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Earnings, Assets and Program Dependence

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Earnings, Assets and Program Dependence

Introduction

Previous household-level research on participation in food and cash assistance programs has mostly relied on one of two types of data: either survey data in which people report their own program participation or administrative case records that describe spells of benefit receipt but do not follow households after they leave a program. In this paper, we adopt an alternative approach examining post-reform longitudinal survey information from a study of low-income families linked with program records on benefits received from the Food Stamp Program and Temporary Assistance for Needy Families (TANF) program.

Our approach of using combined survey and administrative data has many advantages over using either source alone. From the administrative data, we obtain more accurate and lengthy descriptions of participation histories than we could through surveys, overcoming the recall problems inherent in retrospective questionnaires. For instance, our analyses of program transitions from administrative records are not subject to the seam problems found in panel surveys like the Survey of Income and Program Participation. At the same time, the survey data help us to surmount some of the shortcomings of administrative data. Program records only describe behavior after people have applied to or joined a program and can only be used in limited ways to examine people's participation decisions, especially their program entry decisions. Administrative data also typically lack important explanatory variables and covariates, such as measures of disability and health status.

Another gap in program research, which this and other papers at this conference address, concerns the role of previous earnings and program experiences. While numerous studies have

examined the associations between people's short-term characteristics, such as their immediate monthly incomes, and their program behavior, only a few have considered the impacts of income histories, the variability of their incomes or other longer-term characteristics, on participation (see, e.g., Farrell et al. 2003). There are reasons to believe that earnings histories and variability might be relevant in a number of ways. People who expect that their participation spells would be short because their drop in income is only temporary may not find it worthwhile to initiate an application for assistance or follow through on the application procedures. People whose incomes are highly variable may face higher reporting costs, frequent benefit changes, and possibly occasional losses in eligibility, which may deter participation. Income histories may also influence people's consumption standards and perceptions of needs leading them to value program benefits differently.

In this investigation, we examine these issues by comparing times spent on the Food Stamp and TANF programs for households with different circumstances, including different levels and histories of earnings and different prior program experiences. We also estimate regression and fixed effects models of the times that households spend on these programs and estimate event-history models of their exit and re-entry behavior.

The remainder of this paper is organized as follows. The next section discusses our survey and administrative data sources and the methods used to select the analysis sample and construct variables. This is followed by a descriptive analysis of program receipt for different types of households. Our multivariate results are presented and discussed in the next section. The final section of the paper concludes.

Data sources and measures

The data for our analyses consist of interview data from the Three-City Study linked to administrative case records for food stamp and TANF receipt. The Three-City Study is a longitudinal survey of 2,458 children and their caregivers who were initially living in low-income neighborhoods in Boston, Chicago and San Antonio. At the time of the first interview in 1999, the children's families had incomes below 200 percent of the poverty line. Although the survey includes many public assistance recipients, it was not specifically restricted to this group. After the initial interviews, follow-up interviews were conducted in 2000-1 and 2005. Retention rates were high with 88 percent of the original sample participating in the second round and 80 percent participating in the third round. In each wave, interviews were conducted with both the focal child and the child's caregiver. In cases where the child and caregiver separated, both were subsequently followed and interviewed. For this paper, we rely on the information provided by the current and former caregivers as they were in the best position to describe the households' economic circumstances, demographic composition and other characteristics.

In the most recent (third) wave of the survey, the caregivers who participated in face-to-face interviews were asked to give permission for the research team to gather administrative information about them.¹ Caregivers who agreed to this provided names and social security numbers, which were then used to search for food stamp and TANF records. As of this writing, we have obtained records from two of the cities—Chicago and San Antonio—are just beginning to receive records from Boston; so our analysis focuses on those two cities.² Of the 1,268 caregivers in Chicago and San Antonio who completed in-person interviews, 986 gave

¹ Of the 2,056 current and former caregivers who participated in the third wave, 1,980 were interviewed in person and asked permission to obtain administrative records.

² Robert Goerge at the Chapin Hall Center at the University of Chicago supplied the records for Illinois, and Daniel Shroeder from the Ray Marshall Center at the University of Texas supplied the records for Texas. Jesse Valente from the Massachusetts Department of Transitional Assistance is currently providing the records for that state.

permission to be included in the administrative part of the study, and of this smaller number, 853 were successfully matched to case files in Illinois or Texas.

The administrative records from the state agencies cover the period 1997 to 2003 and indicate the specific months in which the caregiver was a member of an assistance unit that received food stamps, TANF or both. We use these data to form two general types of outcome measures. The first type is a count of months that the caregiver received assistance in the year following the first and second wave interviews. In particular, we construct one measure describing the number of months that the caregiver received food stamps and another describing the number of months she received TANF. These are the primary outcome measures for our analyses.

The second type of outcome that we consider is a spell of any new (non-left-censored) period of continuous benefit receipt or non-receipt that began in the year following a first or second wave interview. The data for these outcomes indicate the month that the spell began, and if the spell ended before January 2004, the month that it ended. To address problems of administrative churning and brief lapses in eligibility, our analyses treat periods of benefit receipt that are interrupted by breaks of a single month as continuous spells of participation. Four sets of spell records are constructed, corresponding to spells of food stamp participation (risk of food stamp exit), food stamp non-participation (risk of food stamp re-entry), TANF participation (risk of TANF exit) and TANF non-participation (risk of TANF re-entry). The restriction to spells that began after but within a year of an interview means that some caregiver-interview combinations are dropped from the spell analyses. However, a few other caregivers with short spells end up contributing multiple observations within a program type for an interview.

Because fewer caregivers are represented overall in the spell files, we rely on these data mostly for sensitivity analyses.

Besides the program receipt outcome measures, we also use the administrative data to construct measures of the number of months out of the prior 11 that a caregiver received assistance. The 11-month window corresponds to the shortest interval between any of the wave 1 and wave 2 interviews. We use the measures of prior receipt as conditioning variables in our analyses.

The interview data from the Three-City Study provide us with most of our other explanatory variables. We are especially interested in the earnings of the caregivers. To measure current earnings, we use a constructed variable, supplied with the public-use version of the survey, of the caregiver's labor earnings in all jobs held during the month leading up to the interview. The survey also includes retrospective questions regarding the caregiver's primary jobs for up to two years prior to each interview. From these questions, we form several summary measures of the caregiver's earnings over the preceding 11-month interval, including an indicator for whether there were any earnings during the period, the average monthly level of earnings, the maximum amount of earnings reported in any month, and the coefficient of variation for earnings. Because a non-trivial portion of the histories are incomplete (about 10 percent), we also include a dummy variable for whether summary measures could be formed.

Caregivers were also asked about other economic circumstances of their households. We use responses to several different questions to measure access to capital and possible financial difficulties. One direct measure of access to capital is a binary indicator for whether anyone in the caregiver's household had a bank account, savings account or other investment account. Another direct measure is an indicator of whether the household had any outstanding loans,

including loans from family and friends. Our analyses also include separate indicators for whether the household owned a car or a home. Car and home ownership would not only reveal some previous financial wherewithal but would also represent collateral against which the household might borrow. Finally, we include an index of recent financial strains, supplied with public-use file, that is built up from five questions on topics such as how frequently the household needed to borrow money to pay bills and whether it usually ended up with any money at the end of the month.

The interview data from the survey also provide us with demographic information about the caregiver and her household, including the caregiver's age, race/ethnicity, education, marital status and health status and the numbers of children and adults in the household. These variables are routinely included in studies of benefit receipt. In all of our multivariate analyses, we also include controls for the year and month in which the interview or outcome took place to account for unmeasured changes in policies and economic conditions.

After omitting observations with item non-response and dropping a small number of separated caregivers who no longer had any children in their households, we are left with an analysis sample of 809 caregivers. Because our administrative data currently only extend through 2003, we limit our analyses to the first two waves of the survey. Attrition, item non-response and entry of some new caregivers lead to an unbalanced two-period panel with 771 observations from 1999 and 733 observations from 2000-1. Geographically, 774 of the observations come from Chicago, and 760 come from San Antonio. Means and standard deviations for the analysis variables calculated separately for each city are reported in Table 1.

The analysis sample is clearly disadvantaged, having not only been initially selected on the basis of low incomes but also subsequently being restricted to households appearing in the

assistance program records for the two states. The statistics are consistent with this selection. On average, the households spent more than six months on food stamps and three months on welfare in each of the years immediately following their interviews. Average monthly earnings just before the interviews were \$458 in Chicago and \$392 in San Antonio. Average earnings over the prior 11 months were somewhat higher, though more than half the caregivers reported no earnings at all. Less than a third of the households had any kind of financial account and just under half reported any outstanding loans. While this latter statistic might appear to be favorable, it likely reflects a lack of access to credit for many of the families. Only about one out of seven of the households owned the homes they lived in, and two-thirds of the caregivers in Chicago and half the caregivers in San Antonio were without a car. Few of the caregivers were married, and only a bare majority had completed or gone beyond high school. Nearly all of the caregivers were black or Hispanic (98 percent in San Antonio). About one-sixth reported disabilities severe enough to interfere with work. Lastly, the average number of children was high at just under three per household.

Descriptive analysis

Food stamp and TANF receipt in the two cities were strongly associated with several economic and programmatic characteristics of the caregivers. Table 2 shows the average months of each type of program receipt in the year following the interview calculated separately for some of these characteristics. The results in Table 2 are generally consistent with expectations.

The estimates in the upper rows of Table 2 reveal that program participation in one period was closely associated with participation in prior periods. Some of this association is undoubtedly the result of spells that began before the interviews continuing beyond the

interviews coupled with duration dependence, due either to genuine state dependence or unobserved heterogeneity, within spells. At the same time, the estimates are also consistent with very low entry and re-entry rates into assistance. The average amount of food stamp receipt among households that were off the program in the prior 11 months was only about one month, while the average amount of TANF receipt among households that were off that program in the prior 11 months was about two weeks. Moffitt and Winder (2003) found similar patterns when they examined self-reports of program participation in these data.

Five-ninths of the caregivers in our matched sample reported no earnings in the month prior to their interviews. Not surprisingly, these caregivers had above-average levels of program receipt, while caregivers with monthly earnings of \$1,000 or more had substantially lower levels of receipt. An interesting distinction, however, appears across the two cities in the receipt levels for caregivers with low but positive earnings (those with positive monthly earnings that were less than \$1,000). In Chicago, low-earning caregivers had average levels of food stamp receipt that were nearly identical to the levels for non-earners and levels of TANF receipt that were only slightly under those for non-earners. In San Antonio, the average level of program receipt for low earners was more noticeably below the average for non-earners, especially with respect to the TANF program. Higher TANF benefit levels and earnings eligibility amounts in Illinois versus Texas could account for the differences in welfare receipt. Higher average earnings in the prior 11 months for the caregivers in Chicago might account for the lower rates of food stamp receipt found there among current non-earners. Alternatively, food stamp outreach may have been stronger in San Antonio.

About half the caregivers in Chicago reported that they neither held a financial account nor owned a home nor a car. In San Antonio, the comparable figure with none of these assets

was just under 40 percent. Caregivers without any of the listed assets had more months of subsequent food stamp and TANF participation than caregivers with one or more types of assets. As eligibility is partly determined by assets, this pattern is expected. In contrast to the results for earnings and assets, reported financial strains were only weakly associated with program receipt.

Multivariate analyses

The simple conditional means reported in Table 2 show gross associations and do not account for confounding influences from other variables. For example, the bivariate cross-program associations between caregivers' prior TANF experiences and their subsequent food stamp participation may be a partial or even complete artifact of mutual correlations between these measures and prior food stamp experience. Alternatively, the association may reflect correlations with some other variable. To address these possible sources of mutual correlation, we estimate multiple regression models of the characteristics associated with the caregivers' food stamp and TANF receipt. The estimates from these models represent partial associations that hold the other observed characteristics constant.

Regression results. Coefficient estimates and standard errors for the models of program receipt are reported in Table 3. The first two columns of Table 3 list results from models of food stamp and TANF participation estimated using the sample of caregivers from Chicago, while the last two columns list results from models estimated using caregivers from San Antonio. Explanatory variables are listed in the rows of the table. In addition to the variables found in the table, each of the models includes an intercept and piecewise-linear (linear spline) controls for the year and month of the interview.³

³ The time period controls were not significant in any of the regression models.

As with the bivariate analyses, the regression results indicate that earnings in the month prior to the interview are strongly negatively related to subsequent food stamp and TANF participation with the associations, especially for food stamps, being stronger in San Antonio than in Chicago. The differences in the sensitivity of food stamp receipt to earnings changes may be related to recertification policies, which became much stricter in Texas over the late 1990s (Rosenbaum 2000), or income reporting policies.

The regression results also follow the bivariate results in indicating that program participation is strongly positively associated with prior participation in the same program. The magnitudes of the associations are very similar across each of the cities and programs. The earlier evidence of cross-program experience effects disappears, however, in the regressions with all of the coefficients being close to zero and statistically insignificant.

Among the financial measures, holding bank, savings or other financial accounts is strongly and negatively related to food stamp receipt in the two cities. The associations with TANF receipt are also negative, but smaller in size and not statistically significant. The only other financial variable with a significant coefficient is home ownership, which is negatively related to food stamp receipt but only in San Antonio. The other three financial variables—outstanding loans, vehicle ownership, and the financial strain index—are not statistically in any of the models.

When we examine the other characteristics of the caregiver and her household, being black is strongly positively associated with both types of assistance receipt, though the coefficients are only significant for the TANF program. Age is negatively associated with food stamp participation in Chicago but positively associated with TANF participation in San Antonio. College completion is negatively related to food stamp receipt in both cities and

negatively related to TANF receipt in San Antonio. Work disabilities are positively associated with TANF receipt in both cities. More children increase the use of food stamps in both cities, while more adults decrease the use of this program, though the coefficient for San Antonio falls just short of statistical significance.

In Table 4, we re-estimate the regressions, adding controls for the caregivers' earnings histories.⁴ Most of the results from our prior specifications carry through to the new specifications. In a few cases previous associations become stronger—in particular, vehicle ownership reaches statistical significance in the food stamp model for Chicago and the coefficient for current earnings becomes substantially more negative in the TANF model for Chicago. There is also one instance where a coefficient loses its significance—the current earnings association for TANF in San Antonio decreases by about a third.

The earnings history variables themselves are insignificant in three of the four models. Although multicollinearity may partly account weak individual results, there is no evidence that the earnings history variables are jointly significant in any of the first three models. The earnings history variables are individually significant in the fourth model describing TANF receipt in San Antonio. As expected, higher maximum earnings and the presence of any prior earnings at all are negatively associated with TANF participation for this model, while greater earnings variability is positively associated with program participation. However, there is also an unexpected result, with average earnings being positively associated with TANF participation in San Antonio. Again, intercorrelations among the earnings variables may be responsible. Given the lack of significant findings for most of the models and the anomalous coefficient for the average earnings variable in the one model with significant coefficients, the evidence

⁴ To save space, Table 4 does not report the coefficients for race and ethnicity, education and a few other variables. There were no appreciable changes in the coefficients for race and ethnicity or education from Table 3.

regarding the role of earnings histories in program participation decisions for these two cities is modest at best.

Fixed effects models. In the same way that mutual correlations among the observed variables appear to have confounded the bivariate associations, correlations with other unmeasured characteristics and omitted variables may bias the multivariate results. For instance, strong attitudes regarding personal independence could lead to spurious negative associations between earnings and welfare and positive associations between prior and subsequent assistance receipt. Other unmeasured characteristics related to the caregivers' skills and abilities could also contribute to spurious associations between these variables.

The availability of repeated observations for most of the caregivers in our sample gives us one way to address problems associated with omitted variables bias. Specifically, we are able to difference the dependent and time-varying explanatory variables in our models and run fixed effects regressions that condition out any time-invariant unobserved characteristics. Results from the fixed effects regressions based on our models with financial controls but not earnings histories are reported in Table 5.⁵

Once again we find that earnings in the month before the interview are strongly negatively associated with both types of program receipt for both cities. As eligibility and benefits for the programs are means-tested, the result is very much expected. More intriguing is the almost complete disappearance of the associations between current and previous program experience. While the coefficients for program experience in the two models for Chicago remain positive and significant, the magnitudes are reduced by 80 percent from the corresponding OLS

⁵ As with Table 4, the earnings history variables are insignificant in three of the four models when they are introduced. Their inclusion does not substantially alter the other results.

estimates. In the two fixed effects models for San Antonio, the coefficients for own program experience effectively revert to zero.

Although the fixed effects models yield several other large coefficients, none are precisely estimated and few are statistically significant. Some coefficients, including those for financial accounts (negative in all equations) and disability (positive in all equations) are consistently and reasonably signed. Some others, however, such as home ownership in the TANF model for Chicago have large counter-intuitive signs. A shortcoming of the fixed effects approach is that it requires variation over time in the explanatory measures to identify associations. In the relatively short window between the wave 1 and wave 2 interviews, there were only a few changes in many of the financial and demographic variables.

Hazard analyses. We also analyze the participation patterns in the matched survey and administrative data using hazard methods. Like the regression analyses, the hazard methods let us look at the amount of time that caregivers spend in and out of different programs. Unlike those analyses, however, the hazard models explicitly examine the timing of transitions and account for interactions between the duration of a spell and exit behavior. The data for the hazard models also allow us to more carefully distinguish between characteristics that preceded or continued into a spell. The primary drawback of our approach is that by only considering new spells we sharply reduce the number of caregiver observations that we can examine. To maximize the sample size, we included all spells that began within a year of the caregiver's interview, but this has a drawback as some time-varying characteristics of the caregiver may have changed between the interview and the initiation of a spell.

Table 6 lists results from discrete logistic hazard models of food stamp exit and re-entry (first two columns) and TANF exit and re-entry (last two columns). The models pool

observations from the two cities but allow separate, or stratified, baseline hazards and calendar time effects for each city. To control for duration dependence, the baseline hazards are all specified flexibly to include dummy variables for each individual month of a spell up to the seventh and piecewise-linear functions for spell months 8-12, 13-18, and 19 and beyond. The models also include piecewise-linear controls for each calendar month from 1999 to 2003 with the segments joining at the year boundaries. Initial tests supported the specification of the duration and calendar time controls and the pooling of data across cities. For brevity, we do not report the coefficients for these duration and calendar controls, though results are available upon request. One other specification issue is that the measures of program experience are all defined relative to the start of a given spell rather than to the interview date, as was the case in the regression models.

The results from the hazard models give us a different picture of assistance receipt than the previous results. For one thing, the caregiver's earnings in the interview month, which were strongly associated with program participation in each of our other models, are not significantly or consistently associated with program exit or entry behavior in the hazard models. The issue here is most likely the timing of the earnings measurements. As was the case with the earnings history variables in the regression models, earnings around the time of the interview are effectively a history measure in these analyses.

The hazard results also help us to interpret some of the earlier findings regarding program experience. The baseline duration controls (not shown) are jointly and individually significant. The general pattern for all four types of spells is one of negative duration dependence (that is, of people being less likely to leave a spell the longer it continues), with the negative effects being especially pronounced in the re-entry models. This indicates that program experience is

important within a given spell. However, as the estimates from Table 6 also reveal, experiences from one spell of program participation do not appear to carry over to future spells on the same program. For the food stamp exit and re-entry models, there is evidence of cross-program associations. In particular, caregivers who previously participated in TANF are less likely to leave a given food stamp spell and more likely to re-enter food stamps, if they did leave.

The findings from the hazard models regarding program experience are robust to several types of respecification. For instance, we find no additional evidence of associations with prior program experience when we extend the models to include measures going back two years, instead of just 11 months. Also, we obtain similar results when we consider a larger sample of all spells for the caregivers that began between 1999 and 2003 rather than just the spells that began within a year of their interviews.

Results from Table 6 indicate that other financial conditions are associated with program spells. Caregivers with financial accounts are estimated to be more likely to leave TANF and less likely to re-enter food stamps and TANF than other households. Each of these associations is large; however, only the negative association between food stamp re-entry is estimated precisely enough to be confidently distinguished from zero. Vehicle ownership is also significantly negatively associated with food stamp re-entry, while reported financial strains are significantly positively associated with both food stamp and TANF re-entry.

Among the other results, black caregivers are more likely to re-enter food stamps and especially TANF. They and the Hispanic caregivers are also less likely to leave food stamps, though the results fall a little short of statistical significance. Older caregivers have lower re-entry rates into food stamps than younger caregivers. High school graduates have higher food stamp exit rates than less-educated caregivers, as do caregivers living with other adults. Having

more adults in the household also increases exits from the TANF program. Disabilities are negatively related to food stamp exits. More children increase the chances of returning to food stamps but decrease the chances of re-entering TANF. With the exception of the last result, these associations are in the anticipated directions and consistent with previous findings.

Conclusions

This paper examines program participation in a sample that matches administrative data on program outcomes with survey information on household characteristics. The sample is drawn from two of the cities—Chicago and San Antonio—from the longitudinal Three-City Study. The empirical investigation uses a variety of methods including descriptive analyses, regression and fixed effect multivariate analyses of program participation, and hazard analyses of program exit and re-entry behavior.

The paper finds strong evidence that higher levels of current earnings reduce program participation. This result is expected and not especially surprising, as increased earnings reduce the needs for assistance and also impact the eligibility and benefits associated food stamps and TANF. What is a little more surprising is that previous earnings and earnings histories do not seem to be associated with program outcomes. In regression models where we were able to distinguish between current and previous earnings, the earnings history measures were seldom significant. In the event history models, the measures were not significant at all.

In addition to the earnings results, we also find evidence that other types of financial conditions are associated with program outcomes. The most consistent results come from the measure of having a bank, savings or other financial account, which is negatively associated with levels of food stamp participation and also estimated to reduce entry back onto food stamps.

Results from the other financial variables are not as strong but nevertheless mostly consistent with more assets, better access to capital, and fewer financial strains reducing program participation.

Estimates from bivariate comparisons and multivariate regression models both indicate that prior program experience is related to subsequent program participation. When we examine these relationships more closely using longitudinal fixed effects and hazard methods, the associations appear to arise mainly from duration dependence within given spells of program receipt rather than carry-over effects across different spells.

The results from our analyses are currently preliminary. Although we have been successful in matching the survey information from the Three-City Study to a substantial amount of administrative data, even better data will soon be available. Specifically, program records for the third of our cities, Boston, have just recently become available, and we are working to incorporate these data. In addition, all of our administrative data are being extended through the beginning of 2006, so that they can be linked with responses from the third wave of the survey. We are also carefully reviewing the information for caregivers who were not matched to administrative records to confirm that they were not program participants. Finally, we soon expect the program records to be supplemented with earnings records from state unemployment insurance systems, which should help us to improve and extend the measures of earnings histories.

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Table 1. Characteristics of analysis sample

	Chicago		San Antonio	
	Mean	(Std. dev.)	Mean	(Std. dev.)
Months on food stamps in next year	6.34	(5.37)	7.57	(4.84)
Months on TANF in next year	3.87	(5.19)	2.94	(4.54)
Earnings in interview month	457.63	(641.65)	391.92	(534.37)
Any earnings in prior 11 months	0.56	(0.50)	0.55	(0.50)
Ave. earnings in prior 11 months	571.14	(717.07)	450.11	(592.51)
Coeff. of var. earnings in prior 11 mos.	0.34	(0.69)	0.39	(0.74)
Max. earnings in prior 11 months	747.78	(834.20)	609.39	(674.74)
Prior 11 months earnings info. missing	0.10	(0.30)	0.12	(0.32)
Bank, savings or financial account	0.28	(0.45)	0.31	(0.46)
Outstanding loans	0.45	(0.50)	0.48	(0.50)
Owens home	0.14	(0.35)	0.14	(0.34)
Owens vehicle	0.34	(0.47)	0.50	(0.50)
Financial strain index	0.02	(0.73)	0.02	(0.74)
Months on food stamps in prior 11	5.97	(4.88)	7.73	(4.19)
Months on TANF in prior 11	4.68	(5.01)	3.33	(4.41)
Non-hispanic black	0.55	(0.50)	0.40	(0.49)
Hispanic	0.34	(0.47)	0.58	(0.49)
Age	34.05	(10.45)	31.59	(9.60)
Completed high school or GED	0.32	(0.47)	0.33	(0.47)
Completed college	0.19	(0.40)	0.20	(0.40)
Disability that prevents work	0.15	(0.36)	0.16	(0.36)
Number of minors in household	2.88	(1.46)	2.70	(1.40)
Married, spouse present	0.14	(0.35)	0.14	(0.35)
Number of adults in household	1.81	(1.01)	1.60	(0.76)
Wave 2	0.49	(0.50)	0.48	(0.50)
Number of observations	744		760	

Note: Statistics calculated using interview data from the Three-City Study matched to administrative records.

Table 2. Months of assistance receipt in the year following the interview for different types of households

Characteristic	Number of caregivers	Chicago		Number of caregivers	San Antonio	
		Ave. months on food stamps	Ave. months on TANF		Ave. months on food stamps	Ave. months on TANF
All caregiver observations	744	6.3	3.9	760	7.6	2.9
TANF experience						
None in prior 11 months	365	3.2	0.3	429	6.0	0.5
Any in prior 11 months	379	9.3	7.3	331	9.6	6.2
Food stamp experience						
None in prior 11 months	251	0.9	0.5	107	1.3	0.4
1-9 months in prior 11	190	7.2	3.4	241	5.9	1.7
10 or 11 in prior 11	303	10.3	6.9	412	10.2	4.4
Earnings at interview						
None	413	7.0	4.8	412	8.8	4.2
\$0 to \$1000	185	7.2	3.9	235	7.2	1.9
\$1000 or more	146	3.4	1.3	113	3.8	0.7
Assets						
None	382	7.9	5.3	299	9.6	4.6
Car, house or bank account	362	4.6	2.3	461	6.3	1.8
Financial strains						
Few financial strains	261	5.7	3.5	250	7.5	2.8
Moderate financial strains	249	6.5	4.1	270	7.6	2.7
Many financial strains	234	6.9	4.0	240	7.5	3.3

Note: Statistics calculated using interview data from the Three-City Study matched to administrative records.

Table 3. Regression models of assistance receipt in the year following the interview

	Chicago		San Antonio	
	Food stamps	TANF	Food stamps	TANF
Earnings in interview month	-0.726** (0.219)	-0.482** (0.218)	-1.383** (0.268)	-0.521** (0.241)
Prior months on food stamps	0.716** (0.037)	-0.043 (0.037)	0.624** (0.036)	-0.038 (0.033)
Prior months on TANF	0.049 (0.037)	0.758** (0.037)	0.048 (0.033)	0.704** (0.030)
Bank, savings or financial account	-0.834** (0.319)	-0.374 (0.317)	-0.650** (0.303)	-0.350 (0.273)
Outstanding loans	0.057 (0.273)	0.032 (0.271)	-0.399 (0.281)	-0.182 (0.253)
Own home	0.367 (0.398)	0.310 (0.395)	-0.741* (0.385)	0.052 (0.347)
Own vehicle	-0.431 (0.291)	-0.174 (0.288)	-0.221 (0.288)	-0.047 (0.260)
Financial strain index	0.267 (0.178)	-0.059 (0.176)	-0.008 (0.170)	-0.037 (0.153)
Black, non-Hispanic	0.610 (0.412)	0.831** (0.409)	1.020 (0.921)	2.550** (0.830)
Hispanic	0.013 (0.434)	0.273 (0.431)	0.762 (0.908)	2.136** (0.818)
Age	-0.037** (0.013)	-0.006 (0.013)	0.002 (0.013)	0.024* (0.012)
Completed HS or GED	0.039 (0.290)	-0.047 (0.288)	-0.251 (0.299)	-0.330 (0.269)
Completed college	-0.802** (0.354)	-0.004 (0.351)	-0.831** (0.360)	-0.565* (0.324)
Disability that limits work	-0.240 (0.376)	0.768** (0.373)	0.571 (0.371)	1.467** (0.334)
Number of minors in household	0.260** (0.086)	0.300** (0.085)	0.206** (0.092)	-0.018 (0.083)
Married, spouse present	-0.105 (0.382)	-0.267 (0.379)	0.108 (0.393)	-0.136 (0.354)
Number of adults in household	-0.255** (0.129)	-0.059 (0.128)	-0.271 (0.180)	0.018 (0.163)
R^2	0.64	0.62	0.54	0.58

Note: Models estimated using interview data from the Three-City Study matched to administrative records from Illinois and Texas. Models also include intercepts and calendar time controls. Standard errors appear in parentheses.

* Significant at .10 level.

** Significant at .05 level.

Table 4. Regression models of assistance receipt in the year following the interview with controls for earnings histories

	Chicago		San Antonio	
	Food stamps	TANF	Food stamps	TANF
Earnings in interview month	-0.779** (0.280)	-0.773** (0.278)	-0.908** (0.340)	-0.384 (0.306)
Any earnings in prior 11 months	0.466 (0.513)	-0.032 (0.509)	-0.031 (0.540)	-0.992** (0.485)
Ave. earnings in prior 11 months	-0.828 (0.643)	-0.068 (0.639)	0.130 (0.868)	1.875** (0.780)
C.V. earnings in prior 11 months	-0.129 (0.326)	-0.240 (0.324)	0.009 (0.350)	0.728** (0.314)
Max. earnings in prior 11 months	0.709 (0.479)	0.513 (0.476)	-0.779 (0.725)	-1.493** (0.651)
Prior months on food stamps	0.707** (0.037)	-0.042 (0.037)	0.616** (0.037)	-0.028 (0.033)
Prior months on TANF	0.054 (0.037)	0.764** (0.037)	0.044 (0.034)	0.691** (0.031)
Bank, savings or financial account	-0.846** (0.321)	-0.431 (0.319)	-0.598* (0.305)	-0.338 (0.273)
Outstanding loans	0.073 (0.273)	0.027 (0.272)	-0.378 (0.281)	-0.152 (0.253)
Own home	0.396 (0.399)	0.319 (0.397)	-0.810** (0.387)	0.062 (0.347)
Own vehicle	-0.484* (0.292)	-0.232 (0.290)	-0.198 (0.288)	-0.023 (0.259)
Financial strain index	0.245 (0.178)	-0.056 (0.177)	0.019 (0.171)	-0.006 (0.153)
Disability that limits work	-0.065 (0.390)	0.869** (0.387)	0.477 (0.377)	1.346** (0.338)
Number of minors in household	0.259** (0.086)	0.301** (0.086)	0.200** (0.092)	-0.020 (0.082)
Married, spouse present	-0.113 (0.382)	-0.257 (0.379)	0.054 (0.395)	-0.267 (0.355)
Number of adults in household	-0.244* (0.130)	-0.032 (0.129)	-0.253 (0.181)	0.024 (0.162)
R^2	0.64	0.62	0.55	0.59

Note: Models estimated using interview data from the Three-City Study matched to administrative records from Illinois and Texas. Models also include intercepts and controls for race/ethnicity, age, education, missing earnings histories and calendar time. Standard errors appear in parentheses.

* Significant at .10 level.

** Significant at .05 level.

Table 5. Fixed effect regression models of assistance receipt in the year following interview

	Chicago		San Antonio	
	Food stamps	TANF	Food stamps	TANF
Earnings in interview month	-0.536*	-0.777**	-0.864**	-0.682**
	(0.322)	(0.363)	(0.428)	(0.340)
Prior months on food stamps	0.112*	0.005	-0.010	-0.049
	(0.063)	(0.070)	(0.061)	(0.049)
Prior months on TANF	-0.048	0.150**	0.088	0.028
	(0.063)	(0.071)	(0.062)	(0.050)
Bank, savings or financial account	-0.802	-0.542	-0.494	-0.937**
	(0.512)	(0.577)	(0.480)	(0.381)
Outstanding loans	0.081	0.001	0.264	0.024
	(0.376)	(0.424)	(0.433)	(0.344)
Own home	-0.250	1.255*	0.254	-0.148
	(0.636)	(0.717)	(0.775)	(0.616)
Own vehicle	-0.481	-0.720	0.067	0.167
	(0.474)	(0.534)	(0.503)	(0.400)
Financial strain index	0.286	-0.130	0.103	0.197
	(0.290)	(0.326)	(0.298)	(0.237)
Completed HS or GED	-0.305	-0.725	0.415	1.377
	(0.797)	(0.898)	(1.162)	(0.923)
Completed college	-1.448	0.047	-0.278	0.438
	(1.366)	(1.538)	(1.308)	(1.039)
Disability that limits work	1.279*	1.210	1.054	0.921*
	(0.662)	(0.746)	(0.697)	(0.553)
Number of minors in household	0.056	-0.355	-0.171	0.007
	(0.210)	(0.237)	(0.260)	(0.206)
Married, spouse present	-0.201	-1.934*	0.253	0.180
	(0.755)	(0.851)	(0.789)	(0.627)
Number of adults in household	-0.512**	-0.052	-0.207	-0.159
	(0.219)	(0.247)	(0.290)	(0.230)
R^2	0.77	0.69	0.65	0.75
Number of observations	682	682	706	706

Note: Models estimated using interview data from the Three-City Study matched to administrative records from Illinois and Texas. Models also include intercepts and calendar time controls. Standard errors appear in parentheses.

* Significant at .10 level.

** Significant at .05 level.

Table 6. Discrete logistic hazard models of program exit and re-entry

	Exit from Food Stamps	Re-entry to Food Stamps	Exit from TANF	Re-entry to TANF
Earnings in interview month	0.1048 (0.1208)	0.1092 (0.1223)	-0.00004 (0.2188)	-0.1310 (0.2455)
Prior months on Food Stamps	-0.0072 (0.0195)	0.0433** (0.0205)	-0.0185 (0.0325)	0.0272 (0.0489)
Prior months on TANF	-0.0485** (0.0203)	0.0092 (0.0153)	0.0002 (0.0335)	0.0234 (0.0394)
Bank, savings or financial account	0.0793 (0.1396)	-0.3149** (0.1438)	0.2481 (0.2847)	-0.4403 (0.3064)
Outstanding loans	0.0330 (0.1264)	0.0389 (0.1264)	0.2011 (0.2176)	0.0643 (0.1956)
Own home	0.1446 (0.1838)	-0.1662 (0.1999)	-0.4791 (0.3855)	-0.5131 (0.4640)
Own vehicle	-0.0279 (0.1369)	-0.3276** (0.1278)	-0.2380 (0.2356)	-0.0882 (0.2328)
Financial strain index	0.0635 (0.0800)	0.1845** (0.0756)	-0.0712 (0.1370)	0.2752** (0.1246)
Black, non-Hispanic	-0.4786 (0.2920)	0.4258* (0.2366)	0.2486 (0.7112)	0.8163* (0.4543)
Hispanic	-0.4775 (0.2986)	0.2264 (0.2425)	-0.1447 (0.7445)	0.3989 (0.4603)
Age	-0.0003 (0.0068)	-0.0289** (0.0069)	-0.0118 (0.0111)	-0.0186 (0.0120)
Completed HS or GED	0.2499* (0.1347)	-0.0116 (0.1297)	-0.0654 (0.2297)	-0.0605 (0.2033)
Completed college	0.1481 (0.1730)	-0.2624 (0.1611)	-0.1330 (0.3048)	-0.3386 (0.2983)
Disability that limits work	-0.4029* (0.2355)	-0.0953 (0.1948)	-0.0348 (0.2785)	0.2622 (0.2609)
Number of minors in household	-0.0378 (0.0457)	0.0951** (0.0409)	-0.0347 (0.0732)	-0.1129* (0.0641)
Married, spouse present	0.1080 (0.1878)	-0.0895 (0.1818)	-0.0308 (0.4256)	0.6782* (0.3837)
Number of adults in household	0.1233* (0.0737)	0.0906 (0.0668)	0.3655** (0.1510)	0.0310 (0.1380)
Number of monthly observations	6008	5356	1704	6996
Number of spells	438	501	175	128
Log likelihood	-1224.44	-1247.74	-513.17	-615.57

Note: Models estimated using interview data from the Three-City Study matched to administrative records from Illinois and Texas. Models also include state-specific baseline hazards and state-specific calendar time controls. Standard errors appear in parentheses.

* Significant at .10 level.

** Significant at .05 level.