Understanding the Food Stamp Program Participation Decisions of TANF Leavers

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Abstract

This paper evaluates factors affecting the decision by families that leave the Temporary Assistance for Needy Families (TANF) program to participate in the Food Stamp Program (FSP). Linked Illinois State-level administrative data are combined with Census data and data from the Illinois Families Study survey to evaluate the FSP take-up decision of TANF leavers 3 years after leaving the welfare rolls. Results indicate that in Chicago, neighborhood characteristics and knowledge of FSP eligibility at the district office level are important factors in understanding the FSP participation decision of TANF leavers even after individual or family-level demographic characteristics are taken into account. This evidence suggests that the density of social networks among the food-stamp-eligible population in the district office areas may mediate the effects of office outreach and communication strategies.

Acknowledgements

Table of Contents

Report Overview

It has long been recognized that many families that are eligible for the Food Stamp Program (FSP) do not participate in it. This report addresses the relationship between eligibility and the take-up decision in Illinois among an important component of the working poor, namely, those families that leave cash assistance. We focus on this group because the FSP is often argued to play an important role in facilitating the transition from welfare receipt to independence. Our primary research question is who among Temporary Assistance for Needy Families (TANF) leavers does not participate in the FSP when eligible to do so. We consider three sets of factors that could affect this decision. First, following much of the existing literature, we consider the importance of individual- and family-level socioeconomic and demographic characteristics, such as work history or number of children in the household. Second, and something that has not been addressed extensively in the literature, we address how neighborhood characteristics and the local district office responsible for administering the FSP affect whether an eligible family will use benefits. Finally, we extend existing research by considering how knowledge of food stamp program eligibility when employed and attitudes of potential participants toward the welfare system affect the take-up decision. This research, which we believe is best pursued by combining administrative data with survey evidence, allows us to identify a more holistic view of the determinants of FSP take-up among welfare leavers.

Our main hypothesis is that FSP nonparticipation (defined as the failure to participate when eligible to do so) is not random, but is instead focused among families and neighborhoods with select characteristics. We hypothesize that both individual- and community-level factors, including the characteristics of the administrative district office, may influence the take-up decision. First, a family's history of work experience, family formation, and education are likely to directly affect take-up, reflecting differing need within the eligible population. Furthermore, we believe that local-area economic and demographic factors, such as the level of neighborhood poverty, may influence the participation decision independent of individual characteristics. In areas of high poverty, for example, the stigma often associated with participation in means-tested programs may be less, making individual participation more likely. Take-up rates may also depend on the district office where clients receive food stamps. We assume that practices and efficiencies, including outreach and communication about the FSP, differ across offices, and because of this we hypothesize that the district operation itself may affect individual participation rates. We also believe that the density of social networks may play a role in the participation decision. This social network density refers to the ties that individuals have with family, friends, and acquaintances. These ties, which can vary in their nature, are instrumental in achieving certain tasks, particularly employment or accessing public benefits. Because informal communication is more likely to occur in urban relative to rural neighborhoods, residents in Chicago may be more likely than downstate residents to tell each other about continued food stamp eligibility on leaving the TANF program. The density of the neighborhood networks in Illinois Department of Human Services (DHS) office areas may thus mediate the effects of district office outreach strategies. Although we do not have measures of network densities, we expect to see differences in the effects of district offices in Chicago compared with the remainder of the state.

To test our hypotheses, we use both administrative and survey data. Our primary method uses linked state-level administrative data on TANF, food stamps, and Unemployment Insurance

(UI) wage records to 1) estimate FSP eligibility and take-up among those leaving TANF, and 2) to provide a series of simple descriptive statistics and multivariate models to examine how nonparticipation varies by family socioeconomic and demographic characteristics and administrative district offices. We use census data to examine how nonparticipation varies by neighborhood compositional characteristics.

A major advantage of using administrative data is the ability to analyze complete service populations relative to the typically much smaller size of survey samples. The flip side of this is that information about these populations is limited to the periods during which they received services or benefits. The greatest drawback, however, is that the range of information on socioeconomic and demographic characteristics of participants and nonparticipants is typically limited, while information on mental health status, attitudes toward welfare, and knowledge of FSP eligibility tend to be nonexistent. As a result of these limitations, we use the Illinois Families Study (IFS), a longitudinal survey of a random sample of adults who were primary TANF grantees in nine Illinois counties in fall 1998. We choose this survey because it contains detailed information on mental health status, attitudes toward welfare and welfare reform, and knowledge of the FSP, and because it enables us to examine how important these variables are in the nonparticipation decision.

Because the IFS is our only source of information on attitudes toward welfare and program knowledge, we begin our empirical analysis with a model of the importance of individual-level characteristics in the decision to use food stamps among the eligible population using only the IFS survey. This reveals a number of important findings. First, although there is little evidence from the IFS that mental health and attitude help to predict FSP participation, program knowledge, and specifically, the belief that food stamps can be continued after employment is found, is important to the participation decision. Second, we find the borderline significance of some of the individual-level variables, including marital status, work experience, and race, which typically play a significant role in predicting take-up.

These findings affect our research design in a number of ways, and lead us to combine the IFS survey evidence with state-level administrative data to best understand the role of individual, neighborhood, administrative, and knowledge in the take-up decision. The lack of statistical significance of many of the individual-level factors in determining take-up may, in part, be explained by the small sample size of the IFS. It may simply be too difficult to tease out independent, individual-level effects from the relatively small sample of eligible food stamp respondents. As a result, we turn to administrative data, and the population of those who were in TANF, to further explore the take-up decision. Because of the demonstrated importance of knowledge of eligibility rules in the survey analysis, we would ideally include a measure of it in our administrative data model of nonparticipation. We believe that respondents are most likely to obtain information on the program rules through district offices, and because dissemination of eligibility information may be better at some offices than at others, the proportion of respondents who have accurate program knowledge will differ across offices. No measure of FSP knowledge is available in the administrative data. What we do is aggregate individual-level survey responses on program knowledge to the district office level (for those offices included in the IFS sample) to build a measure of the proportion of respondents in the district office who know that they remain eligible for food stamps when working. Hence, although we do not know the level of FSP knowledge of all individuals in the larger administrative dataset, we can use the IFS data to estimate average levels of knowledge in district office communities. We can then incorporate

this measure as a characteristic of the district office in the administrative data model of take-up in the IFS counties. This measure, in turn, can be used to test the hypothesis that differences in program knowledge at the district office level will influence take-up.

We note the importance of other factors in the participation decision, including lack of knowledge about eligibility, stigma, and difficulties with bureaucracy. We recognize their omission is a limitation in this study, and believe that future analyses will address these issues.

The Food Stamp Program and the Importance of Nonparticipation

The Food Stamp Program (FSP), managed by the Food and Nutrition Service (FNS) of the U. S. Department of Agriculture, helps low-income households buy the food they need for a nutritionally adequate diet.[1] The rules are complex, but the most important factors that determine eligibility for food stamp benefits are income, the number of persons who live and eat together, and the amount of available liquid assets, such as money in checking and savings accounts. Food stamps serve households with gross incomes less than 130 percent of the federal poverty guidelines (FPG) for the household size.[2]

Nonparticipation, defined as the failure of eligible persons to enroll in programs, is widespread across many means-tested federal, state, and local social welfare programs (Bendrick, 1980). Nonparticipation seems particularly high in the FSP. Blank and Ruggles (1996), for example, found that FSP participation rates across all eligible participants ranged from 50 to 65 percent, depending on the method of estimation used. More recently, Cunnyngham (2002) found that FSP participation among those eligible declined between 1994 and 1999 from 75 to 58 percent, followed by a slight rise in 2000 to 59 percent. Furthermore, a recent report by the USDA (2003) estimated that there are 2.6 million nonparticipating individuals who are eligible for a relatively high monthly benefit of $200. Three-quarters of these individuals are in families with children, while 60 percent are in households with earnings.

Focusing on working households, Stavrianos (1997) estimated that fewer than half of all FSP-eligible working households were participating in 1994, while McConnell and Ponza (1999) found that only 46 percent of eligible households were receiving food stamps. Among families with earnings in the prior year, Castner (2000) estimated take-up rates between 53 percent (1994) and 47 percent (1998).

Examining FSP participation rates among families, Zedlewski and Brauner (1999), using the National Survey of America's Families (NSAF), found that among those who leave the FSP, two-thirds remain eligible. Recent studies of food stamp leavers in four states have added to our knowledge of nonparticipation rates among eligible families. These studies examine how those who left the food stamp program are faring two years later. They generally find lower food stamp participation rates than would be expected by income levels. In Illinois, for example, while 62 percent of families report income less than 130 percent of the FPL two years after leaving the FSP, only 22 percent report receiving food stamps (Rangarajan and Gleason, 2001). Likewise, in South Carolina, between 62 and 66 percent of nonwelfare families who left the Food Stamp program in 1997 met gross income tests for food stamp receipt in 1999, yet only between 26 and 29 percent were in receipt of food stamps (Richardson et al., 2003).[3]

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[1] Food stamp benefits can be used to buy any food or food product for human consumption, plus seeds and plants for use in home gardens to produce food.

[2] Federal poverty guidelines are established by the Office of Management and Budget, and are updated annually by the Department of Health and Human Services. Gross income includes all cash payments to the household, with a few exceptions specified in the law or the program regulations.

[3] While 55 percent of TANF and 46 percent of Non-TANF families in Phoenix area of Arizona were shown to have income less than the FPL, only 33 percent of TANF and 21 percent of Non-TANF families report receiving food stamp benefits in 1999 (Mills and Kornfeld, 2000). The study of food stamp leavers in Iowa, while not directly distinguishing households with children from all households again finds high nonparticipation rates. 42 percent of all those who left the FSP in 1997 were

Families formerly enrolled in the TANF program, the group that is the focus of this research, are a particularly important segment of the vulnerable population. A review of the U.S. Department of Health and Human Services, *TANF Leaver Studies* by Isaacs and Lyon (2000), found that food stamp participation among families 12 months after leaving TANF ranged from between 20 and 40 percent[4] (also see Loprest, 1999; Dion & Pavetti, 2000). Miller et al. (2002) found that among families that leave cash assistance and food stamps, between 50 and 60 percent remain eligible based on survey-reported income data. Similarly, Zedlewski and Gruber (2001), using the NASF, found that among very-low-income families (incomes less than 50 percent of the poverty level), only one-half continued to receive food stamps.

Understanding both the prevalence and concentration of FSP nonparticipation is important for several reasons. First, given the low wages among many TANF leavers, transitional benefits such as food stamps may be critical to self-sufficiency and may prevent returns to welfare. Even after controlling for employment status at TANF exit and other factors, a 2001 IFS study found that families that lost both Medicaid and food stamps were nearly three times more likely to return to TANF compared with only 20 percent of those who kept both benefits (Illinois Families Study, 2001). Food security for low-income families might also be jeopardized. Approximately one-fourth of former TANF recipients from three of the ASPE leaver studies reported not having enough to eat, skipping meals, and cutting meal sizes (Isaacs & Lyon, 2000). TANF leaver studies also indicate that a significant number of former TANF families are experiencing hardship. Brauner and Loprest (1999) reviewed indicators of well-being across leaver studies and found that about one-third of those who left TANF in Michigan, Washington, and Wisconsin report trouble providing food for their families, also reported by 17 percent of respondents in South Carolina.

Second, nonparticipation clearly reflects system ineffectiveness and indicates that policymakers' original intentions for the system are not being fully met (Van Oorschot, 1995). Furthermore, knowing who among the working poor is not using food stamps is critical in understanding the distributional consequences of the program. If nonparticipation is most predominant among the most able of poor families (who, for example, believe that their economic conditions will soon improve), policymakers may have fewer concerns than if it is concentrated among the most economically disadvantaged. An understanding of who is choosing not to participate is instrumental in guiding state policymakers on how best to respond to the problem at the local level and how to design effective outreach strategies and incentives.

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enrolled in the program two years later, but almost 90 percent had incomes, which would make them eligible to do so (Jensen et al., 2002).

[4] In 1998, the U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation (ASPE) awarded $2.9 million in grants to states to study the effects of welfare reform on TANF leavers. This group of studies is known as the TANF Leaver Studies.

Research Questions and Hypotheses

Our primary research question is who among TANF leavers is choosing not to participate in the FSP when eligible to do so. Our goal is to explore how individual, family, and neighborhood characteristics affect whether an eligible household will use benefits. Our main hypothesis is that nonparticipation is not random, but is instead focused among families and neighborhoods with selected characteristics.

Accordingly, we first hypothesize that various measures of need, such as socioeconomic measures of hardship, are likely to increase take-up rates among the eligible. In addition, we identify one simple individual measure of the personal cost of using food stamps—the distance a person must travel from his or her home to the Illinois DHS office that administers the program. We hypothesize that those who live far from a DHS office are likely to have lower take-up rates than those who live closer. The mental health status and attitudes toward welfare among potential participants are also likely to affect take-up decisions. Those who are more depressed or who do not believe in the rights of individuals to welfare may be less likely to participate.

The communities in which we live affect our opportunities and choices, often through the network of contacts they provide. We therefore hypothesize that local economic and demographic factors, such as level of neighborhood poverty or unemployment, may influence the participation decision. There are two reasons why the likelihood of a household's participation may be higher in areas of high poverty, high unemployment, or high food stamp participation. First, the stigma associated with participation in means-tested programs may be lower, making individual household participation more likely. Second, personal contacts who have had experience with the welfare system may share knowledge of the program. As a result, we hypothesize a positive relationship between community levels of deprivation and food stamp take-up rates. For similar reasons, take-up rates may also likely depend on the DHS operation. Practices and efficiencies, including outreach and communication about the FSP, can differ across offices, and we hypothesize that these differences may affect participation rates.

Research on FSP Take-up

A considerable amount of previous research focuses on the effects of individual-level socioeconomic and demographic characteristics on food stamp take-up. Bartlett and Burstein (2004) for example found that compared to the active food stamp caseload, eligible nonparicipant households had higher average household income. Not surprisingly, individuals in families with higher incomes are less likely to remain on food stamps. This is probably due to increased earnings, but possibly also due to the fact that working families have less time available for trips to the food stamp office to fill out forms and to complete other administrative tasks (Wiseman, 2002). Bartlett and Burnstein (2004) found that getting to the food stamps office during hours it was open was difficult for a sizable minority of households. Likewise, individuals likely to receive smaller benefits are less likely to participate than those eligible for higher benefits (Cunnyngham, 2002). Controlling for background demographics, Black and Hispanic TANF leavers were more likely to stay on food stamps than White/Non-Hispanic TANF leavers, while public housing resident leavers were more likely to remain on food stamps than their counterparts in private housing. (Miller et al., 2002). Similarly, families that declined to use food stamps in 1999, despite having a poverty-level income, were more likely to have owned a car and have moved at least once in the previous year (Zedlewski and Gruber, 2001). Cancian et al. (2001) found education, family composition, and location to affect food stamp enrollment. Those who lacked a high school degree, had larger families with very young children, and lived in an urban setting were more likely to be enrolled in the FSP. Geographic differences also exist, with welfare leavers in California more likely to remain on food stamps than leavers in Vermont or Oregon (Miller et al., 2002).

Lack of information about eligibility rules and confusion about eligibility also help explain why many families do not remain on food stamps. It appears that many families leaving TANF (many of whom are working) have been unaware of the fact that they may still be eligible for food stamps. Quint and Widom (2001) conducted interviews with 50 TANF clients in two cities to find out what these families knew about eligibility rules for food stamps after leaving welfare, and found that most families did not know that they might still be eligible for food stamps after leaving TANF. In a summary of state and local leaver studies, Dion and Pavetti (2000) report that many families who left TANF and found employment have incomes low enough to remain eligible for food stamps, even 12 months after leaving cash assistance. Regarding general nonparticipation, Coe (1983) and U.S. GAO (1988) found that approximately half of all nonparticipating households did not think they were eligible for the program. There is some evidence to suggest that this proportion has increased over time. Ponza et al. (1999) found that almost three-quarters of nonparticipants surveyed who thought they were ineligible for the FSP were, in fact, eligible. Bartlett and Burstein (2004) found that less than half of nonparticipants thought they were eligible even though they appeared likely to be eligible based on the self-reported income. Not surprisingly, Daponte, Sanders, and Taylor (1999) found that providing information about eligibility and anticipated benefits to families makes a significant difference in food stamp participation. Bartlett and Burstein (2004) found that over two-thirds of nonparticipant households (69 percent) said they would apply for food stamp benefits if they were sure they were eligible. Notably, however, 27 percent said they would not apply even under conditions of certainty.

Take-up rates are also likely to depend on the DHS office. Practices and efficiencies, including outreach and communication about the FSP, can differ across offices, and these differences may affect participation rates. Clearly, the actions of individual caseworkers (or inaction, as it may be) can and do affect individual take-up rates at the local level. Dion and Pavetti (2000) assert that diversion practices by caseworkers likely prevent eligible families from applying, and Miller et al. (2002) and Quint and Widom (2001) also cite that attention from caseworkers as families leave welfare is important to food stamp participation. In fact, a recent review of the FNS found that two New York City job centers were not informing applicants rejected for TANF benefits that they may still be eligible for food stamps (GAO, 1999). Likewise, policy differences at the state level have been shown to significantly affect food stamp take-up. Kabbani and Wilde (2003) find that shorter recertification periods reduce state error rates, but also reduce program participation, an effect more pronounced with nonworking families. Administrative difficulties associated with both application and recertification have also been shown to play a role. Ponza et al. (1999) for example found that 15 percent of nonparticipants cited extensive paperwork requirements and difficulties in getting to the office as reasons for nonparticipation (also see Coe, 1983; GAO, 1988).

We know much less about the importance of attitudes toward welfare and welfare reform and emotional status on continued take-up of food stamps. A recent study of food stamp leavers in Iowa indicates that less than 3 percent of those who leave the food stamp program chose to quit (Jensen et al., 2002). When asked for their reasons for leaving the FSP, 11 percent of leavers in Illinois cite administrative reasons, while 6 percent indicate that they chose not to reapply (Rangarajan and Gleason, 2001). In the 1980s, stigma associated with the food stamp program was cited by a sizeable proportion of households who, while they believed themselves to be eligible for the program, choose not to participate (Coe, 1983; GAO, 1988). The role of stigma appears to be declining over time. Using both survey and focus group evidence, McConnell and Ponza (1999) dispel the myth that stigma plays an important role in nonparticipation; fewer than one-quarter of eligible, low-income, working and elderly respondents said that stigma was a reason they did not use food stamps, while fewer than 5 percent said it was the most important reason. Similarly, Ponza et al. (1999), using the National Food Stamp Program Survey, found that only about 7 percent of respondents mentioned a psychological or stigma-related reason for not applying for food stamps even though they were eligible. The minor role of stigma is again confirmed by Bartlett and Burstein (2004) who report that over half of nonparticipants indicated that they perceived no social stigma associated with participation in the FSP. Stigma was, however, reported as one factor by 44 percent of those who reportedly would not apply for food stamps even if they were eligible.

An overlooked, but potentially important, factor in the decision to participate is the distance a person must travel from his or her home to the office that administers the program. Hollenbeck and Ohls (1984), in a study of elderly food stamp families, found that eligible food stamp recipients were more likely to live closer to a food stamp office than eligible nonparticipants. Travel to and from food stamp offices imposes costs. Ponza et al. (1999) found that food stamp clients do incur significant cost, most of which is spent on transportation. They estimate the average food stamp application requires five hours to complete, including approximately 2.3 trips to a food stamp office, for an average cost to the applicant of $10.31 per application. Recertification (required of working families in most cases every 90 days) takes on average 2.8 hours and at least one trip, for an estimated cost of $4.84 per recertification. Other costs include those associated with childcare and lost time at work.

Rank and Hirschl (1993) used the PSID to study the link between population density and food stamp participation. They found that "the more accurate an individual's information regarding food stamp eligibility, and the less unfavorable attitudes one holds toward the program, the more likely he or she is to participate." These variables accounted for their finding of a direct effect of population density on food stamp participation. They suggest that this is due to individuals in densely population areas being more likely to "encounter others in circumstances similar to their own," thereby having more accurate information about whether they are eligible for food stamps and feeling less stigmatized about receiving them.

We also know little about how the characteristics and behavior of an individual's community affect food stamp take-up, yet local area macroeconomic and demographic factors, such as level of neighborhood poverty or unemployment, may influence the participation decision. In areas of high poverty, the stigma often associated with participation in means-tested programs may be lower, making individual household participation more likely. We did not find any surveys that ask about the participation of neighbors in means-tested programs and the influence of that information on an individual's decision to participate, although we believe that neighbors share information and informal support for such decisions.

Methodology

<u>Study Population and Design</u>

The FSP ultimately provides nutritional support for the needy. However, a by-product of its scope is that it may also facilitate the transition from dependence on the state to economic independence. We recognize that TANF leavers represent only a small proportion of all potential food stamp users, but this group is a very important component of the working poor, and one for whom food stamps may be critical to self-sufficiency. We could, alternatively, have focused on the FSP participation of all TANF recipients. However, nearly all TANF recipients simultaneously receive food stamps, so little would be learned by including those who currently receive cash assistance.

As outlined above, our empirical analysis combines both administrative data and survey evidence. As a result, our study population and design is determined by the population and timing of our survey data. We begin by using the IFS. This allows us to explore the importance of a series of variables not found in the administrative data. These variables include measures of mental health status, attitudes toward welfare and reform, and FSP knowledge. The IFS is a longitudinal study of a random sample of more than 1,300 adults who were primary TANF grantees in fall 1998. Researchers conducted in-person interviews between November 1999 and September 2000, and follow-up (Phase II) interviews with 1,362 respondents between March and August 2001.[5] Of the 1,152 Phase II respondents who completed the interview, 68 percent (784) have left TANF, and of these, 89 percent (696) continue to be eligible (based on the UI records in the quarter of the interview) for food stamps. We examine the FSP participation decision among these 696 respondents.

We use the same time periods for our administrative data analyses, but rather than analyzing the FSP decision of those in our survey, we include all Illinois TANF grantees in fall 1998. Mirroring the IFS analysis, we analyze the FSP participation decisions of those who were no longer receiving TANF in the second quarter of 2001.[6] Clients may have left TANF at any point during the prior three years, and we control in our analyses for how long the clients have not been receiving TANF.

Study Population Summary

We examine the food stamp participation decision of a group of TANF leavers. Specifically, our population is those respondents who were receiving TANF in fall 1998, but who have left TANF while remaining eligible for food stamps at the time of the Phase II IFS interview (March and August 2001) or, for the models based on administrative data, the second quarter of 2001.

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[5] Annual in-person surveys are planned over a six-year period.

[6] Since IFS respondents are interviewed in several quarters, we choose the quarter when most respondents were interviewed.

<u>Data Sources</u>

As stated above, we use both survey data and linked administrative data to shed light on the food stamp participation decision of a group of TANF leavers. Our primary research question requires us to determine 1) who takes up food stamps, and 2) who is eligible to do so. The answer to the first is readily available from our data; the administrative data provide an accurate record of food stamp receipt. The issue of eligibility is more problematic because food stamp eligibility depends on a number of factors for which we do not have a measure, including income from all sources and liquid assets. We must estimate eligibility using a limited set of data—those for whom gross income from employment falls below 130 percent of the federal poverty guidelines for the household size. We discuss the limitations of this below. We use TANF records to identify departure from TANF; UI wage records for household members to estimate food stamp eligibility; and food stamp administrative records to distinguish between those who take up food stamps (participants) and those who do not (nonparticipants). Using information from survey data, administrative data, and census data, we then analyze how the food stamp take-up rate varies by a range of individual- and community-level characteristics. We present the individual-level results as a series of logistic regression analyses. To examine the effects of the community-level variables, and the importance of the DHS office, we develop a series of hierarchical linear models (HLM).

Administrative Data

Our primary data source is administrative data on TANF and food stamp receipt and UI wage records drawn from the Illinois Integrated Database on Child and Family Services in Illinois (IDB). Built and maintained by researchers at the Chapin Hall Center for Children at the University of Chicago, the IDB is a unique state-level, longitudinal database constructed from administrative data gathered by public agencies that serve children and families in Illinois (Goerge, Van Voorhis, & Lee, 1994). The IDB allows researchers to track children and families across human service data systems in Illinois. Prior to the IDB, our analyses were limited primarily to data systems because the data sent by participating agencies did not contain key identifying information that would allow us to link the data across systems or agencies. To overcome this limitation, Chapin Hall uses probabilistic record linkage techniques (described in more detail below) to link individuals across programs, information systems, and agencies. The resulting longitudinal database contains records encompassing the entire population of Illinois children and families who have had contact with the major state human service programs.[7]

Although the IDB comprises data from a range of systems, for the purposes of this report, we use linked TANF, UI, and food stamp records. Table 1 lists the variables obtained from the IDB. Specifically, we use individual-level longitudinal service records constructed from AFDC/TANF records to identify our sample, construct its cash assistance history, and identify a number of important socioeconomic and demographic characteristics. We use UI wage records

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[7] These programs include but are not limited to child welfare, child protection, TANF, Medicaid, food stamps, special education, corrections and juvenile justice, subsidized child care, mental health, developmental disabilities, employment, substance abuse, Supplemental Security Income (SSI), and Women, Infants, and Children (WIC). In recent years, other non-human service data such as UI wage reports for the entire Illinois population and public school student records for the City of Chicago have been added to the database.

for all household members to estimate household income from employment, and to document current employment status. We use food stamp records to identify food stamp receipt.

TANF and food stamp records come to Chapin Hall as part of the Illinois DHS Client Database (CDB), a computer file that tracks participation in a range of public assistance programs, including TANF, food stamps, and Aid to Aged, Blind, and Disabled (AABD). Chapin Hall receives the data monthly from DHS. We use TANF records to select our study population (all TANF recipients in fall 1998) and to identify those who have left TANF by the second quarter of 2001. We use TANF history records to construct TANF service history variables, including the number of months of TANF receipt between fall 1998 and the second quarter of 2001. We use food stamp records to identify food stamp participation in the second quarter of 2001. The CDB also contains a range of important socioeconomic and demographic characteristics of service recipients, including client race-ethnicity, marital status, age, and number of children. Furthermore, address records of both the client's home and DHS office are geocoded to allow us to calculate the distance between them. The DHS office is an important community characteristic, and we include it as a community-level variable.

Table 1: Variables Obtained from the Integrated Database

CLIENT CHARACTERISTICS	Data Source
Service Receipt	
TANF grantees in fall 1998 (used to identify population)	IDHS CDB
Current TANF receipt (used to identify TANF leavers)	IDHS CDB
Months of TANF receipt between fall 1998 and the second quarter of 2001	IDHS CDB
Food stamp receipt in the second quarter of 2001	IDHS CDB
Employment and Income	
Current household income from employment (used to estimate food stamp eligibility)	UI Wage Data
Employment history	UI Wage data
Socioeconomic and Demographic Characteristics	
Age of grantee	IDHS CDB
Race-ethnicity (African American, White/Non-Hispanic, Hispanic. other race)	IDHS CDB
Marital status (never married, married, divorced/separated, widowed)	IDHS CDB
Education (whether the client is a high school graduate or has a GED)	IDHS CDB
Number of children	IDHS CDB
Distance between client's home and IDHS office	Geocoded Addresses from IDHS CDB
COMMUNITY CHARACTERISTICS	
IDHS office	IDHS CDB

Furthermore, quarterly UI wage report data are sent to Chapin Hall through a data-sharing agreement with the DHS. These data comprise records of total quarterly earnings reported by employers to state UI agencies for each employee and maintained by the Illinois Department of Employment Security. Most employers who pay $1,500 in wages during a calendar quarter to one or more employees are subject to a state UI tax and must report the quarterly amount paid to each employee. The database contains information on quarterly earnings, employee Social Security Number (SSN), employer SSN, and employer address. We use these administrative data records to identify household income from employment, current employment status, and employment history.

Census Data

We also wish to explore the relative contribution of local macroeconomic and demographic factors. To do so, we explored census tract-level data from the 2000 Census (SF3). Community factors that we believe might influence FSP take-up, including poverty and unemployment rates, the proportion of the population that uses food stamps, and the proportion of the population that is African American or White. See Table 2 for a list of community-level variables obtained from the census that were included in our analyses.

Table 2: Community Characteristics Obtained from the 2000 U.S. Census

NEIGHBORHOOD-LEVEL CHARACTERISTIC (at the census tract level)
Proportion of households that are single-mother households
Proportion of population with high school diploma or GED
Proportion of households below poverty line
Proportion of population that are noncitizens
Proportion of households with more than one residence between 1995 and 2000
Proportion of residents participating in TANF

The Illinois Families Survey Data

To analyze the importance of attitudinal variables not contained in the administrative data, we use the IFS survey. The IFS is a longitudinal study of a random sample of adults who were primary TANF grantees in fall 1998 in nine Illinois counties. The vast majority of IFS respondents were female (97 percent), and their average age at wave 1 was 31.6 years. Nearly two-thirds had never been married (65 percent), and 59 percent had a high school diploma at the time of the baseline interview. Respondents had an average of 2.5 children. The majority of respondents were African American (80 percent), and 12 percent were Hispanic, Latino, or Chicano. Phase II of the IFS, conducted between March and August 2001, collected a rich array of data on respondents' socioeconomic and demographic status (including income, employment, and household and family composition), as well as detailed information on mental health status, attitudes toward welfare and welfare reform, and FSP knowledge. Table 3 outlines the variables we include in our analyses.

Table 3: Variables Obtained from the Illinois Families Study

Variable
Mental Health Status
Respondent depression level in previous week (ranges from no depressive symptoms to severe depression)
Knowledge of the Food Stamp Program
Knowledge that "if a person receiving [welfare or TANF] gets a job, s/he gets to keep food stamps."
Attitudes toward Welfare Reform
Strongly agree or somewhat agree with the following:
"It is good to limit the amount of time people can stay on [welfare or TANF]"
"It is good to require people on [welfare or TANF] to find a job and work"
"People have a right to receive welfare without working"
Future Employment Expectations
Strongly disagree or somewhat disagree with the following:
"A year from now, I expect to be receiving welfare or TANF"
Socioeconomic and Demographic Characteristics
Race-ethnicity (African American, White/Non-Hispanic, Hispanic, other race)
Marital status (never married, married, divorced/separated, widowed)
Education (whether respondent is a high school graduate or has a GED)
Age of respondent
Number of children under 19
Respondent had more than one residence in previous 12 months

Data Linking

Linking TANF, Food Stamp, and UI Wage Records

Because service receipt and UI wage records are maintained in separate databases, and there is no common identifier across the databases, we link records using a technique called probabilistic record-matching. Used in epidemiology and demography (Newcombe, 1988; Jaro, 1985, 1989), probabilistic record-matching assumes that no comparison between fields common to the source databases will link an individual's records with complete confidence. Instead, the method calculates the likelihood that two records belong to the same person by matching as many pieces of identifying information as possible from each database (Jaro, 1985, 1989; Newcombe, 1988). When linking, we use last name and SSN to link those receiving cash assistance or food stamps with their UI records. Information maintained includes individual

demographic information such as age, race or ethnicity, and family composition, and TANF/food stamp service receipt dates of entry and exit, as well as quarterly employment earnings.

Cancian et al. (2001) also used UI wage data to estimate eligibility for food stamps for two cohorts of TANF leavers in 1995 and 1997. They linked Wisconsin administrative data (AFDC/TANF, food stamps, and Medicaid) to the UI system to compare leavers from the two cohorts in much the same way as we do here. They note the same limitations of using wage data, namely, that income estimated in this way is limited to reported earnings rather than total income from all sources, and that one must impute monthly wages from the as-reported quarterly UI data. Miller, Redcross, and Henrichson (2002) also used UI wage data to estimate earnings of former TANF recipients in their analysis of food stamp use among former TANF recipients.

Linking the Illinois Families Survey data with TANF, Food Stamp, and UI Wage Records

Probabilistic record-matching is also used to link the IFS respondents to their TANF, FSP, and UI wage records. By matching survey respondents to their administrative data records, we obtain an independent source of information on both (TANF and FSP) program participation and income from employment, both traditionally likely to be underrepresented in survey data. When matching IFS respondents and TANF/food stamp records, we use first and last name, gender, SSN, race and ethnicity, and county of residence. This linking of administrative data to survey data is also done in several of the TANF leaver studies, including studies in Arizona, Illinois, and Missouri (Arizona Department of Economic Security, 2001; Julnes et al., 2000; Midwest Research Institute, 2000).

There is much research on welfare reform and FSP participation using combinations of administrative and survey data. A study of FSP participation trends by Kornfeld (2002) combines administrative data and survey data to examine the effects of policy changes and changes in the economy on FSP caseloads by type of household. Currie and Grogger (2001) similarly combine Current Population Survey data at the household level with annual state-level information about welfare policy and unemployment data to look at FSP caseload trends. Wittenberg and Anderson (2002) propose a link between the Current Population Survey and state FSP administrative data to better understand caseload dynamics, noting that this combination of data would "significantly expand" research opportunities beyond those provided by survey or administrative data files alone, particularly regarding family transitions off and on the FSP by family characteristics.

Geocoding Addresses to Develop a Variable of Distance between Home and District Office

Because most of the administrative records contain some kind of geographic information (such as a mailing address, neighborhood, or county of residence), we use this information to assign a geocode. This geocode contains a latitude and longitude that corresponds to U.S. Census data contained in the Tiger database. These latitudes and longitudes provide the input used to calculate distances between home and district FSP offices.

Estimating Food Stamp Eligibility

For both the IFS sample and the full state-level administrative data population, we determine food stamp eligibility using household UI wage records. As described above,

following the FSP eligibility rules on income and household size, we identify respondents as FSP-eligible if their gross household income from employment in the quarter of the interview is less than 130 percent of the federal poverty level for their family size.

It is important to note the limitations to our method of estimating food stamp eligibility based exclusively on quarterly household UI wage data. First, using quarterly household wages is problematic. Because the FSP is a monthly program, a household could be eligible for two months in the quarter, but ineligible for the entire quarter based on UI data.

Second, there are several limitations in using only income from employment in the eligibility calculations. Food stamp eligibility is based on three primary factors: the number of persons who live and eat together; income from a range of sources, and the amount of available liquid assets, such as money in checking and savings accounts. Our data allow us to identify some but not all of these determinants. We only observe gross income from employment, as found in the UI wage, when estimating eligibility for the FSP. To participate in the food stamp program, households must meet both gross and net income requirements. The gross monthly income of most households must be 130 percent or less of the federal poverty guidelines. Gross income includes all cash payments to the household, with a few exceptions specified in the law or the program regulations. We observe gross monthly income from employment but not from other sources. Income from other than earnings, including, for example, Social Security or Supplemental Security Income (SSI), are important omissions. *Net* monthly income must be 100 percent or less of federal poverty guidelines. Net income is determined by adding all of a household's gross income and then taking a number of approved deductions for child care, some shelter costs, and other expenses. We do not have information on these expenses and make no estimate of them in our calculations. We simply identify gross household income from employment based on UI wage records and calculate whether the household falls below 130 percent of the federal poverty line. We also note that certain households, including those with an elderly or disabled person, are not subject to the gross income test. We do not have information on the presence in the household of elderly or disabled persons, some of whom may be eligible for the FSP even if their earnings are above 130 percent of the poverty line. Generally, for households with earnings above 130 percent of the poverty line, we can be confident of ineligibility, but for those below 130 percent, we acknowledge that some may be ineligible.

A further limitation of our method of estimating FSP eligibility is that we are unable to count household liquid assets. Most households are ineligible for food stamps if they have resources greater than $2,000 ($3,000 if a household member is 60 years old or older.) It is important to note, however, that some common items, such as their home, jewelry, and other personal items, do not count toward the resource limit. There is some debate about the relative effect of assets on the calculation of food stamp eligibility. A study by Daponte, Sanders, and Taylor (1999) found that many families that appear to be eligible for food stamps are in fact, ineligible when assets are taken into account. A significant number of families with earnings below 130 percent of the poverty line in their sample (27 of 49) were in fact ineligible when assets were included. Specifically, 22 of the 27 ineligible families had excessive "cash resources" in the form of bank accounts, cash in hand, stocks and bonds, IRAs, and certificates of deposit. It is notable, however, that their study sample included all eligible nonparticipating households (including elderly and childless households). Our study population is TANF leavers, and we know that TANF leavers have relatively few assets. A study of TANF leavers in Massachusetts found that while 29.3 percent of respondents in time-limited closings and 35.2 percent of respondents in non-time-limited closings had a savings account in a bank or credit

union, over four-fifths in each category had $500 or less (Massachusetts Department of Transitional Assistance, 2000). Furthermore, a recent study of Illinois TANF leavers finds that increased assets account for only a very small proportion of TANF case closings. Analyzing the categories of administrative reasons for TANF case closings in Illinois, the Illinois Study of Former TANF Clients found that being no longer eligible for TANF due to assets exceeding the limits accounted for only 0.1 percent of closings (Institute for Public Affairs, 2000).We are confident, as proposed by Zedlewski and Brauner (1999), that the TANF leavers in our study do not have sufficient amounts of available liquid assets to significantly skew our FSP eligibility estimates. However, they may subsequently accumulate such assets from employment.

Third, we recognize that food stamps are only available to U.S. citizens and to some immigrants who are admitted for permanent residency.[8] We do not have information on citizenship or residency status, and thus any noncitizens in the IFS who, based on their UI wage records, are eligible for food stamps will be counted as nonparticipants, when in fact they should be excluded from our eligible pool. The welfare reform act also placed time limits on benefits for unemployed, able-bodied, childless adults; we have not accounted for whether the adults in our sample without children have reached these time limits.

We also must recognize the limitations of the UI wage data as a source of information on income from employment. First, UI does not cover all jobs. Major types of employment not covered include federal government civilian and military employees, U.S. Postal Service employees, railroad employees, employees of some philanthropic and religious organizations, and independent contractors. Hotz and Scholz (2002) argue that there may be substantial problems with some workers who are classified as independent contractors. Overall, gaps in coverage are estimated to be approximately 13 percent. In addition, even when wages are found in UI records, they may be understated. Comparisons of UI wage records with Internal Revenue Service data by Kornfeld and Bloom (1999) suggest that wage estimates based on UI records may be understated by approximately 11 to 14 percent. They argue, for example, that there is some incentive for employers to underreport earnings because their taxes are based on the earnings reported. Finally, UI coverage extends only to a state's borders, so Illinois residents who work in neighboring Indiana, for example, appear in the UI wage record databases of Indiana, not Illinois.

Before providing our results, it is worthwhile to briefly address how these limitations may affect our results. Because we cannot perfectly (accurately) identify eligibility, our regression results are likely to be tainted by some amount of measurement error. On the one hand, we may have what is termed a "classic" measurement error or true randomness in our results. With classic error, our error in misclassifying eligibility is independent of the other measures such as income and education. In this instance, we may find some of our independent variables where a true measure of eligibility would yield significance not to be statistically significant. As a result, this form of measurement error will understate the significance of our effects. A more disturbing form of measurement error is "nonclassical" error. With that, the factors that we have not measured (nonemployment sources of income and assets) are correlated with our observed explanatory factors. A likely example of this would be when the assets held by an individual are positively correlated with his or her gross income from employment. A finding that food stamp take-up rates are lower among those with higher gross employment

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[8] The welfare reform act of 1996 ended eligibility for many legal immigrants, although Congress later restored benefits to many children and elderly immigrants, as well as some specific groups.

income relative to those with lower income may result from those with higher wages being less needy (as we argue below), but it may also result from misclassification of eligibility, given that what we interpret as nonparticipation may in fact be ineligibility. Those with high gross incomes may also have sufficiently high assets to make them ineligible for food stamps despite gross incomes below 130 percent of the poverty line. As a result, we must exercise caution in interpreting our results.

Understanding the Food Stamp Program Participation Decision Using the IFS Survey Data

We begin by providing estimates of food stamp take-up rates using our survey (IFS) data. Based on household UI wage reporting data in the quarter of the survey interview (March to August 2001), we estimate that 696 respondents have household employment income that falls below 130 percent of the federal poverty level, and are therefore assumed to be eligible for food stamps. In Table 4, we provide some initial descriptive statistics on the FSP take-up rate in the quarter of the interview.[9] Based on weighted survey data, we find that 60.8 percent of the respondents were receiving food stamps (FSP participants), with the remainder not participating.

We also provide some descriptive statistics on how take-up rates vary by individual socioeconomic and demographic characteristics in Table 4. First, note the importance of having a spouse; those who are married are 23 percent less likely to participate in the FSP than those who have never married. This provides some initial evidence on the importance of need in the take-up decision. The importance of need is also apparent in the number of children; those with more than one child are more likely to use food stamp benefits than are those with just one or no children. Whites are less likely to participate than their African American or Hispanic counterparts. Current resources, in the form of reported household UI wages in the quarter of the interview, also affect participation in the hypothesized way, where more household income reduces participation. Take-up rates are higher among recent TANF leavers and those who left TANF more than 18 months ago. Beyond individual demographic and economic characteristics, we also examine how mental health status, program knowledge, and perceptions and attitudes toward the welfare system affect the take-up decision. Those reporting mild or no depression are more likely to use food stamps than their more severely depressed counterparts (Table 4). This may reflect their better ability to navigate the bureaucratic system. We find that those who know they can maintain their food stamp benefits while working are almost 10 percent more likely to take up benefits than those who are unaware of continued eligibility. By contrast, those who believe it is important to limit welfare or who believe it is right to require work for welfare receipt differ little from their counterparts who do not. Finally, those who believe that people have a right to welfare are slightly more likely to participate in the FSP.

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[9] We developed an analysis weight to adjust for the nonproportional nature of the sample and the differences in nonresponse rates across various known demographic characteristics of the population. The descriptive statistics and logistic regression are weighted using this analysis weight.

Table 4: Food Stamp Program Take-Up Rates Among Food Eligible Illinois Family Study Survey Respondents

Variables	Percent of Eligible	% Take-Up
Total	100	60.79
Demographics		
Age of Respondent		
20-24	17.01	61.27
25-34	40.66	57.66
35 and over	42.03	63.91
Race/Ethnicity		
African American	76.45	63.98
White/Non-Hispanic	13.51	49.49
Hispanic	8.27	62.30
Other race	1.78*	3.30*
Marital Status		
Married	12.12	32.49
Divorced, Separated, Widowed	25.55	63.99
Never Married	62.33	65.39
Education		
With High School Diploma or GED	72.04	59.66
Number of Children under 19		
0-1	24.87	52.71
2	32.52	64.99
3	19.51	61.34
4 or more	23.1	63.10
Residential Mobility		
More than one residence in 12 months	24.14	59.04
Current Economic Resources		
Household UI wage		
$0	43.94	69.77
$1 to $1,999	21.34	55.75
$2,000 to $3,999	21.29	57.53
$4,000 or more	13.43	44.56
Employment and Welfare History		
Ever worked for pay	95.48	60.63
Number of months since left TANF		
0 to 6 months	33.13	63.02
7 to 12 months	14.27	54.42
13 to 18 months	14.54	55.32
19 to 24 months	13.83	68.89
25 or more months	24.33	60.13
Emotional Status		
CES-D Depression Scale		
No depression symptoms	80.52	61.29
Mild depression	7.23	74.62
Moderate depression	5.15	41.96
Severe depression	7.11	54.70
Knowledge of and Attitudes Toward Welfare		
Can keep food stamps if work	48.12	69.98
Good to limit welfare time	76.45	62.15
Good to require work	92.15	60.45
People have a right to welfare	57.79	64.38
Future Expectation		
Expect to work in year	93.78	61.20

Source: Illinois Family Study.

a. This analysis includes Wave 2 IFS respondents who in the quarter of the interview had left TANF but continued to be eligible for food stamps.

b. Total number of estimated food stamp-eligible IFS respondents is 696; the percentages are weighted using IFS wave 2 weight, developed to adjust for the nonproportional nature of the sample, and the differences in nonresponse rates across various known demographic characteristics of the population.

* 'Other Race' accounts for only 10 respondents.

A final individual-level characteristic of interest is the distance a person must travel from home to the office that administers the food stamp program. Our prediction is that greater distances will result in lower take-up rates. We note however that the distance measure may be picking up the fact that those in rural areas may simply be different from those in urban areas, and that it may be these differences rather than the difficulties faced by those living farther from local offices that affect take-up rates. In Figure 1, we examine whether the distance the person must travel affects the participation decision. We note that there is no consistent relationship between distance traveled and take-up rates.

Figure 1: Percent Take-Up by Distance from Respondent's Home to District Office among IFS Food Stamp Eligible Respondents
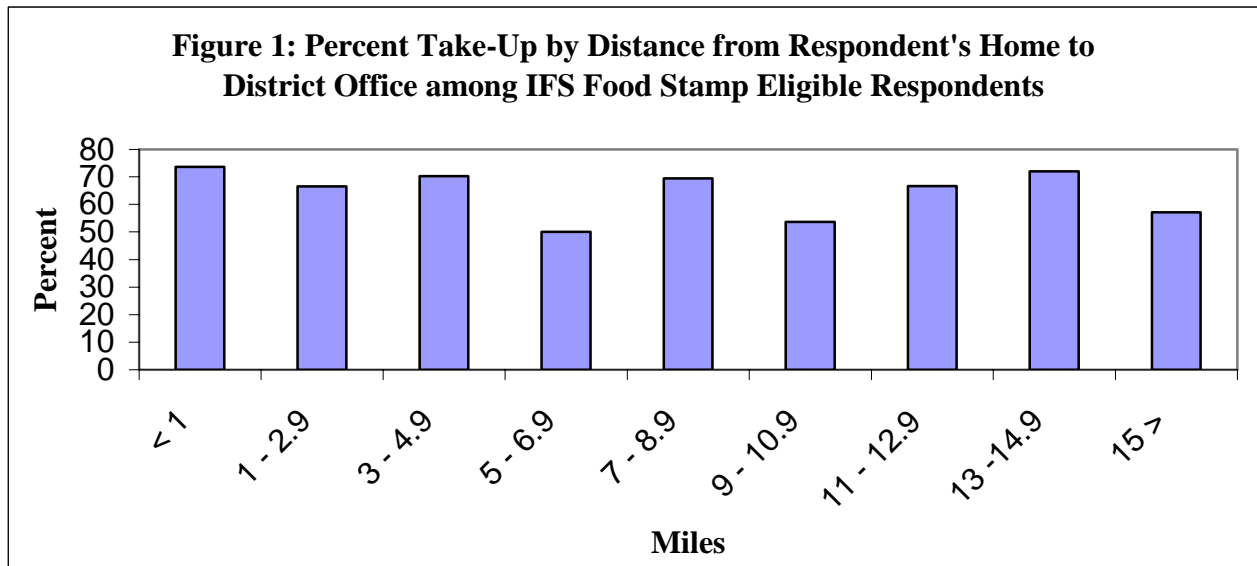
It is, of course, impossible to draw firm conclusions from analyzing descriptive statistics because many factors are correlated with one another. Therefore, we perform logistic regression analyses, in which we estimate food stamp take-up among the eligible population using the controls outlined in the Table 4. We note again our concerns in interpreting our estimates, outlined above, due to potential classic and nonclassic measurement error resulting from our inability to accurately identify food stamp eligibility.[10]

The results, shown in Table 5, are mixed. On the one hand, higher wages reduce take-up rates, indicating the importance of need in the take-up decision, as hypothesized. Other typical measures of need are not as strong, however. Age, number of children and being

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[10] To recap: if our error in misclassifying eligibility is independent of our independent variables (education, work experience etc.) then we may understate the significance of our effects. If the sources of income that we have not been able to measure (assets) are correlated with our observed explanatory factors (income), we may misclassify ineligibility as nonparticipation.

Table 5: Logistic Regression Coefficients of Food Stamp Take-Up Among Eligible Illinois Family Study Survey Participants

Variable	Coeff.	S.E.	p value	Odds Ratio
Intercept	-0.471	0.888	0.596	
Demographics				
Age of respondent	0.018	0.012	0.133	1.018
Race/Ethnicity				
African American	0.375	0.353	0.288	1.455
Hispanic	0.107	0.416	0.796	1.113
Marital Status				
Married	-1.245	0.324	0.000	0.288
Education				
High school graduate or GED	-0.215	0.220	0.328	0.807
Number of children under 19	0.165	0.071	0.021	1.179
Residential Mobility				
Moved more than once in past 12 months	-0.287	0.224	0.201	0.751
Current Economic Resources				
Household UI wage	-0.416	0.088	<.0001	0.660
Employment and Welfare History				
Ever worked for pay	-0.138	0.555	0.804	0.871
Number of months since TANF receipt	0.001	0.007	0.902	1.001
Emotional Status				
CES-D Depression scale	-0.128	0.110	0.243	0.880
Knowledge of and Attitudes Toward Welfare				
Can keep food stamps if work	0.877	0.201	<.0001	2.404
Good to limit welfare time	0.213	0.247	0.389	1.237
Good to require work	0.224	0.415	0.589	1.251
People have a right to welfare	0.399	0.202	0.048	1.490
Future Expectations				
Expect to work in year	-0.288	0.487	0.554	0.750
Distance to DHS				
Distance to DHS district office	0.006	0.033	0.854	1.006

Source: Illinois Family Study.

a. The number of total respondents included in the Logistic Regression is 585 due to missing values on selected characteristics.

b. This analysis includes Wave 2 IFS respondents who in the quarter of interviews had left TANF but continued to be eligible for food stamps.

African-American increase the probability of take-up. On the other hand, program knowledge plays a significant role in take-up. Those who know that food stamps can be maintained while working are significantly more likely to participate in the program when eligible than those who do not. This offers some apparent evidence of the importance of networks and/or local offices in informing respondents of their opportunities. Furthermore, the belief that individuals have a right to receive welfare without working helps to predict take-up, suggesting that attitudes toward welfare matter. Finally, we note that distance to the office has little effect on the participation decision.

We believe that a primary reason for the failure of many of the individual-level variables to follow our hypotheses is that our sample size is small, making it difficult to tease out the independent effects of these (often) highly correlated variables. It is for this reason that we turn to administrative data.

<u>Understanding Individual, Family, and Community-Level Factors in the Food Stamp Program Participation Decision Using Administrative Data</u>

Linked administrative data give us a much larger sample size than the IFS. To recap from above, our base sample is all TANF grantees in Illinois in Fall 1998 who had left TANF and, based on UI household income, were eligible for food stamps in the second quarter of 2001. Our sample size of estimated eligible food stamp participants is 74,208. Mirroring the IFS analysis above, we analyze their food stamp take-up decision.

To begin, in Table 6 we provide some descriptive statistics on the importance of individual- and community-level characteristics in the take-up decision. First, note that the average take-up rate of 46.2 percent is lower than that found in the IFS analysis. However, the effects of need on take-up operate in the hypothesized way. Take-up rates generally decline with rising income and with months off TANF. Take-up rates increase with number of children, and are higher for those who have never married or who lack a high school diploma or GED. We also observe how community level characteristics relate to take-up. To facilitate interpretation, we compare communities that rank above the median on a particular characteristic with those that lie below. Table 6 suggests that needier communities—those with more single parents, fewer high school graduates, more poverty, and more TANF recipients—have higher food stamp take-up rates. Communities with higher rates of mobility and fewer noncitizens also have higher participation rates.

**Table 6: Food Stamp Program Take-Up Rate Among Food Stamp Eligible TANF Leavers**

Variables	Percentage	% Take-Up
Total	100	46.18
Individual Characteristics		
Age of Respondent		
Under 20	14.18	45.70
20-24	20.23	44.85
25-34	21.36	46.12
35 and over	44.22	46.70
Race/Ethnicity		
African-American	66.05	48.49
White	23.70	43.11
Hispanic	9.07	38.02
Other race	1.13	39.90
Marital Status		
Married	14.04	44.37
Divorced, separated, or widowed	15.85	42.24
Never married	70.01	47.43
Education		
High School Graduate or GED	36.20	42.09
Number of Children		
0-1	41.95	44.99
2	30.06	45.49
3	16.92	47.54
4 or more	11.06	50.48
Household UI wage (Quarter 2, 2001)		
$0	53.24	45.29
$1 to $1,999	18.21	54.08
$2,000 to $3,999	18.89	46.71
$4,000 or more	9.66	35.18
Work History		
Ever worked for pay	91.50	45.78
Number of months since left TANF		
0 to 6 months	13.85	46.61
7 to 12 months	16.21	52.55
13 to 18 months	16.29	50.86
19 to 24 months	21.88	45.63
25 or more months	31.76	40.72

Community Characteristics	Median (%)	% Take-Up Below Median	Above Median
Proportion of Single Parent Households	50.85	44.38	48.06
Proportion of High School Graduates	69.80	47.39	44.90
Proportion of People in Poverty	22.01	43.97	48.52
Proportion of Households Moved 1995-2000	41.82	45.25	47.17
Proportion of Non-Citizens	1.13	48.22	44.02
Proportion of TANF recipients	5.54	45.91	46.47

Source: Administrative data records from the Illinois Integrated Database.

a. The total number of households is 74,208.

b. This analysis includes all TANF grantees in the fall of 1998 who by the second quarter of 2001 had left TANF but continued to be eligible for food stamps.

The relationship of distance between home and food stamp office and take-up is similar to that found in the IFS analysis; take-up rates decline as distance increases up to 7 miles, but beyond 7 miles there is no obvious relation between distance and take-up (see Figure 2).

Figure 2: Percent Take-Up by Distance from Respondent's Home to DHS Office: Admin. Data
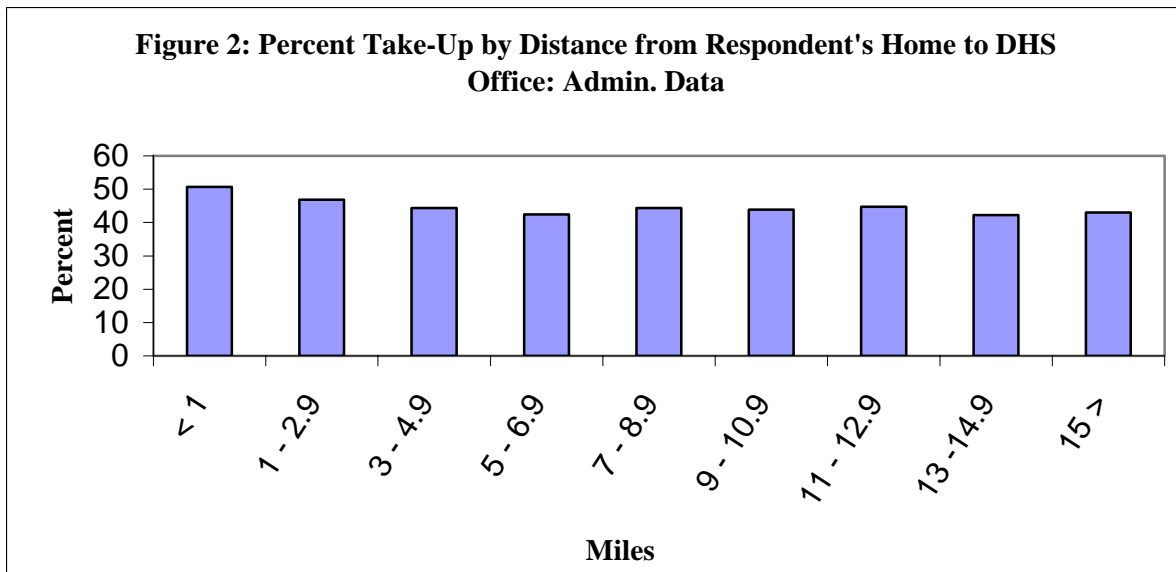
Finally, we argue that the practices of district offices may affect take-up. Cancian et al. (2001) found similar county-level variation in take-up rates, also suggesting the effect of local administrative practice on take-up. Although we do not have information on the precise practice characteristics of the district offices, the fact that take-up varies widely across offices hints at the importance of office practices. The mean take-up rate across all district offices is 50 percent, ranging from a mean of 38 percent in the one-fifth of offices with the lowest take-up rates, to 63 percent with the highest take-up.

The statistical technique that we use to estimate food stamp participation rates is hierarchical linear modeling (HLM). HLM is an extension of regression models to situations in which individual outcomes may depend not just on individual-level variables, but also on social context or group membership. HLM extends standard regression techniques by positing that there are influences, observed and unobserved, that are common to a set of individuals. In our context, local area macroeconomic and demographic factors, such as level of neighborhood poverty or percentage of single parents in a community, may influence the participation decision beyond individual characteristics. Similarly, take-up rates may also be dependent on the district office used by individuals. Practices and efficiencies, including outreach and communication about the FSP, can differ across offices, and because of this, the district office itself may affect individual participation rates. HLM allows for such common influences at different levels.

Our HLM analysis has three "levels." Level 1 includes individual characteristics. Information on all the characteristics of interest is available for 70,575 respondents. At level 2, we group eligible individuals into the census tracts in which they live ($N = 2,385$). At level 3, we group census tracts into a set of Illinois DHS district offices that serve sets of communities ($N = 120$). HLM allows us to consider groupings at each level. We group respondents in census tracts and district offices to determine whether, in addition to the effects that respondent characteristics may have on food stamp take-up, characteristics of the communities and the DHS office may affect take-up. Although we had no characteristics of the districts to include in the HLM model, we can use fixed effects to pick up their aggregate effect on FSP.

25

Within the HLM, each of the levels in the data structure is formally represented by its own submodel, and each submodel represents the structural relations occurring at that level and the residual variability at that level (Raudenbush et al., 2001). In our data structure, individuals are nested in communities (census tracts) based on their residential address. Communities then are nested in district offices, given that DHS districts cover specific geographic areas. A DHS district corresponds to county boundaries except in Cook, Kane, St. Clair, and Madison counties. If everyone chose the closest DHS district office to their residential addresses, and each office covered specific communities or census tracts without overlap, our data would be perfectly nested in a higher level. Unfortunately, this is not the case. Although individuals are nested in communities, communities are not perfectly nested in districts. When we match individuals' residential address and district offices, we find that individuals within a community do not necessarily use the same DHS office. In other words, a community can belong to more than one district office, and this causes a problem when using HLM. To solve this, we select one district office per community by choosing the office that the majority of the individuals within a community use; we thus create a DHS district office-level data set that can nest communities. We also create a dichotomous variable indicating whether an individual uses the office visited by the majority or another DHS office. In this way, we can use HLM with a nested data set of individuals, communities, and DHS districts.

To summarize, we assess the effects of respondents' individual characteristics (i.e., race, marital status, etc.) on food stamp take-up at level 1 (the within-group effects). At level 2, we assess variance in food stamp take-up across census tracts to determine whether, after adjusting for individual characteristics, census tract/community characteristics have an additional effect on food stamp take-up. At level 3, we assess variance in food stamp take-up across district offices to determine whether, after adjusting for individual characteristics and the communities in which respondents live, district offices had an additional effect on their food stamp take-up.

An important caveat must be addressed before describing our regression results. When comparing the results of the analyses from survey and administrative data, undue importance should not be placed on the significance of variables based on the administrative data; with more than 70,000 observations, significance is not difficult to obtain. Instead, it is important to compare the sign and the magnitude of these effects with those of our IFS analysis.

We begin by providing HLM results for the entire state in Table 7. First, note the significance and sign of the individual-level characteristics. All variables accord with the hypothesis that greater need results in higher food stamp participation and with previous research. Those who have never married, those with more children, lower wages, and less time since leaving TANF, are all more likely to participate. This provides some support for the view that the lack of statistical significance of the IFS variables was caused by small sample size. African Americans and those with less education are much more likely to take up food stamps when eligible than their white/Non-Hispanic counterparts and those with a high school diploma or GED. Likewise, those living in Chicago are nearly 30 percent less likely (odds ratio=.724) to participate in the program than those living in other parts of the state. Note also the importance of distance to the DHS office. As hypothesized, the farther people live from the district office, the less likely they are to participate in the FSP.

26

Table 7: Three-Level HLM Estimation for Food Stamp Program Take-Up: State of Illinois Administrative Data Records

Fixed Effect	Coeff.	SE	p value	Odds Ratio
Level 3: DHS district office (n=120)				
Intercept	0.039	0.061	0.528	1.039
Level 2: Census tract (n=2,385)				
Proportion of single-mother households	0.049	0.071	0.490	1.050
Proportion of high school graduates	-0.205	0.139	0.141	0.815
Proportion of people in poverty	0.314	0.134	0.019	1.369
Proportion of residents who are noncitizens	-0.316	0.178	0.075	0.729
Proportion of households that have moved residence between 1995-2000	0.068	0.095	0.474	1.070
Proportion of residents participating in TANF	0.016	0.090	0.855	1.017
Level 1: Individual (n=70,575)				
Age	0.008	0.001	0.000	1.008
African American	0.358	0.029	0.000	1.430
Hispanic	-0.040	0.034	0.239	0.961
Never married	0.165	0.021	0.000	1.180
High school graduate	-0.213	0.022	0.000	0.808
Number of children	0.050	0.007	0.000	1.051
Household wages (in thousands)	-0.065	0.007	0.000	0.937
Number of months since TANF receipt	-0.011	0.002	0.000	0.989
Ever employed	-0.097	0.036	0.007	0.907
Distance to DHS office	-0.006	0.002	0.003	0.994
In Chicago	-0.322	0.119	0.007	0.724
Use of other DHS office	-0.063	0.039	0.104	0.939

Random Effect	Variance Component	Chi-Square (df)	p Value
Level 2	0.009	2,676.44 (2259)	0.000
Level 3	0.112	2,120.46 (119)	0.000

Source: Administrative data records from the Illinois Integrated Database.

a. All level-2 variables, knowledge, the number of children, household wages, number of months off TANF, and distance to DHS office variables are grand-mean centered; population average model with robust errors is reported.

b. This analysis includes all TANF grantees in the fall of 1998 who by the second quarter of 2001 had left TANF but continued to be eligible for food stamps.

c. The number of households included in this analysis is 70, 575 - lower than in Table 6, as we include only those with no missing data on characteristics.

Next, note the coefficients of the community and district office-level variables. We first examine whether the probability of take-up is similar across census tracts (level 2). To do so, we test the null hypothesis that the level 2 variation does not explain any significant variation in take-up. This hypothesis is of course highly implausible. As can be seen from the bottom panel of Table 7, the *p* value associated with level 2 is less than 0.001, which confirms this implausibility, indicating instead significant variation among census tracts in take-up. We see that higher levels of community/census tract poverty and citizenship increase take-up, although the effect of citizenship is not statistically significant.

Second, we examine whether the probability of take-up is similar across district offices. To do so, we test the null hypothesis that the district office will not explain any significant variation in the data. Again, the *p* value associated with level 3 of <0.001, indicating significant variation across district offices in take-up. As stated above, no characteristics of the district office were available in the administrative data to include in the model. We return to this issue, below, however, when we combine IFS data on program knowledge at the district office level with the administrative data.

Table 8: Three-Level HLM Estimation for Food Stamp Program Take-Up: City of Chicago Administrative Data Records

Fixed Effect	Coefficient	SE	p value	Odds Ratio
Level 3: DHS district office (n=23)				
Intercept	-0.598	0.076	0.000	0.550
Level 2: Census tract (n=797)				
Proportion of single-mother households	0.089	0.106	0.400	1.093
Proportion of high school graduates	-0.110	0.185	0.553	0.896
Proportion of people in poverty	0.270	0.164	0.100	1.310
Proportion of residents who are noncitizens	-0.061	0.205	0.767	0.941
Proportion of households that moved residence between 1995-2000	0.123	0.129	0.338	1.131
Proportion of residents participating in TANF	0.064	0.100	0.519	1.066
Level 1: Individual (n=40,327)				
Age	0.011	0.002	0.000	1.011
African American	0.424	0.047	0.000	1.528
Hispanic	-0.002	0.048	0.975	0.998
Never married	0.215	0.024	0.000	1.240
High school graduate	-0.249	0.033	0.000	0.780
Number of children	0.050	0.009	0.000	1.051
Household wages (in thousands)	-0.073	0.007	0.000	0.929
Number of months since TANF receipt	-0.007	0.003	0.026	0.993
Ever employed	-0.091	0.045	0.043	0.913
Distance to DHS office	-0.005	0.006	0.329	0.995
Use other DHS office	-0.052	0.055	0.340	0.949

Random Effect	Variance Component	Chi-Square(df)	p Value
Level 2	0.009	873.34 (768)	0.005
Level 3	0.042	359.34 (22)	0.000

Source: Administrative data records from the Illinois Integrated Database.

a. All level-2 variables, knowledge, the number of children, household wages, number of months off TANF, and distance to DHS office variables are grand-mean centered; population average model with robust errors is reported.

b. This analysis includes all TANF grantees in the fall of 1998 who by the second quarter of 2001 had left TANF but continued to be eligible for food stamps and live in the city of Chicago.

Because of the significance of place of residence at the state level, we estimate a similar model for Chicago, the results of which are found in Table 8. We find that the individual-level factors operate in a similar way to those at the state level; higher levels of socioeconomic deprivation increase take-up rates. The only exception is the distance variable, which is no longer significant in the take-up decision, suggesting that transportation, perhaps more readily available in the city, may be the relevant constraint rather than distance per se. As with the entire state, we see significant variation in take-up rates across census tracts and district offices (*p* values <0.001). We see, however, that the variables at the census-tract level are no longer statistically significant. Although the importance of noncitizenship disappears, the proportion in poverty is only statistically significant at the 10-percent level.

Both analyses suggest the importance of the district office, yet the analyses have been limited by the fact that the administrative data do not contain any information to characterize the

district office. One of our primary objectives is to integrate those characteristics that we believe operate at the district-office level and that were found to be important in the IFS analysis. A significant factor in the take-up decision found in the IFS analysis is whether people know they can continue to receive food stamps while they are working. We believe that this knowledge, at least in part, is imparted at the district office. As stated above, we believe that respondents are most likely to obtain information on the program rules through district offices, and because dissemination of eligibility information may be better at some offices than at others, the proportion of respondents who have accurate program knowledge will differ across offices.

Our primary interest is in adding a measure of program knowledge to this analysis. To do so, we use the IFS survey data to estimate average program knowledge in district office service areas. We thus calculate and build a measure of the proportion of IFS respondents in each district office who know they can keep food stamp benefits while working. Although we do not know the level of food stamp program knowledge from administrative data, we can use the IFS survey evidence to estimate average levels of knowledge in district offices. This measure is then incorporated as a characteristic of the district office in the administrative data model of take-up in the IFS counties, and is used to test the hypothesis that differences in program knowledge at the district office level will influence take-up. We note, of course, that these variables are imputed not from the entire relevant populations but from the restricted sample in the IFS, and so our exploration will be restricted to those district offices represented in the IFS sample. This limits our population size compared with those in the state- and city-level regressions in Tables 7 and 8.

We begin by showing that take-up rates at the district office level are correlated with the level of eligibility knowledge (Figure 3).[11] In district offices, where more than 75 percent of participants know about continued food stamp receipt, take-up rates are approximately 80 percent. By contrast, take-up rates are nearer to 60 percent in offices where 25 to 50 percent know of the policy.

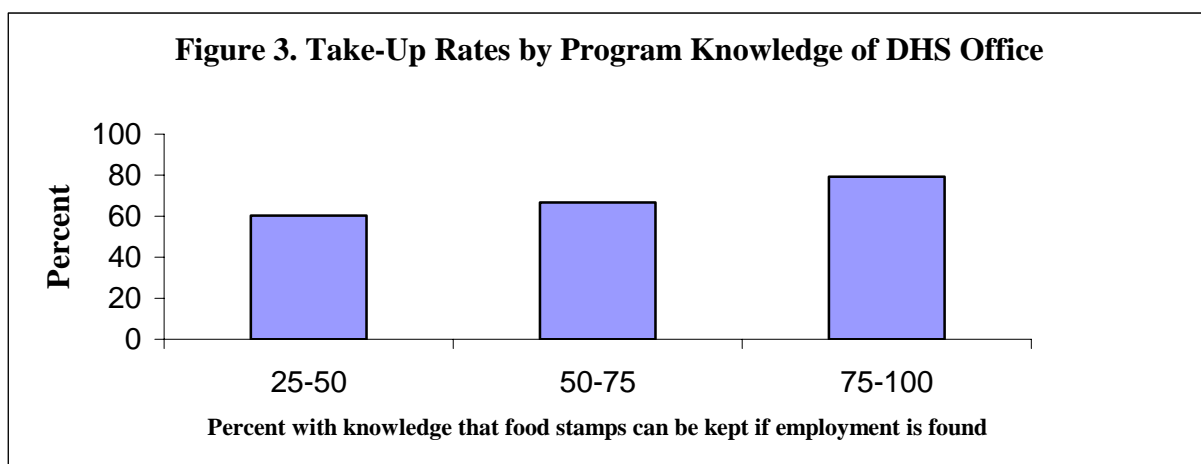Figure 3. Take-Up Rates by Program Knowledge of DHS Office

Table 9 provides HLM results for all counties included in the IFS survey. We find continued significance of many of the individual-level characteristics. The results again are similar to the analyses in the take-up decision described earlier; those households that are

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[11] District offices with fewer than eight respondents are excluded from Figure 3.

African American, headed by a single and less-educated individual, with lower wages, and who have recently left TANF are more likely to participate, as are those who are close to the district office. In general, we see no significant variation in take-up across census tracts. Although we find that the extent of poverty is marginally significant, we are unable to reject the null hypothesis of no level-2 variation at the census tract level.

Table 9 : Three-Level HLM Estimation for Food Stamps Program Take-Up: IFS Counties
(Administrative Data for IRS Counties Only)

Fixed Effect	Coefficient	SE	p value	Odds Ratio
Level 3: DHS district office (n=31)				
Intercept	-0.358	0.091	0.001	0.699
Knowledge on FSP eligibility rule	0.727	0.286	0.017	2.069
Level 2: Census tract (n=1341)				
Proportion of single-mother households	0.073	0.084	0.387	1.076
Proportion of high school graduates	-0.169	0.166	0.307	0.844
Proportion of people in poverty	0.285	0.149	0.056	1.330
Proportion of residents who are noncitizens	-0.180	0.203	0.376	0.835
Proportion of households that have moved residence between 1995-2000	0.148	0.102	0.145	1.160
Proportion of residents participating in TANF	0.088	0.083	0.288	1.092
Level 1: Individual (n=53,213)				
Age	0.011	0.001	0.000	1.011
African American	0.406	0.032	0.000	1.501
Hispanic	-0.013	0.037	0.717	0.987
Never married	0.187	0.022	0.000	1.206
High school graduate	-0.251	0.027	0.000	0.778
Number of children	0.043	0.008	0.000	1.044
Household wages (in thousands)	-0.067	0.008	0.000	0.935
Number of months since TANF receipt	-0.008	0.003	0.002	0.992
Ever employed	-0.099	0.039	0.011	0.906
Distance to DHS office	-0.006	0.002	0.011	0.994
In Chicago	-0.149	0.066	0.023	0.861
Use other DHS office	-0.058	0.042	0.169	0.943

Random Effect	Variance Component	Chi-Square (df)	p Value
Level 2	0.008	1,305.96 (1304)	0.480
Level 3	0.058	448.14 (29)	0.000

Source: Administrative data records from the Illinois Integrated Database and Illinois Family Study Survey.
a. All level-2 variables, knowledge, the number of children, household wages, number of months off TANF, and distance to DHS office variables are grand-mean centered; population average model with robust errors is reported.
b. This analysis includes TANF grantees in the fall of 1998 in IFS counties who by the second quarter of 2001 had left TANF but continued to be eligible for food stamps.

Our primary interest in this analysis, however, is understanding the importance of the district office variable that we have aggregated from the IFS data: the proportion of individuals in the district office with accurate program knowledge. This measure is incorporated as a characteristic of the district office and is used to test the hypothesis that difference in program knowledge at the district-office level influences take-up. We find that for all IFS counties, district offices where individuals know they can retain food stamps while working have higher

food stamp take-up rates. This provides support for the importance of the district office in disseminating information on the food stamp program.

We acknowledge, however, that the networks that generate this knowledge may be denser in urban areas than rural ones. As a result, we run similar regressions but distinguish between Chicago and the other IFS counties (Tables 10 and 11). Level 1 and 2 Chicago results in Table 10 look very similar to those in Table 8, where we excluded the knowledge variable. The notable difference is the importance of district-level knowledge of food stamp eligibility. As in the results of all IFS counties, this knowledge leads to higher take-up rates.

Table 10: Three-Level HLM Estimation for Food Stamps Program Take-Up
(Administrative Data for IFS offices in Chicago only)

Fixed Effect	Coefficient	SE	p value	Odds Ratio
Level 3: DHS district office (n=21)				
Intercept	-0.600	0.066	0.000	0.549
Knowledge on FSP eligibility rule	0.514	0.232	0.039	1.672
Level 2: Census tract (n=794)				
Proportion of single-mother households	0.092	0.108	0.391	1.097
Proportion of high school graduates	-0.106	0.153	0.487	0.900
Proportion of people in poverty	0.280	0.145	0.054	1.323
Proportion of residents who are noncitizens	-0.058	0.219	0.793	0.944
Proportion of households that have moved residence between 1995-2000	0.133	0.128	0.298	1.142
Proportion of residents participating in TANF	0.054	0.138	0.694	1.056
Level 1: Individual (n=40,327)				
Age	0.011	0.001	0.000	1.011
African American	0.426	0.047	0.000	1.531
Hispanic	-0.003	0.049	0.945	0.997
Never married	0.216	0.027	0.000	1.241
High school graduate	-0.250	0.022	0.000	0.779
Number of children	0.050	0.008	0.000	1.051
Household wages (in thousands)	-0.074	0.006	0.000	0.929
Number of months since TANF receipt	-0.007	0.001	0.000	0.993
Ever employed	-0.092	0.033	0.006	0.913
Distance to DHS office	-0.005	0.005	0.294	0.995
Use other DHS office	-0.052	0.035	0.138	0.949

Random Effect	Variance Component	Chi-Square (df)	p Value
Level 2	0.009	856.95 (767)	0.013
Level 3	0.033	260.49 (19)	0.000

Source: Administrative data records from the Illinois Integrated Database and Illinois Family Study Survey.
a. All level-2 variables, knowledge, the number of children, household wages, number of months off TANF, and distance to DHS office variables are grand-mean centered; population average model is reported.
b. This analysis includes TANF grantees in the fall of 1998 in Chicago IFS district offices who by the second quarter of 2001 had left TANF but continued to be eligible for food stamps.

Table 11 provides regression results for the IFS counties, excluding Chicago. Three findings are worth noting. First, although many of the individual-level variables remain significant and in the hypothesized direction, some do not. For example, the effects of being single and the number of children no longer are important influences on take-up. Second, the community-level factors are no longer significant. The *p* value suggests, as in Table 8, that we can reject the null hypotheses that there is no variation at the census tract level. Finally, and most interesting from our perspective, eligibility knowledge at the district office level no longer influences food stamp take-up. This lends support for our theory that the density of the social

networks in DHS office areas, which we assume to be greater in Chicago than in the remainder of the state, may mediate the effects of DHS office outreach and communication strategies.

Table 11: Three-Level HLM Estimation for Food Stamps Program Take-Up: Administrative Data for non-Chicago (IFS Counties only)

Fixed Effect	Coefficient	SE	p value	Odds Ratio
Level 3: DHS district office (n=8)				
Intercept	0.041	0.157	0.803	1.042
Knowledge on FSP eligibility rule	-0.251	0.663	0.717	0.778
Level 2: Census tract (n=152)				
Proportion of single-mother households	0.225	0.362	0.535	1.252
Proportion of high school graduates	-0.247	0.552	0.655	0.781
Proportion of people in poverty	-0.115	0.534	0.830	0.892
Proportion of residents who are noncitizens	-2.788	2.112	0.187	0.062
Proportion of households that have moved residence between 1995-2000	0.536	0.416	0.197	1.710
Proportion of residents participating in TANF	0.305	0.298	0.307	1.356
Level 1: Individual (n=5114)				
Age	0.001	0.004	0.869	1.001
African American	0.392	0.078	0.000	1.481
Hispanic	-0.037	0.326	0.909	0.963
Never married	0.020	0.068	0.774	1.020
High school graduate	-0.258	0.060	0.000	0.772
Number of children	0.017	0.026	0.507	1.017
Household wages (in thousands)	-0.073	0.019	0.000	0.930
Number of months since TANF receipt	-0.020	0.003	0.000	0.980
Ever employed	-0.057	0.116	0.626	0.945
Distance to DHS office	-0.008	0.006	0.168	0.992
Use other DHS office	-0.074	0.120	0.541	0.929

Random Effect	Variance Component	Chi-Square (df)	p Value
Level 2	0.0003	154.69 (138)	0.157
Level 3	0.051	67.63 (6)	0.000

Source: Administrative data records from the Illinois Integrated Database and Illinois Family Study Survey.

a. All level-2 variables, knowledge, the number of children, household wages, number of months off TANF, and distance to DHS office variables are grand-mean centered; population average model is reported. This model uses the nested portion of the sample (non-Chicago residents among IFS county residents, n=12,886). The rest of sample use DHS offices in Chicago even though they do not live in Chicago; the results of this model, therefore, are only suggestive.

b. This analysis includes TANF grantees in the fall of 1998 in non-Chicago IFS counties who by the second quarter of 2001 had left TANF but continued to be eligible for food stamps.

Conclusion

This report has examined the relationship between eligibility and the take-up decision in Illinois among an important component of the working poor—those families that leave cash assistance. This is a group for whom the FSP is believed to play an important role in facilitating the transition from welfare to independence. Our basic research question has been to ask who among TANF leavers does not participate in the FSP when eligible to do so. First, mirroring much of the current literature, we have analyzed how individual- and family-level socioeconomic and demographic characteristics affect the participation decision. Second, and a primary contribution of this work, we addressed how neighborhood characteristics and the local district office responsible for administering the FSP affect whether an eligible family will take up benefits. Finally, we extend existing research by considering how knowledge of food stamp eligibility while employed and attitudes toward the welfare system affect the take-up decision. To gain a more holistic view of the determinants of FSP take-up among TANF leavers, we have combined administrative data with survey evidence.

We offer three broad conclusions. The first is that the primary predictors in whether eligible people will use food stamps are those related to poverty and its link to higher rates of participation. Specifically, the unmarried, those with long histories of TANF receipt, and those with poor work histories, and being African American lead to greater take-up. These results mirror those in the literature, and offer considerable support for the simple model that individuals compare their needs with the costs of applying and of receipt, and those who stand to benefit the most choose to participate. These results probably constitute a relatively optimistic view of the FSP, in that although not all those eligible are signed up, it is disproportionately those who are better off who choose not to participate.

Our second finding is that there is some evidence that community-level variables play a role in predicting take-up, even after individual controls are included. One might expect, once individual-level characteristics are controlled for, that community level effects will lose their significance. This does not happen in the city, where we assume there is active social interaction between people on a daily basis. We find that the proportion of people in poverty in a census tract is an important influence on food stamp take-up in Chicago. In counties outside Chicago, community-level factors did not exert a consistent independent effect.

Third, in all models, we find significant variation in food stamp take-up at the district office, suggesting considerable variation in the efficacy of implementing program objectives. This points to the importance of the district office in facilitating take-up and disseminating information on the program. We further find that, at the district office level, knowledge of eligibility rules is an important influence on participation, although only in Chicago. This lends support to our theory that the density of social networks among the food stamp-eligible population in DHS office areas, which we assume to be greater in Chicago than in the remainder of the state, may mediate the effects of DHS office outreach and communication strategies.

Finally, our use of UI wage records to estimate food stamp eligibility allows us to more effectively use administrative data to monitor nonparticipation. Administrative data records on program receipt have traditionally been limited in monitoring nonparticipation, given that they only contain information on eligible participants. By using UI wage records on all household members to estimate eligibility, and by linking those wage records to program participation

records, we can more successfully use administrative data to shed light on the participation decision. This has important implications for future research. A reliance on point-in-time survey data severely limits the ability of government agencies to monitor participation on a regular basis and at the local level. Administrative data records can be used to monitor nonparticipation at the local level on a "real-time" basis, enabling state and local administrators to ensure that those who need it use the FSP.

References

Arizona Department of Economic Security. (2001). *Cash Assistance Exit Study, 2nd Year: Final Report*. Division of Policy and Program Development, Best Practices Unit. Phoenix, Arizona.

Bartlett, S., & Burstein, N. (2004). *Food Stamp Program Access Study: Eligible Nonparticipants*. Report prepared for the U.S. Department of Agriculture, Economic Research Service.

Bendrick, M. (1980). Failure to enroll in public assistance programs. *Social Work* 25(4), 268-274.

Blank, R., & Ruggles, P. (1996). When do women use Aid to Families with Dependent Children and food stamps? The dynamics of eligibility versus participation. *Journal of Human Resources* 31(1), 57-89.

Brauner, S., & Loprest, P. (1999). *Where Are They Now? What States' Studies of People Who Left Welfare Tell Us*. Assessing the New Federalism. The Urban Institute, Series A, No. A-32.

Cancian, M., Haveman, R., Kaplan, T., Meyer, D. Rothe, I., Wolfe, B. & Barone, S. (2001). *The take-up of Medicaid and food stamps by welfare leavers: The case of Wisconsin*. Madison: Institute for Research on Poverty, University of Wisconsin.

Castner, L. (2000). *Trends in food stamp participation rates: Focus on 1994 to 1998*. (MPR reference no. 8659-012). Washington, DC: Food and Nutrition Service, U.S. Department of Agriculture.

Coe, R. D. (1983). Participation in the Food Stamp Program, 1979. In G. J. Duncan and J. N. Morgan (Eds.), *Five Thousand American Families—Patterns of Economic Progress*, Vol. 10. Ann Arbor, MI: University of Michigan, Institute for Social Research.

Cunnyngham, K. (2002). *Trends in Food Stamp Program Participation Rates: 1994 to 2000*. Final Report. Washington, D.C.: Office of Analysis, Nutrition, and Evaluation, Food and Nutrition Service, U.S. Department of Agriculture.

Currie, J., & Grogger J. (2001). *Explaining Recent Declines in Food Stamp Program Participation.* Brookings-Wharton Papers on Urban Affairs. Washington D.C: the Brookings Press, pp. 203-229.

Daponte, B.O., Sanders, S.L., & Taylor, L. (1999). Why do low-income households not use food stamps? Evidence from an experiment. *Journal of Human Resources* 34, 612– 628.

Dion, M., & Pavetti, L. (2000). *Access to and participation in Medicaid and the Food Stamp Program: A review of the recent literature*. Report Submitted to the U.S. Department of Health and Human Services, Administration for Children and Families, Office of Planning, Research and Evaluation. Washington, DC: Mathematica Policy Research, Inc.

Goerge, R., Van Voorhis, J., & Lee, B.J. (1994). Illinois longitudinal and relational child and family research database. *Social Science Computer Review* 12(3), 351-365.

Hollenbeck, D., & Ohls, J.C. (1984). Participation among the elderly in the food stamp program. *The Gerontologis* 24, 616-621.

Hotz, V. J., & Scholz, J.K. (2002). Measuring employment and income for low-income populations with administrative and survey data. In M. Ver Ploeg, R. A. Moffit, & C. F. Citro (Eds.), *Studies of Welfare Populations: Data Collections and Research Issues* (pp. 275-315). Washington, DC: National Academy Press.

Illinois Families Study. (2001). *The importance of transitional benefits: Who loses Medicaid and Food Stamps, and what does it mean for staying off welfare?* (Policy Brief No. 1). Evanston, IL: Institute for Policy Research, Northwestern University.

Institute for Public Affairs. (2000). *The Illinois Study of Former TANF Clients*. Final Report to the Illinois Department of Human Services prepared by the in collaboration with the School of Social Work, University of Illinois at Urbana-Champaign. [online]. Available:http://aspe.hhs.gov/hsp/leavers99/state-rpts/il/tanf_finalrpt.pdf

Isaacs, J., & Lyon, M. (2000). *A cross-state examination of families leaving welfare: Findings from the ASPE-funded leavers studies*. Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services.

Jaro, M. A. (1985). Current record linkage research. *Proceedings of the Statistical Computing*. Washington, DC: American Statistical Association.

Jaro, M. A. (1989). Advances in record-linkage methodology as applied to matching the 1985 census of Tampa, Florida. *Journal of the American Statistical Association* 84(406), 414-420.

Jensen, H., Garasky, S., Wessman, C., & Nusser, M. (2002). *Iowa food stamp leavers survey: final report*. [online]. Available: http://www.ers.usda.gov/publications/efan02014-1/efan02014-1.pdf.

Julnes, G., Halter, A., Anderson, S., Frost-Kumpf, L., Schuldt, R., Staskon, F., & Ferrara, B. (2000). *Illinois Study of Former TANF Clients, Final Report*. Institute for Public Affairs, University of Illinois at Springfield and School of Social Work, University of Illinois at Urbana-Champaign.

Kabbani, N.S., & Wilde, P.E. (2003). *Short recertification periods in the U.S. Food Stamp Program: Causes and Consequences.* Washington, DC: US Department of Agriculture, Economic Research Service.

Kornfeld, R. (2002). *Explaining Recent Trends in Food Stamp Program Caseloads, Final Report*. Abt Associates, Inc: March.

Kornfeld, R., & Bloom, H.S. (1999). Measuring program impacts on earnings and employment: Do unemployment insurance wage reports from employers agree with surveys of individuals? *Journal of Labor Economics* 17(January), 168-197.

Loprest, P. (1999). *Families who left welfare: Who are they and how are they doing?* (Discussion paper DP 99-02). Washington DC: The Urban Institute.

Massachusetts Department of Transitional Assistance. (2000). After Time Limits: A Study of Households Leaving Welfare Between December 1998 and April 1999. [online]. Available: http://aspe.hhs.gov/hsp/leavers99/state-rpts/ma/ATL-CSR00.pdf

McConnell, S., & Ponza, M. (1999). *Reaching the working poor and poor elderly study: What we learned and recommendations for future research*. Alexandria, VA: Mathematics Policy Research, Inc.

Midwest Research Institute. (2000). *The Continuing Use of Assistance by Former Missouri AFDC Recipients.* Interim Reports for the Missouri Department of Social Services; June.

Miller, C., Redcross, C., & Henrichson, C. (2002). *Food Stamp Use Among Former Welfare Recipients*. New York: Manpower Demonstration Research Corporation.

Mills, G., & Kornfeld, R. (2000). *Study of Arizona adults leaving the food stamp program: final report.* [online]. Available: http://www.ers.usda.gov/publications/efan01001/efan-01-001.pdf

Newcombe, H.B. (1988). *Handbook of Record Linkage: Methods for Health and Statistical Studies, Administration, and Business*. Oxford: Oxford University Press

Ponza, M., Ohls, J., Moreno, L., Zambrowski, A., & Cohen, R. (1999). *Customer service in the Food Stamp Program*. Princeton, NJ: Mathematica Policy Research, Inc.

Quint, J., & Widom, R. (2001). *Post-TANF Food Stamp and Medicaid benefits: Factors that aid or impede their receipt*. New York: Manpower Demonstration Research Corporation.

Rangarajan, A., & Gleason, P. (2001). *Food stamp leavers in Illinois – How are they doing two years later?* Final Report. [online]. Available: http://www.ers.usda.gov/publications/efan01002/efan01002.pdf

Raudenbush, S.W., Bryk, A.S., Cheong, Yuk Fai, & Congdon, R. (2001). *HLM 5: Hierarchical Linear and Nonlinear Modeling* (2nd Edition). Newbury Park, CA: Sage.

Rank, M. R., & Hirschl, T. A. (1993). The Link Between Population Density and Welfare Populations. *Demography* 30(4):607-623.

Richardson, P., Schoenfeld, G., LaFever, S., Jackson, F., & Tecco, M. (2003*). Food stamp leavers research study-Study of nonwelfare families leaving the food stamp program in South Carolina: final report.* [online]. Available: http://www.ers.usda.gov/publications/efan03003/efan03003.pdf

Stavrianos, M. (1997). Food Stamp Program participation rates, January 1994. In *Current Perspectives on Food Stamp Program Participation*. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service.

U.S. Department of Agriculture, Food and Nutrition Service. (2003). *Food stamp participation rates and benefits: An analysis of variation within demographic groups*. Washington: USDA.

U.S. General Accounting Office. (1999). *Welfare Reform: Information on Former Recipient's Status.* Washington D.C.: U.S. General Accounting Office.

U.S. General Accounting Office. (1988). *Food Stamps: Reasons for Nonparticipation.* Washington D.C.: U.S. General Accounting Office 1988.

Van Oorschot, W. (1995). *Realizing rights: A multi-level approach to non-take-up of means-tested benefits*. New York, NY: Aldershot, Avebury.

Wiseman, M. (2002). *Food Stamps and Welfare Reform.* (Policy Brief No. 19). Washington D.C.: The Brookings Institution.

Wittenburg, D., & Anderson, D. (2002). *Developing a Link Between the Current Population Survey (CPS) and State Food Stamp Program (FSP) Administrative Data.* Final Report. Washington, D.C.: Urban Institute.

Zedlewski, S., & Gruber, A. (2001). *Former welfare families continue to leave the Food Stamp Program* (ANF Discussion Paper 01-05). Washington, DC: The Urban Institute.

Zedlewski, S., & Brauner, S. (1999). *Are the steep declines in food stamp participation linked to falling welfare caseloads?* (Series B, No. B-3). Washington, DC: The Urban Institute.