

Who Exits the Food Stamp Program after Welfare Reform?

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Abstract

I estimate the effects of work and welfare receipt on the probability of exiting the Food Stamp program using four waves of the Women's Employment Study. A competing risk analysis shows that work increases the odds of jointly leaving the Food Stamp program and welfare, but is unrelated to the odds of leaving the Food Stamp program while continuing to receive welfare benefits. Analyses also indicate that the odds of exiting are positively associated with being married, the number of adults in the household, and drug dependence. The rate of exiting is negatively associated with age, educational level, welfare history, the number of children in the household, having access to a car, and knowledge of Food Stamp eligibility rules.

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BACKGROUND

The enactment of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) ended the federal guarantee of income support to low-income families with children. The legislation imposed a five-year lifetime limit on benefits, and recipients of Temporary Assistance for Needy Families (TANF) now must meet work requirements to receive benefits. The maximum Food Stamp benefit was reduced, and TANF recipients who leave welfare may stop receiving Food Stamp benefits altogether (Mills et al., 2000; Ziliak, Gunderson, and Figlio, 2000; Quint and Widom, 2001). The number of Food Stamp recipients fell from a historic high of 27.5 million in 1994 to 17.4 million by the end of 1999 (Ziliak et al., 2000), and welfare caseloads fell by 50 percent over this same time period (U.S. Council of Economic Advisors, 1999). Since then, Food Stamp caseloads have rebounded to 23 million in November 2003, the most recent month available (U.S. Department of Agriculture, 2003).

I use a unique longitudinal survey of women who received welfare at a point in time—the Women’s Employment Study—to estimate the duration of Food Stamp receipt among income-eligible women in order to answer the following sets of questions:

1. What is the relationship between work status, welfare receipt, and Food Stamp receipt?
2. Do women with poor physical and mental health have longer or shorter Food Stamp durations? Is having access to a car or possessing a driver’s license associated with shorter Food Stamp durations?
3. Is knowledge of eligibility for Food Stamp receipt after obtaining employment associated with longer durations of Food Stamp receipt?

This research informs public policy in several ways. First, by examining individual-level correlates of length of Food Stamp receipt, such as having a health problem, this project can help identify clients at risk of leaving Food Stamps while they are still eligible for benefits. This will be useful to policy analysts interested in ensuring that eligible households continue to receive Food Stamp benefits

after moving from welfare to work. And analysts interested in improving program delivery may find useful the results concerning access to a car and knowledge of eligibility.

RELATED RESEARCH

The related research on this topic can be categorized into research on caseload dynamics of Food Stamp participation, individual-level models of Food Stamp participation, and descriptive analyses. The first category of work, Food Stamp dynamics, uses national or state caseload information to determine the extent of the impact of welfare reform versus economic conditions on the decline in Food Stamp receipt. For a thorough review of this literature, see Kornfield (2002). In general, these studies find that economic conditions explain about half of the recent decline in Food Stamp caseloads. The extent that welfare reform is responsible for declining Food Stamp caseloads is much more variable depending on the modeling technique, the data source, and time period analyzed. However, most analyses agree that welfare reform policy changes are responsible for one-quarter or less of the caseload decline.

Gleason, Schochet, and Moffitt (1998) provide the best analysis of determinants of Food Stamp exit in the pre-PRWORA world. Using data from the 1990 and 1991 Survey of Income and Program Participation, they examine the effects of changes in household composition and income on termination of Food Stamp benefits. They find that two-thirds of all Food Stamp exits are due to increases in household income, usually an increase in household earnings. For 53 percent of exiters, this increase in household income occurs without an accompanying change in household composition, while 14 percent experience both an increase in income and a change in household composition. However, experiencing a change in household composition in addition to a change in household income does not make a person much more likely to exit the program than if he or she had experienced the increase in income alone.

There are three relevant studies of Food Stamp exit in the post-welfare-reform world. Hofferth (2003) builds on the work of Gleason et al. (1998) and provides one of the most comprehensive studies to date examining the hazard of leaving the Food Stamp program in the post-welfare-reform environment. She uses the Panel Study of Income Dynamics to examine the effect of specific food and cash assistance

reform policies implemented by the states in the early to mid-1990s on the rate that female-headed households with children exited and reentered the Food Stamp program. Since her main interest is on state policies, she limits her control variables to standard demographic variables (race, age, employment status, number and age of children, educational level, work experience, disability) that have been shown to be associated with participation in the Food Stamp program. She found that policies that restricted eligibility and required or promoted work increased exits from the program and that good economic conditions reduced reentry.

Two other studies examine Food Stamp exit in a single state, one in Maryland (Stavelly, Stevens, and Wilde, 2002) and one in Wisconsin (Haveman et al., 2002). Using administrative data for the August 1998 to March 2001 period, Stavelly and colleagues find that Food Stamp exit spikes at months four and twelve of participation, months in which households must commonly recertify for continued participation, and that female-headed households have the longest duration of receipt, after controlling for relevant demographic and geographic characteristics. Haveman et al. (2002) found that take-up rates among the eligible population of former welfare recipients declined faster than did eligibility. They found that participation in the Food Stamp program was associated with higher levels and longer periods of eligibility, larger numbers of children, and maternal employment in a job covered by the Wisconsin Unemployment Insurance system (their data source for employment information).

Other household-level analyses of Food Stamp dynamics that have been conducted since welfare reform began are mostly descriptive in nature. Zedlewski and Brauner (1999) and Zedlewski with Gruber (2001) use the National Survey of America's Families to investigate how the decline in Food Stamp program participation might be tied to falling welfare caseloads. These studies found that when women left TANF they often stopped receiving Food Stamps even when they remained eligible. The majority of welfare recipients who stop receiving Food Stamps cited increased earnings as the reason. Another 10

percent cited administrative problems or hassles (Zedlewski and Brauner, 1999: Figure 4).¹ An examination of individual characteristics that differ among those who left the program and those who remained in the Food Stamp caseload found that leavers were more likely to own a car and to have moved in the last 12 months (Zedlewski with Gruber, 2001). The authors suggest that asset limits and difficulty transferring paperwork to a new office may account for some of the decline in Food Stamp receipt. These studies did not find that welfare families who left Food Stamps differed significantly from those that stayed in terms of education or health status and the proportion with a working husband or partner.

A qualitative study conducted by the Manpower Research Demonstration Corporation (Quint and Widom, 2001) found that few welfare staff members informed clients that they remained eligible for Food Stamp benefits after leaving welfare. As a result, in-depth interviews with TANF clients revealed that few knew about their continued potential eligibility for Food Stamps after leaving TANF. Additional confusion surfaced around whether Food Stamp benefits were subject to time limits or not. Thus, knowledge of eligibility for Food Stamp benefits may be an important determinant of receipt after leaving cash assistance.

In the present project, I use individual-level data to estimate factors associated with cessation of Food Stamp benefits for an income-eligible sample of welfare recipients in a single geographic region. There are several advantages to this approach: (1) I can examine the effect of such individual characteristics as physical and mental health that might affect receipt of Food Stamps; (2) monthly data on Food Stamp receipt, welfare receipt, and work status allow me to track the temporal order of these three variables; (3) I am able to examine proxies for understanding Food Stamp eligibility rules and having a car or driver's license that could yield important information on how to structure Food Stamp programs.

¹This is consistent with the results of qualitative studies on the subject (e.g., Quint and Widom, 2001).

DATA AND METHODS

I analyze data from the first four waves of the Women's Employment Study, a panel survey of barriers to employment among 753 mothers who were receiving cash assistance in an urban Michigan county in February 1997. Trained staff of the Survey Research Center of the Institute for Social Research at the University of Michigan conducted face-to-face, in-home, structured interviews between August and December of 1997, August and December 1998, November 1999 and March 2000, and September and December 2001. The first two interviews lasted approximately one hour; the third, about 90 minutes; and the fourth, about 85 minutes. Women were eligible if they resided in the study county, received cash assistance in February 1997, were single and a U.S. citizen between the ages of 18 and 54, and claimed a racial identity of white or African American (there were too few other minority residents of this county to conduct reliable analyses).

A simple random sampling scheme was used. Cases were systematically selected with equal probability from an ordered list of eligible single mothers. To derive a representative sample of the metropolitan area and the study population, cases were proportionately selected by zip code, race (African American or non-Hispanic white), and age. The response rate was 86.2 percent at wave one; 92 percent at the second wave; 91 percent at the third wave; and 90 percent at wave four. About half the respondents were African American, 26.6 percent were age 35 or older, 36 percent had three or more children, and 29.5 percent had not completed high school.

In addition to the four waves of survey data, I also have access to monthly receipt of Food Stamps, cash welfare, and employment. Food Stamp participation and cash welfare data come from administrative data and cover the period February 1997 to January 2002—60 months. Monthly employment data come from self-reports and are collected at each of the interviews for the time between the prior interview and the interview date. One interesting feature of this data set is that because the women were sampled from the welfare rolls, all respondents were eligible for Food Stamps at the beginning of the observation period. Although this necessarily means that my data are left-censored, since

I am interested in factors that affect time to Food Stamp exit for an existing caseload (i.e., not new entrants to welfare), the relevant time to begin the observation period is in early 1997. It is important to note here as well that my data are right-censored in that I only observe about two-thirds of the sample exiting from the Food Stamp program over the sixty months. Finally, for the purposes of this analysis, an exit is defined as one month of nonreceipt of Food Stamp benefits.

I employ the Cox proportional hazard model (Cox 1972, 1975) in which the hazard rate of transitions from the Food Stamp program is specified for individual i , t months after the sample was drawn, conditional on having continued to participate in the Food Stamp program and remain income eligible until t , as

$$(1) \quad h(t, x_i) = \lambda_0(t) \exp(\beta x_i).$$

The baseline hazard, $\lambda_0(t)$, is a nonparametric, time-varying function; x_i is a vector of regressors that include both time-invariant and time-varying covariates; and β is the vector of coefficients to be estimated.

Modeling the rate of transition from the Food Stamp program allows me to examine, within a single framework, both the likelihood of leaving the program and duration until termination. The hazard framework allows for right-censoring of observations in which no transitions occur during the observation period. More important, perhaps, it also allows me to censor individuals once they report levels of total household income that make them ineligible for participation in the Food Stamp program.² Thus, women

²This approach removes individuals at the first possible point upon which I have information that indicates they are ineligible. However, because income information is only collected at the time of the interview, I only have four points at which to censor respondents based on ineligibility. In contrast, I have 60 months of Food Stamp participation, TANF participation, and work status. The analysis used here allows each individual to exit the Food Stamp program or be censored for eligibility only once.

who report income levels (not including the cash value of their Food Stamp benefits) above 130 percent of the poverty line are censored from all analyses presented.³

The explanatory variables to be examined include standard demographic variables, controls for employment, measures of physical and mental health, child health, having a car and driver's license, and knowledge of Food Stamp eligibility rules. Of the demographic variables, I include both time-invariant factors (race, education, age cohort at initial interview; percentage of time on welfare since age 18 at first interview) and time-varying factors (marital and cohabitation status, number of children in household, number of adults in household). I also include a measure of monthly employment.

I include time-varying covariates measured with different levels of frequency. Food Stamp receipt, welfare receipt, and work status are measured monthly. However, marital and cohabitation status, physical limitations, depression, alcohol and drug dependence, child health, and having a car and driver's license are all captured at each interview point.⁴ I therefore use linear interpolation to impute from interview point to monthly data. This procedure assumes that the explanatory variables are approximately constant within intervals between measurement points (Tuma, 1982).⁵

It is important to note that since receipt of cash assistance and Food Stamps both come from administrative data, they are not subject to "seam" problems that have been noted in the SIPP (Blank and Ruggles, 1996), in which respondents are most likely to report entering or exiting a program at the beginning of a quarterly reporting period. I expect to find that the hazard of Food Stamp exit is quite high

³I have performed sensitivity analysis to examine how my results are affected by censoring due to income eligibility. Results without censoring women when they become income ineligible are consistent with those presented here.

⁴Marital status, physical health limitations, and transportation problems are only valid at the point of the interview. I miss multiple transitions that occur between waves. For example, a romantic partner that moves in with a woman for a few months but is gone by the time of the next interview is not captured. However, the three mental health diagnoses (depression, alcohol dependence, and drug dependence) are all 12-month diagnoses and therefore, reflect the state of the women in prior calendar year to the interview.

⁵For example, a respondent who was found to be depressed at wave one and not at wave two receives a 1 for depression for each month prior to wave one and a 0 for each month between waves one and two.

in the month of exit from cash assistance. I also control for the self-reported cumulative number of years on cash assistance since age 18. Since Food Stamp and welfare participation are highly correlated, this measure alleviates some of the left-censoring problems in the data structure.

The Women's Employment Study is unique in that it has extensive measures of physical and mental health status at four interview periods. Thus, I can control for a variety of factors that might be associated with terminating Food Stamp benefits that have been absent from all prior studies of Food Stamp exit. Physical health is assessed with a measure of physical functioning limitations, using items from the SF-36 physical functioning subscale (Ware and Sherbourne, 1992). Child health is measured with a single item indicating that a child had a physical, emotional, or learning problem that interfered with daily activities.

I examine the impact of major depression, drug dependency, and alcohol dependency. All three mental health measures are assessed using the 12-month screening version of the World Health Organization's Composite International Diagnostic Interview, CIDI (World Health Organization, 1990; Kessler et al., 1998). The CIDI is a structured interview schedule designed to be used by trained interviewers who are nonclinicians to assess the prevalence of specific psychiatric disorders (Robins et al., 1988). WHO field trials and other methodological studies (Wittchen, 1994; Blazer et al., 1994) have documented acceptable test-retest reliability and clinical validity of the CIDI diagnoses.

Although Zedlewski with Gruber (2001) did not find a significant association between health status and Food Stamp receipt, there is ample reason to suspect that duration of Food Stamp program participation might be related to women's physical and mental health status or the health of their children. Since treating health problems often requires monetary expenditures, women with health problems or who have children with health problems may face greater hardships in meeting the food needs of their family. Alternatively, if health problems make it difficult for them to attend recertification meetings, then having a health problem may be associated with a shorter duration of Food Stamp receipt.

I can control for having access to a car and a valid driver's license, both measured in each of the four surveys. I include separate measures for having access to a car and having a valid driver's license since they suggest different mechanisms for leaving the Food Stamp caseload. This allows me to examine the applicability of the findings of Zedlewski and her colleagues (1999, 2001) that asset limits were an important factor in the declining Food Stamp caseloads while also considering other aspects of transportation problems, such as having a driver's license revoked.

Finally, I have a direct measure of knowledge of eligibility for Food Stamps after moving from welfare to work. In wave three of the study, respondents were asked the following question: "Once anyone receiving cash assistance gets a job, do the rules say they will stop receiving Food Stamps or Food Stamps cashout?" Admittedly, this is a somewhat crude measure of knowledge of eligibility. Of particular concern is the potential endogeneity problem that may arise because it is measured after many Food Stamp leavers have already left the program. I expect that correct knowledge of program benefits will be associated with increased duration of Food Stamp receipt. However, given the possible problems with the indicator, I will show results both with and without this measure.

RESULTS

Table 1 indicates the amount of time that different groups of women participate in the Food Stamp program. In looking at these figures, one should keep in mind the fact that these percentages are based on observed participation in the Food Stamp program. The data are both left- and right-censored, so for some women the total cumulative participation in the program will be longer than is reflected in this table. Consequently, one should not use the table as an estimate of the length of time of receipt for all users of Food Stamps. The figures do, however, give us a rough estimate of the length of program participation.

Using the observed spell length, I find that 27 percent participate in the program for less than two years. A relatively large group of women, 21 percent of all participants, exit the program in their second year, and 34 percent of women participate for more than four years. Table 1 also shows that the length of

TABLE 1
The Percentage of Recipients Who Are Observed
Receiving Food Stamps over Selected Amounts of Time

<i>Observed Time on Food Stamps</i>	<i>All Recipients (%)</i>	<i>Cumulative %</i>	<i>White (%)</i>	<i>African American (%)</i>
1–6 Months	4.3	4.3	8.1	1.3
7–12 Months	5.9	10.2	10.5	2.2
13–24 Months	16.5	26.7	18.2	15.1
25–36 Months	21.0	47.7	21.7	20.4
37–48 Months	17.3	65.0	12.4	21.3
49–60 Months	34.1	99.1	27.9	39.2
Total	99.1	99.1	98.9	99.4

time on Food Stamps varies considerably with race. Whereas 18.6 percent of whites exit the program within the first year, only 3.5 percent of African Americans do so. Similarly, 60.5 percent of African Americans remain on Food Stamps for over three years, as compared to 40.3 percent of whites. This is consistent with a finding of duration dependence in welfare caseloads (Sandefur and Cook, 1998), and in a national examination of Food Stamp exits over a similar time frame (Hofferth, 2003).

Table 2 presents descriptive statistics for the entire sample and by length of participation in the Food Stamp program. Most of the numbers are the proportions of women who have the specified characteristic. The exceptions are age, percentage of years on welfare, monthly TANF receipt, monthly employment, and the number of children and adults in the household. These are the mean values for these variables.

As one would expect, African American women are more likely to receive Food Stamps for longer periods of time than are white women, and the educational level of the Food Stamp caseload appears to decline as period of receipt increases. Among the other time-invariant factors, women who receive Food Stamps longer are more likely to report a higher percentage of total years on welfare since age 18 at the initial interview period and are more likely to know the eligibility rules for the Food Stamp program.

The time-varying covariates are presented in the second panel of Table 2. Married or cohabiting women are less likely to be represented in the long-term recipient group. The number of adults in the household decreases and the number of children increases as the length of Food Stamp participation increases. The first four health limitations had little relationship to length of Food Stamp receipt, but the proportion having a child with health problems increases as the time on the Food Stamp caseload increases. Similarly, the proportion of women with access to a car or possessing a driver's license decreases as the length of receipt increases.

Table 3 presents the results from the three sets of hazard models of the transition from the Food Stamp program. The first two columns show the estimates of the effects of work and other predictors on

TABLE 2
Characteristics of Women in the WES by Food Stamp Receipt

Variables	All Women	Observed Receiving for 2 or More Years	Observed Receiving for 4 or More Years
Time-Invariant Variables			
Race (%)			
African-American	56.0	61.7	63.5
White	44.0	38.3	36.6
Age (mean years)	29.9	29.8	30.5
Educational Level (%)			
No high school diploma	31.9	34.7	39.6
High school diploma	36.4	34.7	34.0
More than high school	32.2	30.6	26.4
Percentage of Time on Welfare Since Age 18 (mean)	58.3	60.0	59.6
Knowledge of Food Stamp Eligibility (%)	66.5	70.7	75.5
Time-Varying Covariates			
Monthly TANF Receipt (mean)	0.4	0.5	0.6
Monthly Employment (mean)	0.7	0.6	0.6
Married or Cohabiting (%)	34.1	27.1	24.9
Number of Adults in the Household (mean)	1.68	1.60	1.54
Number of Children in the Household (mean)	2.31	2.42	2.60
Health Limitations (%)			
Physical health limitation	77.2	70.7	75.0
Major depression	19.2	19.8	21.8
Alcohol dependence	2.2	2.3	2.6
Drug dependence	3.0	3.6	3.5
Child health	17.0	18.2	20.5
Transportation Problem (%)			
Access to car	76.3	72.1	68.9
Possess driver's license	76.3	73.2	71.0

TABLE 3
Determinants of the Rate of Transition from Food Stamps: Hazard Ratios from Cox Proportional Hazard Model

Variable	Food Stamp Exit with or without Welfare Participation		Food Stamp Exit without Welfare Participation		Food Stamp Exit with Welfare Participation	
	(1)	(2)	(3)	(4)	(5)	(6)
Demographic Characteristics						
Race (African-American=1)	0.9763	1.0160	1.0542	1.0431	1.0401	1.1220
Total number of children in household	0.9119 *	0.9095 *	0.8550 **	0.8564 **	0.9792	0.9550
Total number of adults in household	1.3217 **	1.3065 **	1.2042 **	1.2386 **	1.9723 **	2.1041 **
Age	0.9822 **	0.9824 **	0.9937	0.9912	0.9849	0.9884
Married or Cohabiting	1.1449 **	1.2037	1.6059 **	1.5324 **	1.8821 *	2.0695 *
Education Level (omitted: No high school diploma)						
High school diploma	0.7586 *	0.8437	0.8614	0.9461	1.7502 †	2.0608 *
More than high school	0.7886 †	0.8143	0.9718	0.9706	1.0379	1.2097
Welfare Participation						
Percent of years on welfare since age 18	0.5983 **	0.5055 **	0.7465	0.6701 †	1.0002	0.9991
Monthly TANF receipt	0.0236 **	0.0244 **				
Monthly employment	0.6281 **	0.5940 **	1.2466 †	1.2285 †	1.0016	0.8943
Health Limitations						
Physical health limitation	1.0021	1.0022	1.0052 **	1.0058 **	0.9994	1.0004
Major depression	1.0235	1.0440	1.0470	1.0446	1.4324	1.5156
Alcohol dependence	0.9561	0.9031	1.0512	0.8577	1.2278	1.3176
Drug dependence	1.6724 *	1.6634 *	1.0532	1.2131	0.4291	0.4606
Child has health problem	0.8462	0.9223	0.7340 *	0.6966 **	0.9381	1.0307
Transportation Problems						
Access to car	0.7988 †	0.7887 †	1.0643	1.0712	0.5698 *	0.5217 *
Posses driver's license	0.9331	0.8531	0.9628	0.8513	1.3755	1.2925
Knowledge of Food Stamp Eligibility						
Number of Failures Observed	574	526	501	461	73	65
Log Pseudo-Likelihood	-2797.4567	-2502.8746	-2882.0051	-2589.2818	-426.9306	-363.2927

†: p< .10; *: p< .05; **: p< .01

the rate of any transition from the Food Stamp program—either to no Food Stamps without welfare, or to no Food Stamps with welfare. The model presented in the first column includes all the main predictors except knowledge of the Food Stamp eligibility rules. For the model shown in the second column, the Food Stamp knowledge measure is included.

In both models, welfare participation decreases the odds of Food Stamp exit. However, working lowers the odds of leaving the program, a nonsensical finding. Odds of exiting were also negatively related to the number of children in the household. Since the number of children in the household increases the size of the potential Food Stamp benefit, this is unsurprising and consistent with Haveman et al. (2002). Educational level at high school and beyond, the percentage of years on welfare, and having access to a car reduced the odds of leaving the program. Odds of leaving the program were significantly higher for women who had more adults in their household, were married or cohabiting, or were drug dependent. In model 2, knowledge of the Food Stamp eligibility rules reduced the odds of transition from the Food Stamp program. As mentioned above, this could either indicate that women who did not know the rules were erroneously terminated or that only those remaining in the caseload had a stake in correctly understanding the eligibility rules.

Because there is reason to believe that patterns of exit from the Food Stamp program may differ among those with welfare benefits and those without, I performed a competing-risk analysis that allowed for two ways to exit the program: without welfare benefits or with welfare benefits. Columns 3 and 4 report the same pair of specifications as columns 1 and 2, but the outcome is Food Stamp leaver without welfare. Observations of women who left the Food Stamp program and continued to receive welfare benefits were treated as having been censored at the point of Food Stamp termination. As before, all women are censored at the point at which they report total household income above 130 percent of the poverty line, the point of ineligibility for Food Stamps.

The effects of the predictors remain large and consistent with those of the general Food Stamp leaver model. Both specifications indicate that the odds of leaving both Food Stamps and welfare are

increased by working, a finding in contrast to that presented in the first two columns. This suggests that the relationship between welfare participation and work status is complex. Odds of leaving Food Stamps without welfare are also increased by the number of adults in the household, for married or cohabiting women, or those with a physical limitation, although the size of the hazard on the last variable is not substantively large. Odds of leaving are inversely related to the number of children in the household, and are lower for women with a child with a health problem and those having correct knowledge of Food Stamp eligibility rules.

The last two columns, present the results for transitions for Food Stamp leavers who continue to receive welfare benefits. This group is particularly puzzling, since these women have met the income eligibility tests of the TANF program but have left the Food Stamp program. For this group, working has no effect on participation in the Food Stamp program. Results for the number of adults in the household, marital/cohabitation status, and knowledge of eligibility rules are consistent with previous models. However, educational level is now also a significant and large predictor of this type of Food Stamp exit. Additionally, having a car lowers the probability of exiting with welfare participation, a finding that is inconsistent with other research indicating that asset limits are a problem. Other predictors that were significant in past models are no longer significant. The number of children in the household, work status, and physical limitations of the mother and child are all unrelated to the odds of leaving the Food Stamp program with welfare benefits.

In analyses not shown here, I tested for the sensitivity of these results to different measures of physical and mental health of the mother, examining whether she self-reported fair/poor overall health, if she had used an illegal drug in the previous 12 months, if she had any of the measured mental health problems, or if she performed on the WRAT reading test at below eighth grade level. I found that none of these alternative measures were significant or changed any of the other results shown here.

POLICY IMPLICATIONS

I find support for negative duration dependence in Food Stamp participation among the welfare population: the hazard of exiting the Food Stamp program declines with time. My results indicate that the rate of exit is positively associated with the number of adults in the household, with being married or cohabiting, being employed and, in some models, being drug dependent or having a physical health limitation. The rate of exit is negatively associated with the number of children in the household, total number of years of cumulative welfare receipt, having access to a car, and knowledge of Food Stamp eligibility rules.

This research informs social policy in several ways. This study contributes to the body of knowledge regarding what happens to single mothers as they transition from welfare to work. Michigan is a particularly good case to examine how Food Stamp receipt is affected by work and welfare, since Michigan welfare policy allows recipients to work and receive welfare at the same time. This allows me to examine the impact of work and welfare on Food Stamp receipt at each stage of the transition. That is, I can see if women are more likely to stop receiving Food Stamp benefits when they begin employment, or when they leave cash assistance, or when they do both in the same month. Competing choice hazard model estimates indicate that women who leave the Food Stamp and TANF programs jointly are likely to be employed. Conversely, employment is not associated with leaving Food Stamps while continuing TANF receipt.

Second, I examine the effect of physical and mental health on exit from the Food Stamp program. I find that depression and alcohol dependence are not associated with Food Stamp exit. In the general model of Food Stamp exits, women who are drug dependent have significantly higher odds of exiting than those who are not. Although this group is small overall, the presence of children in these households suggests that household material hardship may be an important concern. In my model of Food Stamp exits without welfare, physical health limitations were found to increase the odds of exit, although the

result is not substantively large. In that same model, having a child with a health problem was found to decrease the probability of exiting both Food Stamps and TANF.

Finally, my results for having a car and knowledge of program eligibility provide information regarding how structuring the Food Stamp program itself may aid or impede program benefits. In my general model of Food Stamp exit, I find that not having a car significantly decreased the odds of exit. However, this result is found in only one of the competing risk models—that predicting Food Stamp exit with welfare participation. This suggests that, at least for the population sampled here, the barrier to participation is not so much the asset limits but the lack of transportation to the welfare office for recertification appointments.

Knowledge of Food Stamp eligibility rules was consistently found to decrease the odds of exit in all three specifications. Given the endogeneity concerns raised above, perhaps it is prudent to note that these results are merely consistent with qualitative reports that some women who leave the Food Stamp caseload are unaware that they remain eligible for program benefits.

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