

Methodology

Study Population and Design

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.

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.

Data Sources

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

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 <i>Strongly agree or somewhat agree with the following:</i> “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 <i>Strongly disagree or somewhat disagree with the following:</i> “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

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.