

**THE SURVEY OF INCOME AND
PROGRAM PARTICIPATION**

**WELFARE PARTICIPATION AND
WELFARE RECIDIVISM: THE ROLE OF
FAMILY EVENTS**

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WELFARE PARTICIPATION AND WELFARE RECIDIVISM: THE ROLE OF FAMILY EVENTS

Current research on participation in welfare programs suggests that although the majority of spells of program receipt are relatively short, a large proportion of recipients experience subsequent spells of program participation. To the extent that short periods off welfare represent failed attempts at self-sufficiency, a better understanding of why individuals who try to leave welfare fail should help in defining interventions that would encourage successful exits from program participation.

In this paper, we use data from the Survey of Income and Program Participation to examine the dynamics of welfare participation and welfare recidivism. We focus on the patterns of participation in the Aid to Families with Dependent Children (AFDC) program and the relationship between changes in program participation and the timing of demographic and socioeconomic events within the family (e.g., births, marriage, divorce, and changes in employment status).

The paper is organized as follows. Section I outlines our empirical model; section II describes the data; section III presents the specification of the model we estimate; and section IV contains our estimation results. Section V presents the summary and conclusions.

I. EMPIRICAL MODEL

This paper examines the factors associated with transitions from participation in the AFDC program to nonparticipation, and the factors associated with program recidivism. Thus, we consider two types of spells--spells on the AFDC program and spells off of the program after the prior receipt of benefits. We estimate the probability of exiting from each of these spells using reduced-form hazard models, where the hazard rate is the conditional probability that a spell of program participation (or a spell off of the program)

will end after $t+\Delta t$ months, given that the spell lasted at least t months. The hazard rate is defined as a function of both time and a set of explanatory variables, and can be written as:

$$(1) \quad h(t, X) = \lim_{\Delta t \rightarrow 0} [P(t \leq T < t+\Delta t, X) / \Delta t],$$

where t is the number of months since the beginning of the spell, and X is a vector of socioeconomic and demographic characteristics of the individual and characteristics of the economic and program environment.

The survivor function, which characterizes the length of time until the end of the spell, is written as:

$$(2) \quad S(t, X) = \exp[-\int_0^t h(u, X) du].$$

Using the relationship between the hazard function and the survivor function,

$$(3) \quad h(t, X) = f(t, X)/S(t, X),$$

the distribution of completed spells of program participation is:

$$(4) \quad f(t, X) = h(t, X) \exp[-\int_0^t h(u, X) du].$$

The primary advantages of the hazard model for studying the dynamics of program participation are that unlike traditional multivariate regression, the hazard model can incorporate information on right-censored spells (i.e., spells that are observed to begin but are not followed long enough to see how or when they end) and explanatory variables that change values over the course of the spell. Ignoring right-censored spells and time-varying explanatory variables can result in substantial bias in estimates of the probability of

exiting from the spell and in the factors associated with exiting. (See Kalbfleisch and Prentice (1980) for a discussion of hazard models.)

We use a discrete-time framework to estimate the hazard models. (See Allison (1984) for a discussion of the discrete-time model.) Estimation of the discrete-time model requires that a separate observation be created for each month that the individual is at risk of exiting from the spell, i.e., each month at risk is treated as a distinct observation, referred to as a spell-month. For each spell-month the dependent variable for the model is coded 1 if the individual exits from the spell in that month and 0 otherwise. In the final step, the spell-month data are pooled and logit models are estimated using maximum likelihood procedures. It is worth noting that the children whose time in a spell is censored, meaning their exit from the spell is not observed, contribute exactly what is known about them to the analysis -- that they had not exited from the spell up to the last observation period.

II. THE DATA

The Survey of Income and Program Participation (SIPP), a nationally representative longitudinal survey, provides detailed information on household and individual income, program participation, and wealth. In addition, the SIPP provides information on the demographic and socioeconomic events that are likely to be associated with program entry and exit over time. Although the 32-month reference period for the SIPP is shorter than would be ideal for an analysis of the dynamics of program participation, the monthly accounting period of the SIPP supports more precise measurement of the relative timing of entry into and exit from programs and the events associated with those changes than is available in databases with longer follow-up periods (e.g., the Panel Study of Income Dynamics).

This study is based on the longitudinal data from the Full Panel Research File for the 1984 SIPP.¹ The longitudinal research file for the 1984 panel covers eight rounds of interviews, providing 32 months of data from summer 1983 to spring 1986. Because the SIPP interviews were conducted on a four-month rotating basis, with one-fourth of the sample interviewed each month, the reference periods for the data collected are staggered, ranging from June 1983-January 1986 to September 1983-April 1986.²

The focus of our analysis is on children in families beginning a spell of AFDC or beginning a spell off the program during the 32-month period of the longitudinal file.³ Individuals residing in group quarters at any point in the survey period were excluded from the analysis.

We attribute to each person the characteristics of his or her family or household.⁴ In particular, participation in AFDC for each person is defined on the basis of the participation of all members of the individual's family.⁵ This analytical framework assumes that the needs and resources of family or household members are interrelated and program benefits are shared. The assumption seems a reasonable one because the interrelated needs, abilities, and resources of a family and household are important factors

¹New samples of households (or panels) are introduced periodically in the SIPP.

²The analysis file used in this study was developed by Mathematica Policy Research, Inc. under a grant from the U.S. Department of Health and Human Services. The Urban Institute was a subcontractor for that grant.

³Although eligibility for AFDC generally ends on a child's 18th birthday, some states have implemented an option that permits benefits to be continued until the child's 19th birthday. Therefore, we have included persons of age 18 in our sample of children.

⁴An alternative approach would use the family or household as the unit of analysis. That approach complicates the analysis because the structure of the family and household changes over time -- through marriage, separation, divorce, births, deaths, and other events. Because of these changes, it is difficult to determine what constitutes the same unit from one month to the next.

⁵The household is defined as all persons who reside together regardless of whether they are related. The household may encompass more than one family, which is a group of two or more persons related by birth, marriage, or adoption who reside together.

that determine the programs for which a household and its members are eligible, and the programs in which they choose to participate.

One difficulty that arises in analyzing participation in AFDC using the SIPP concerns the underreporting of AFDC participation. A comparison of SIPP estimates of the number of AFDC participants to administrative data suggests that the survey underestimates the AFDC population, mistakenly reporting a substantial share of AFDC payments as general assistance benefits (Coder and Ruggles 1988). Because of that misreporting, we have combined AFDC and general assistance participation into a single category for this study.⁶ Since the AFDC program is targeted to families with dependent children, confining our analysis to children should limit the extent to which we are capturing general assistance rather than AFDC participation in our measure.

III. MODEL SPECIFICATION

There is an extensive literature on the dynamics of AFDC participation; the findings of several of the most recent studies are summarized in Table 1. Research on AFDC recidivism is more limited. To our knowledge Ellwood (1986) is the only study that has examined the factors associated with returns to program participation. That study, summarized in Table 2, is based on annual data. Annual data overstate the length of spells of AFDC participation, understate the length of spells off the program, and miss multiple spells of participation occurring within the same year. Basing our study on the monthly data from the SIPP avoids these difficulties.

⁶An alternative approach would have been to attempt to identify the cases in which AFDC participation was misclassified, as was done by Coder and Ruggles (1988). Because the Coder and Ruggles edits were more severe than those we would have chosen to apply, and because extensive case-by-case editing was beyond the scope of this study, we chose to use the more general definition of assistance.

Table 1

SUMMARY OF THE FINDINGS FOR SELECTED STUDIES OF THE PROBABILITY OF EXIT FROM SPELLS OF PARTICIPATION IN AFDC

Explanatory Variable	Ellwood (1986) 1968-84 Panel Study of Income Dynamics (Table A.2, First Spell)	Blank (1986) 1970-75 Seattle and 1971-76 Denver Income Maintenance Experiments (Table 4 Log-logistic Model)	O'Neill et al. (1987) 1968-82 National Longitudinal Survey (Table 3, Model 3)	Fitzgerald (1988) 1984 Panel of Survey of Income and Program Participation (Table 3, Model 1)	Ruggles (1988) 1984 Panel of Survey of Income and Program Participation (Table 2, Log- logistic Model) ¹
Unearned, non-AFDC income		+		+	+
Education Attainment	+	+	+	+	
Black/Nonwhite	-	-	-	+ ²	-
Age	-	+	-	+	
Number of Children	-	-	-	-	-
Presence of Young Children	?	-	-	-	-
Recent Work Experience/Earning	+		+		+
Work/Health Disability	-		-		
Never Married/Single	-		-		
Child Born at Age 18 or Less			+		3
Lived With Parents/Subfamily			-		+
State Unemployment Rate		-	+		-
AFDC Maximum Benefit	-	+	-		-
AFDC-UP State					+

NOTES: A column entry of "+" indicates that the variable was estimated to have a positive effect on the probability of exit from AFDC, while the "-" entry indicates that the estimated effect was negative. The "?" indicates that the estimate was significant at or below the .05 level. The variables included in this table are a subset of all of the variables that were included in the studies.

1. The Ruggles study estimates the survival probability. We present her results as they apply to the exit probability.
2. In addition to the model specification that included race as an explanatory variable, Fitzgerald estimated the model separately for whites and blacks. His findings suggest that there are some differences in the factors affecting exits from AFDC for whites and blacks.
3. The teenage mother variable included in the Ruggles study refers to the presence of a teenaged mother in the family.

Table 2

SUMMARY OF THE FINDINGS FOR THE STUDY OF THE
PROBABILITY OF RETURN TO PARTICIPATION IN AFDC

Explanatory Variable	Ellwood (1986) 1968-84 Panel Study of Income Dynamics (Table A.2, Recidivism)
AFDC Maximum Benefit	+
Education Attainment	? ¹
Black/Nonwhite	+ (*)
Young Adult	+
Older Adult	-
Number of Children	+ (*)
Presence of Young Children	+ (*)
Recent Work Experience/Earning	-
Work/Health Disability	+ (*)
Never Married/Single	+

NOTES: A column entry of "+" indicates that the variable was estimated to have a positive effect on the probability of exit from AFDC, while the "-" entry indicates that the estimated effect was negative. The (*) indicates that the estimate was significant at or below the .05 level. The variables included in this table are a subset of all of the variables that were included in the study.

1. Ellwood includes two dummy variables indicating whether the woman has completed 8 years of education or 9 to 11 years of education. The estimated coefficients for the two variables are negative and positive, respectively, although neither is statistically significant.

In developing the specification of our empirical model of the factors affecting the probability of exiting from spells of program participation and nonparticipation, we draw on the findings of the studies summarized in Tables 1 and 2. We include five types of explanatory variables in our model:

- o Baseline characteristics--measures of the characteristics of the child and his or her family as of the first month of the spell;
- o Prior family events--measures indicating whether the spell was preceded by a change in the circumstances of the child's family;
- o Family events and time-varying variables--measures of changes over the course of the spell in the circumstances of the child's family;
- o Program and economic environment--characteristics of the program and economic environment that the child and his or her family face at each point in time; and
- o Length of spell--a series of variables to control for the length of the spell.

In the remainder of this section, we discuss the specific variables included in each of these categories.

1. Baseline Characteristics

A series of demographic and socioeconomic variables are included in the model to reflect the characteristics of the child and his or her family as of the first month of the spell. Those baseline variables are:

<u>Variable</u>	<u>Definition</u>
Child is White	A dummy variable indicating that the child is white (1=yes, 0=no).
Age of Family Head	The age (in years) of the head of the child's family as of the first month of the spell.
Family Head is a High School Graduate	A dummy variable indicating that the head of the child's family had graduated from high school by the first month of the spell (1=yes, 0=no).

<u>Variable</u>	<u>Definition</u>
Single-Parent Family	A dummy variable indicating that the child's family was headed by a single parent in the first month of the spell (1=yes, 0=no).
Child is a Member of a Subfamily	A dummy variable indicating that the child's family is a subfamily in a household that includes more than one family as of the first month of the spell (1=yes, 0=no). This variable is intended to capture the potential additional financial and child care resources available to the child's family.
Number of Children in the Family	Number of children in the child's family.
Child Less Than Age 6 in the Family	A dummy variable indicating that there was a child less than age six in the child's family as of the first month of the spell (1=yes, 0=no). The aging of the youngest child has implications for both the child care needs of the family and the application of AFDC program rules. During the time period that our data were collected, a parent who was caring for a child under age 6 was exempt from AFDC work registration requirements. ⁷
Member of the Family is Disabled	A dummy variable indicating that a member of the child's family had a work disability as of the first month of the spell (1=yes, 0=no).
Member of the Family is Employed	A dummy variable indicating that a member of the child's family is employed as of the first month of the spell (1=yes, 0=no).

2. Prior Family Events

In order to capture the impact of the circumstances surrounding the beginning of the spell on the duration of the spell, we include measures that indicate whether the spell was preceded by a change in the circumstances of the child's family. In the model of the duration of AFDC participation, we include two measures:

⁷The Family Support Act of 1988 changed the exemption so that it applies only to parents caring for a child under age 3 (or, at state option, age 1).

<u>Variable</u>	<u>Definition</u>
Spell Began with the Break-up of a Marriage	A dummy variable indicating that the marriage of the head of the child's family dissolved in the four months prior to the beginning of the spell (1=yes, 0=no). ⁸
Spell Began with the Loss of a Job	A dummy variable indicating that a worker in the family became unemployed in the four months prior to the beginning of the spell (1=yes, 0=no).

The prior event variables included in the model of AFDC recidivism mirror those of the AFDC participation equation. They are:

<u>Variable</u>	<u>Definition</u>
Spell Began with a Marriage	A dummy variable indicating that the head of the child's family married in the four months prior to the beginning of the spell (1=yes, 0=no).
Spell Began with the Addition of an Earner	A dummy variable indicating that a member of the child's family became employed in the four months prior to the beginning of the spell (1=yes, 0=no).

3. Family Events and Time-Varying Variables

In examining the relationship between AFDC participation or recidivism and family events, we consider a wide range of demographic and economic changes. These events, intended to capture important changes in the child's circumstances over the course of the spell, are as follows:

<u>Variable</u>	<u>Definition</u>
Birth of a Child into the Family	A dummy variable indicating that an infant entered the child's family between the prior month and the current month (1=yes, 0=no).

⁸Any change from a status of "married, spouse present" was counted as evidence of a marital breakup.

<u>Variable</u>	<u>Definition</u>
Youngest Child in the Family Turned 6	A dummy variable indicating that the youngest person in the child's family went from less than age six to at least age six between the prior month and the current month (1=yes, 0=no).
Family Head Marries	A dummy variable indicating that the head of the child's family married between the prior month and the current month (1=yes, 0=no).
Breakup of the Marriage of the Family Head	A dummy variable indicating that the marriage of the head of the child's family broke up between the prior month and the current month (1=yes, 0=no).
Lost Last Worker in the Family	A dummy variable indicating that the child's family lost its last employed member(s) between the prior month and the current month (1=yes, 0=no).
Added First Worker in the Family	A dummy variable indicating that the child's family added its first employed member between the prior month and the current month (1=yes, 0=no).

The family events variables capture changes over time in the child's circumstances relative to the child's baseline characteristics. Thus, for example, if the head of the child's family divorces his or her spouse and subsequently remarries over the course of a spell of program participation, the occurrence of both events -- a marital breakup and a marriage -- will be captured.

In our model the occurrence of an event is hypothesized to increase or decrease the probability of an exit from the spell. For example, we include the marriage of the head of the child's family and the breakup of that marriage as events that can raise or lower (but do not lower to zero) the hazard of program exits. This differs from earlier work, most notably, Bane and Ellwood (1983), in which events such as marriage and employment were treated as alternative states to which an individual exited from a spell of AFDC. Since marriage, marital breakups, and changes in employment status do not necessarily result in program

exits or program entry, we believe our model provides a more appropriate framework for analyzing the impact of the events on program behavior.

In addition to the measures of family events, we include a variable that is intended to capture the on-going availability of alternative sources of financial support for the child's family. That time-varying variable is:

<u>Variable</u>	<u>Definition</u>
Family's Monthly Unearned Income	The level of unearned, non-AFDC income received by the child's family in the prior month (\$100s).

4. Program and Economic Environment

We expect the characteristics of the program environment and the economic conditions in the area in which the child lives to have an impact on the family's program participation behavior. Consequently, we include two environmental measures in our model:⁹

<u>Variable</u>	<u>Definition</u>
Maximum AFDC Benefit for a Family of Four	The maximum AFDC benefit for a family of four in the state where the child resides (\$100s).
State Unemployment Rate	The unemployment rate for the state in which the child resides. This variable serves as a proxy for the overall economic conditions faced by the child's family.

⁹Because SIPP does not include such variables, we have added these data for each child for each month based on the child's state of residence. In the case of six states in which the sample is relatively small, two "state groups" were created by the Census Bureau: (1) Mississippi and West Virginia, and (2) Idaho, New Mexico, South Dakota, and Wyoming.

5. Length of Spell

The final set of variables encompasses a series of dummy variables to control for the length of the spell. Those variables are:

<u>Variable</u>	<u>Definition</u>
Months 3 or 4	A dummy variable indicating that the observation (i.e., spell-month) is either the 3rd or 4th month of the spell (1=yes, 0=no).
Months 5 to 8	A dummy variable indicating that the observation is either the 5th, 6th, 7th, or 8th month of the spell (1=yes, 0=no).
Months 9 to 12	A dummy variable indicating that the observation is either the 9th, 10th, 11th, or 12th month of the spell (1=yes, 0=no).
Months 13 to 16	A dummy variable indicating that the observation is either the 13th, 14th, 15th, or 16th month of the spell (1=yes, 0=no).
Months 17 and Up	A dummy variable indicating that the observation is at least the 17th month of the spell (1=yes, 0=no).
Seam Month	A dummy variable indicating that the observation is the final month in a wave of SIPP, i.e., it is a seam month between two rounds of interviews.

The final variable (seam month) is intended to capture a well-documented problem in longitudinal surveys -- the bias of reported transitions toward the seam months of the survey (see Singh et al. (1988) for a discussion of this issue).¹⁰

¹⁰This is only a rough correction for the tendency of transitions to be reported at the seam as it will not capture any existing correlation between the response errors that result in the bias toward the seam and the outcome variable or the other explanatory variables in the model.

IV. ESTIMATION RESULTS

Economic and social family events are strongly associated with changes in program participation status, as shown in Table 3.¹¹ The probability of exiting from a spell of AFDC participation is significantly greater for children in families in which the youngest child reaches age 6 or greater, the family head marries, or a family member becomes employed, all else equal.

The aging of the youngest child in the family has a twofold impact on changes in program participation as it represents both a reduction in child care responsibilities within the household and the potential imposition of AFDC work registration requirements on the parent.¹² The reduction in child care responsibilities may eliminate a barrier to the employment of the parent while the imposition of greater work requirements reduces the attractiveness of program participation. The net effect of the aging of the youngest child is an increased likelihood that the family exits from AFDC participation. As can be seen in Table 4, which summarizes the effects of a change in selected explanatory variables on the hazard rate, the probability of exiting from a spell of AFDC given the aging of the youngest child is 27 percent, compared to only 4 percent for a hypothetical child with "average" characteristics who does not experience that event.¹³

Marriage and the employment of a family member are likely to indicate an improvement of the circumstances of the family. Accordingly, these family events result in the increased likelihood that the child's family exits from AFDC. As shown in Table 4, a child in a family in which the head marries has a

¹¹Means and standard errors for the explanatory variables are provided in Appendix Table A.1.

¹²As was noted above, a parent caring for a child under 6 years of age was exempt from AFDC work requirements during the time period that we are examining.

¹³In calculating the effect of the occurrence of a family event on the probability of exiting from a spell, we assign all of the other variables in the model their mean value.

Table 3

Estimation Results for Hazard Models of the First Observed
Spells of AFDC Participation and Nonparticipation

Variable	Probability of Exiting from AFDC Participation		Probability of Returning to AFDC Participation	
	Coefficient Estimate	Standard Error	Coefficient Estimate	Standard Error
Constant	-2.308**	0.482	-5.355**	0.611
Baseline Characteristics				
Child is White	0.232**	0.114	-0.443**	0.134
Head is High School Grad	0.316**	0.145	-0.090	0.159
Age of Head	-0.007	0.007	-0.007	0.009
Single-Parent Family	-0.197	0.125	0.170	0.160
Subfamily	0.180	0.164	0.521**	0.176
Number of Children	-0.052	0.044	0.010	0.047
Presence of Young Child	-0.324**	0.131	0.232	0.157
Presence of Disabled	0.195	0.115	0.397**	0.143
Presence of Earner	1.012**	0.129	-0.104	0.159
Prior Family Events				
Prior Marriage in Family	---	---	-0.198	0.361
Prior Marriage Breakup	-0.371	0.281	---	---
Prior Member Gets Job	---	---	0.102	0.143
Prior Loss of Earner	0.246	0.147	---	---
Family Events				
Monthly Other Income	0.001	0.005	-0.049	0.026
Birth of a Child	0.336	0.457	1.988**	0.417
Youngest Child Turns 6	2.293**	0.373	---	---
Marriage of Family Head	1.550**	0.476	---	---
Breakup of Family Head's Marriage	---	---	0.492	0.508
First Member Gets a Job	1.896**	0.170	---	---
Last Worker Loses Job	---	---	1.081**	0.248
Environmental Variables				
Maximum AFDC Benefit	-0.163**	0.037	0.151**	0.043
State Unemployment Rate	-0.068**	0.031	0.083**	0.037
Length of Spell				
Months 3 or 4	-0.092	0.142	0.872**	0.193
Months 5 to 8	-0.264	0.145	0.346	0.201
Months 9 to 12	-0.960**	0.207	-0.629**	0.279
Months 13 to 16	-1.287**	0.275	-0.258	0.276
Months 17 and Up	-1.315**	0.289	-0.498	0.296
Seam Month	1.713**	0.109	1.390**	0.126
Likelihood Ratio Test		684.86		338.23

15 percent probability of exiting from the spell of AFDC, and a child in a family in which a member becomes employed has a 19 percent probability of exiting, all else equal.

Returns to AFDC participation are also affected by the occurrence of family events, as shown in Table 3. Both the birth of a child and the loss of the last worker in the family significantly increase the probability of AFDC recidivism. In particular, compared to a probability of recidivism of 2 percent for an average child, a child in a family in which a baby is born has an 11 percent probability of returning to program participation (Table 4).

Given the importance of family events on the course of the spell, it is somewhat surprising that family events occurring immediately prior to the beginning of the spell are not significant factors in the probability of exiting from the spell. Thus, for example, children in families who began a spell of AFDC because of a divorce are no less likely to exit from the spell than are children from families that did not experience such a disruption prior to the spell.

Other Findings. Consistent with the findings of earlier research on the factors associated with exits from spells of AFDC participation, we find that race, educational attainment, and the presence of workers in the household are positively associated with exits from participation, as shown in Table 3. On the other hand, greater numbers of children and young children in the family are associated with lower probabilities of program exits, all else equal (although only the presence of young children is statistically significant.)

We did not find a significant association between the age and marital status of the family head and the probability of program exits. Nor do the presence of a disabled member in the family or residing within a subfamily in a larger household appear to be associated with exits from AFDC.

However, both the presence of a disabled family member and residing within a subfamily are significant factors in returns to AFDC participation. The positive association between residing within a subfamily and AFDC recidivism is counter to our expectation that the subfamily would benefit from the

Table 4

Impact of Family Events on the Estimated Probability of Exit for
First Observed Spells of AFDC Participation and Nonparticipation

Family Event	Probability of Exiting from AFDC Participation		Probability of Returning to AFDC Participation	
	Event	No Event	Event	No Event
Birth of a Child	0.049	0.036	0.112	0.017
Youngest Child Turns 6	0.266	0.035	---	---
Marriage of Family Head	0.148	0.036	---	---
Breakup of Family Head's Marriage	---	---	0.028	0.017
First Member Gets a Job	0.187	0.033	---	---
Last Worker Loses Job	---	---	0.047	0.017

presence of additional adults to help with child care and from the potential financial gains a larger household could provide. However, it may be that "doubling-up" with another family represents one method of coping with a stressful situation (e.g., job loss, marital disruption, or ill health) and that for such families program participation represents another means of coping with stressful changes. We hope to explore in more detail the impact of changes in household structure on the dynamics of program participation in future work.

The program and economic environment are significant factors in exits from AFDC participation and in AFDC recidivism. The more generous the AFDC program in the state where the child resides (as approximated by the maximum benefit available to a family of four), the lower the probability of exiting from the program and, for those who do exit from the program, the greater the probability of returning to the program, all else equal. Similarly, the higher the state unemployment rate -- our measure for the weakness of the economic environment in the state -- the lower the probability of exiting from the program and, for those who exit, the lower the probability of extended periods off of the program.

V. SUMMARY AND CONCLUSIONS

This paper uses data from the SIPP to examine the impact of family events on welfare participation and welfare recidivism. We find that family events that suggest improved economic conditions (the marriage of the family head or the employment of a family member) or reduced barriers to employment (the aging of the youngest child) are positively associated with exits from program participation. Similarly, for those who were successful in exiting from AFDC, family events that are likely to portend a worsening of economic conditions (the loss of a job) or increased barriers to employment (the birth of a child in the family) are positively associated with returns to program participation. In contrast, family events that

occur immediately prior to the spell of AFDC participation or the spell off of AFDC do not appear to have an impact on subsequent participation behavior.

The importance of family events in program participation behavior suggests that participation in the AFDC program represents one method that families cope with stressful situations, such as loss of jobs and marital disruption. Additional research on the association between program participation and the dynamics of family circumstances should improve our understanding of how individuals and families adjust to personal and family misfortunes. Further research should also help to support the design of policies that are responsive to families attempting to cope with life changes.

Our analysis also highlights the importance of educational attainment and work experience on the probability of exiting from AFDC participation, and the strong association between the economic and program environment and program participation behavior. The more generous the state's AFDC program and the higher the state's unemployment rate, the lower the likelihood of exiting from AFDC participation and, for those who do exit, the higher the probability of returning to participation. Although the relationship between the generosity of the AFDC program and the probability of program exit and recidivism suggests that a reduction in benefits would encourage program exits and extended periods off the program, it is important to note that this study does not examine the family's economic well-being on and off the AFDC program. Policies that reduce AFDC benefits may reduce welfare dependency without increasing the family's ability to function independently and, consequently, may lead to increases in poverty.

Table A.1

Mean and Standard Error for the Explanatory Variables
Included in the Hazard Models

Variable	Probability of Exiting from AFDC Participation		Probability of Returning to AFDC Participation	
	Mean	Standard Error	Mean	Standard Error
Constant	1.000	0.000	1.000	0.000
Baseline Characteristics				
Child is White	0.566	0.496	0.661	0.473
Head is High School Grad	0.788	0.408	0.791	0.407
Age of Head	31.547	10.864	34.130	10.966
Single-Parent Family	0.668	0.471	0.543	0.498
Subfamily	0.255	0.436	0.159	0.365
Number of Children	2.351	1.355	2.474	1.535
Presence of Young Child	0.623	0.485	0.506	0.500
Presence of Disabled	0.304	0.460	0.351	0.477
Presence of Earner	0.358	0.479	0.741	0.438
Prior Family Events				
Prior Marriage in Family	---	---	0.046	0.210
Prior Marriage Breakup	0.049	0.215	---	---
Prior Member Gets Job	---	---	0.365	0.482
Prior Loss of Earner	0.164	0.370	---	---
Family Events				
Monthly Other Income	6.550	9.113	1.738	3.706
Birth of a Child	0.013	0.112	0.005	0.071
Youngest Child Turns 6	0.007	0.081	---	---
Marriage of Family Head	0.004	0.064	---	---
Breakup of Family Head's Marriage	---	---	0.005	0.072
First Member Gets a Job	0.038	0.192	---	---
Last Worker Loses Job	---	---	0.029	0.167
Environment				
Maximum AFDC Benefit	4.110	1.593	4.073	1.551
State Unemployment Rate	7.827	1.699	7.473	1.657
Length of Spell				
Months 3 or 4	0.192	0.394	0.162	0.369
Months 5 to 8	0.222	0.415	0.224	0.417
Months 9 to 12	0.140	0.347	0.163	0.369
Months 13 to 16	0.098	0.297	0.117	0.321
Months 17 and Up	0.112	0.315	0.147	0.355
Seam Month	0.225	0.417	0.218	0.413

REFERENCES

- Allison, P.D. 1984. Event History Analysis: Regression for Longitudinal Data. Beverly Hills, CA: Sage University Press.
- Bane, M.J. and D.T. Ellwood. 1983. "The Dynamics of Dependence: The Routes to Self-Sufficiency." Cambridge, MA: Urban Systems Research and Engineering, Inc.
- Blank, R. 1986. "How Important is Welfare Dependence?" Institute for Research on Poverty Discussion Paper 821-86, Madison, WI: University of Wisconsin.
- Coder, J., and P. Ruggles. 1988. "Welfare Reciprocity as Observed in the SIPP." Paper presented at the American Statistical Association Annual Meetings, New Orleans, August.
- Ellwood, D.T. 1986. "Targeting Would-be Long-Term Recipients of AFDC." Princeton, NJ: Mathematica Policy Research, Inc.
- Fitzgerald, J. 1988. "The Effects of the Marriage Market and AFDC Benefits on Recipient Duration on AFDC." In Individuals and Families in Transition: Understanding Change through Longitudinal Data. Washington, DC: U.S. Bureau of the Census.
- Kalbfleisch, J.D. and R.L. Prentice. 1980. The Statistical Analysis of Failure Time Data. New York: Wiley Press.
- O'Neill, J.A., D.A. Wolf, L.J. Bassi, and M.T. Hannan. 1987. "The Duration of Welfare Spells." The Review of Economics and Statistics, Vol. 69, No. 2, pp. 241-248.
- Ruggles, P. 1988. "Welfare Dependency and Its Causes: Determinants of the Duration of Welfare Spells." Paper presented at the annual meetings of the Allied Social Science Association, New York, December.
- Singh, R., L. Weidman, and G. Shapiro. 1988. "Quality of the SIPP Estimates." In Individuals and Families in Transition: Understanding Change through Longitudinal Data. Washington, DC: U.S. Bureau of the Census.