0.1804			0.1855			0.1881	
Year Dummies		No			Yes			No			Yes	
State Dummies		No			No			Yes			Yes	

Note: + p < 0.15; * p < 0.10; ** p < 0.05; *** p < 0.01. N (Person-month Observations) = 62,274. All models control for variables shown in model 3 of Table 5, except year and state dummies.

entering probability by 9 percent; increasing child support expenditure by \$100 per mother would reduce the likelihood of welfare recidivism by 7 percent. Again, the findings of the second specification indicate that child support enforcement is more powerful when a state has more child support legislation and enforces this legislation well through greater expenditures. Overall, the findings in Table 6 provide evidence that state child support enforcement has an important influence on women's decisions regarding welfare re-entry, while welfare benefits and wage levels seem to have little effect on such decisions.

DISCUSSION AND CONCLUSION

Much of the public debate on welfare dynamics has focused on the extent to which time spent on welfare is influenced by the personal characteristics of recipients and the generosity of welfare payments; there has been very little discussion or analysis of the role played by child support enforcement. Given theoretical predictions 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 for young mothers, with particular attention to the effects of child support, which have been ignored in previous stud-

ies. The results suggest that both the child support payments a mother received and state child support enforcement have strong effects on women's decisions about exiting and re-entering welfare. Women with \$1000 in child support payments in the previous year were 18 percent more likely to exit welfare and 12 percent less likely to re-enter. Other sources of unearned income are not as effective in helping these young mothers, probably because the mothers receive so little other unearned income. The existence of each additional piece of child support legislation raised the probability of exit by 12 percent and lowered the likelihood of re-entry by 9 percent. Likewise, each additional \$100 spent per mother on child support enforcement increased the likelihood of exiting welfare by 17 percent and reduced the probability of re-entry by 7 percent. Consistent with previous findings (Freeman and Waldfogel, 2001; Garfinkel, Heintze, and Huang, 2001), the influence of child support enforcement is more powerful when extensive legislation is accompanied by high levels of child support enforcement expenditures. Women living in states with high levels of child support legislation and where the state government spent more money on child support enforcement were 79 percent more likely to exit welfare and around 60 percent less likely to re-enter welfare.

These findings are based on pre-PRWORA data. As noted earlier, PRWORA not only strengthened child support enforcement, but also changed welfare in ways that are likely to enhance the importance of child support. Both the time limit and work requirement provisions of PRWORA reduce the value of welfare benefits and thereby increase the importance of non-welfare sources of income such as child support. In

Appendix 1. Enacted Year of Child Support Legislation.

State	Genetic tests	Paternity until 18	Numerical guideline	Presumptive guideline	Wage withholding	Immediate withholding	Universal withholding	State intercept
AL	1984	1984	1987	1989	1984	1989	1993	1985
AK	1989	1976	1987	1987	1981	1988	1994	-
AZ	1984	1971	1989	1989	1977	1987	1987	1985
AR	1989	1985	1989	1989	1983	1989	1991	1983
CA	1986	1986	1990	1990	1980	1989	1989	1984
CO	1991	1985	1986	1986	1981	1989	1993	-
CT	1989	1985	1989	1989	1955	1983	1983	1991
DE	1984	1984	1983	1988	1974	1990	1994	1992
DC	1984	1984	1990	1990	1987	1990	1995	1987
FL	1986	1986	1987	1989	1978	1986	1986	-
GA	1991	1980	1989	1989	1981	1989	1993	1980
HI	1989	1983	1986	1986	1984	1988	1988	1982
ID	1982	1985	1989	1989	1986	1990	1993	1981
IL	1984	1984	1984	1990	1984	1988	1988	1989
IN	1987	1986	1989	1989	1982	1985	1997	1981
IA	1989	1990	1984	1989	1984	1990	1993	1980
KS	1994	1985	1986	1992	1985	1990	1992	1981
KY	1984	1986	1990	1990	1984	1988	1988	1986
LA	1985	1980	1989	1989	1982	1989	1993	1992
ME	1991	1985	1989	1989	1985	1990	1991	1985
MD	1984	1984	1989	1989	1976	1991	1993	1957
MA	1986	1986	1989	1989	1986	1986	1998	1986
MI	1982	1986	1985	1990	1982	1990	1990	1985

Appendix 1. Enacted Year of Child Support Legislation. (*Continued*).

State	Genetic tests	Paternity until 18	Numerical guideline	Presumptive guideline	Wage withholding	Immediate withholding	Universal withholding	State intercept
MN	1980	1980	1983	1983	1978	1990	1993	1980
MS	1987	1981	1989	1989	1985	1989	1993	1985
MO	1987	1987	1989	1989	1973	1990	1993	1984
MT	1989	1985	1989	1989	1985	1989	1991	1985
NE	1984	1986	1985	1985	1985	1991	1994	1984
NV	1989	1983	1987	1989	1985	1989	1993	-
NH	1988	1985	1988	1988	1985	1993	1993	-
NJ	1983	1983	1986	1988	1981	1990	1990	1985
NM	1986	1986	1988	1989	1985	1990	1993	1985
NY	1976	1985	1989	1989	1977	1990	1994	1985
NC	1979	1981	1985	1989	1975	1989	1993	1979
ND	1989	1975	1983	1989	1979	1989	1989	1983
OH	1986	1982	1990	1990	1986	1993	1993	1985
OK	1985	1985	1988	1989	1978	1989	1994	1985
OR	1981	1983	1989	1989	1985	1993	1993	1985
PA	1989	1985	1985	1989	1985	1989	1989	1985
RI	1984	1988	1987	1987	1980	1990	1994	1982
SC	1984	1984	1989	1989	1985	1989	1994	1984
SD	1989	1986	1989	1989	1986	1990	1990	-
TN	1983	1984	1989	1989	1985	1990	1994	-
TX	1989	1983	1989	1989	1985	1985	-	-
UT	1992	1990	1989	1989	1977	1990	1993	1985
VT	1983	1983	1985	1985	1983	1989	1989	1989
VA	1985	1988	1988	1988	1982	1988	1995	1950
WA	1994	1976	1988	1988	1984	1989	1994	-
WV	1989	1986	1986	1989	1986	1990	1993	1995
WI	1987	1983	1983	1987	1977	1985	1989	1987
WY	1989	1978	1989	1989	1986	1989	1994	-

Note: - denotes states had not passed the law by 1998.

addition, PRWORA gave the states full discretion with regard to how much child support to pass through to recipients (most states have chosen to give recipients nothing). Elimination of the pass-through increases the relative value of child support. Thus this analysis, which is based on pre-PRWORA data, is likely to understate the effects of child support on welfare exits and re-entrances in the new world of welfare.

As for other state-level variables, such as welfare benefits and economic environment, this paper provides mixed evidence. Consistent with previous findings, state welfare benefits have large and statistically significant effects only in the models without state effects. This suggests the causal effects of changes in welfare benefit levels are relatively small and therefore difficult to detect. The state economic environment, as measured by female median wage level, has strong effects on welfare exiting, but little effects on re-entering. Women residing in states with one standard deviation higher of median wage demonstrate a rise in exiting probability of 52 percent. As for personal characteristics, the findings of this paper indicate that women who were more disadvantaged in their socioeconomic characteristics were less likely to leave welfare and more likely to re-enter. Specifically, the four characteristics

are marital status, race, education, and number of children. Never-married, black, poorly educated women who had more children were most disadvantaged.

In short, this paper provides evidence that child support enforcement has significant effects on welfare dynamics, in that it assists young mothers in exiting and staying off welfare. While cutting welfare benefits or imposing time limit reduce welfare caseloads, these results suggest that enforcing child support might also reduce caseload by means of accelerating the process of welfare exiting and preventing welfare recidivism.

The authors are grateful to Wenjui Han, Jane Waldfogel, and two anonymous reviewers for insightful comments on earlier versions. This research was supported by a grant from NICHD-HD19375.

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