

## **Food Stamp Use among Food Pantry Clients in the United States**

Patricia A. Duffy, Alumni Professor, Department of Agricultural Economics and Rural Sociology, Auburn University

### **Abstract**

Although the United States government provides an array of food assistance programs for low-income individuals and families, private emergency food assistance has emerged in the last several decades as an increasingly important resource for meeting food needs among impoverished households. Although emergency food assistance clients generally have very low incomes and have a clear need for additional food, only about one-third of clients surveyed at food pantries indicate that they receive food stamps. This paper examines how food security status is related to participation in the Food Stamp Program for a national sample of food pantry clients. Results indicate that food pantry clients who receive food stamps have a higher probability of being food secure than those who apply for food stamps but do not receive them, but a lower probability of food security than those who have not applied. Increased household income yields a smaller increase in the probability of being food secure in households receiving food stamps than in those not receiving food stamps.

### **Introduction**

For impoverished families in the United States, the social safety net consists largely of "in-kind" assistance, such as food stamps or housing vouchers, with more limited availability of cash welfare. Of all anti-poverty programs in the United States, the Food Stamp Program is the most commonly used, reaching about five times as many households as Temporary Assistance to Needy Families (TANF), the nation's most widely available cash welfare program. Approximately five and a half million people in the United States received TANF in fiscal 2005, compared to nearly twenty-six million people receiving food stamps.

The Food Stamp Program is available nationwide, with eligibility rules and benefit levels largely set by the federal government. Participation rates among those eligible for food stamps have never been close to 100 percent, however, and paradoxically, levels of self-reported "food security," defined as having access to enough food at all times to lead an active, healthy life (Nord, Andrews, and Carlson 2006), are often lower among families receiving food stamps than among low-income families who do not participate in the program (see for example Wilde and Nord 2005). Various theoretical and statistical models have been used to explain or control for this outcome; however, it remains clear that the Food Stamp Program has not eliminated food insecurity in the United States, even among participants.

Helping to fill the food security gap in the United States is an extensive network of private emergency food assistance programs. Emergency aid generally comes in the form of either prepared meals at a shelter or a kitchen program, or in the form of groceries to take away and prepare at home that clients pick up at a food pantry. Food pantries are by far the most



widely used form of private emergency food assistance. America's Second Harvest (A2H), the nation's largest network of private food assistance agencies, estimated that approximately twenty-two to twenty-five million people used their affiliated food pantries during 2005 (A2H 2006, 1). Because some food pantries exist outside the A2H network, these figures likely represent a slight undercount of all U.S. residents using food pantries.

Only 36 percent of America's Second Harvest food pantry clients report receiving food stamps, although the study authors deem it probable that many of those not receiving food stamps are eligible (A2H 2006, 3). The objective of this paper is to assess how food stamp benefits affect the food security status of pantry clients. The analysis will use an extensive national sample of food pantry clients from data supplied by America's Second Harvest.

## **Background**

### ***Food Security: What It Means, How It's Measured***

A food secure household is one that has access at all times to sufficient food to maintain a healthy lifestyle. Food insecurity, on the other hand, is widely defined as "limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways" (Anderson 1990, 1598). At a national level, food security is measured annually via a survey instrument, administered by the United States Department of Agriculture as a supplement to the Current Population Survey. This food security module contains 18 questions concerning behaviors and experiences related to household food security. The questions cover a range of experiences, from worrying that food would run out to having household children unable to eat for a whole day because of lack of resources to get food. Based on responses to survey items, households are characterized as food secure or food insecure. The latter group is further sub-defined as having low food security or very low food security (previously "food insecure without hunger" and "food insecure with hunger"). Those with low food security experience some difficulties obtaining enough food and may have resorted to various coping measures, but their normal eating habits were not seriously disrupted. By contrast, in households with very low food security, normal eating patterns were disrupted and household members reduced their normal food intake because they did not have the means to obtain enough food. In 2005, the most recent year for which data are available, 11.0 percent of U.S. households (12.6 million households) were classified as food insecure. Of these, about a



third (4.4 million, or 3.9 percent of all U.S. households) had very low food security (Nord, Andrews, and Carlson 2006).

Reasons for concern about household food insecurity involve the known links between household food insecurity and poor health and behavior outcomes among household children and to an increased risk of being overweight or obese, with the attendant increase in health problems. A link between food insecurity and obesity and overweight, particularly in adult women, has been noted (e.g. Campbell 1991; Olson 1999; Townsend et al. 2001). Links between food insecurity and poor child outcomes, even when controlling for other household factors, have been found by Alaimo et al. (2001), Alaimo, Olson, and Frongillo (2002), Hamelin, Habicht, and Beaudry (1999), and by Murphy et al. (1998).

### ***The Food Stamp Program***

The U.S. Food Stamp Program began as a pilot program in the early 1960s and was expanded nationwide in the 1970s. Since then, it has been the nation's largest formal anti-hunger program. Benefits (generally in the form of electronic debit cards) allow households to purchase food to prepare and consume at home. Hot foods and restaurant foods generally cannot be purchased with food stamps. Food stamps are an entitlement program, meaning that all who meet the eligibility requirements will receive benefits.

Food Stamp Program eligibility rules are relatively consistent from state to state. Households at or below 130 percent of the federal poverty standard meet the gross income test for eligibility. However, households must also meet the net income and asset tests. Net income for food stamp eligibility is determined by subtracting allowable deductions from gross income. Net income must be at or below 100 percent of poverty. Countable assets, which include bank accounts, real estate holdings other than the home, and excess value of certain vehicles, may not exceed \$2000 for most households or \$3000 if the household has elderly or disabled members. Finally, even if all other eligibility standards are met, able-bodied, childless persons between the ages of 18 and 50 are limited to three months of food stamp receipt in a 36-month period unless they are working at least 20 hours a week or participating in an employment and training program, with some exceptions in high-unemployment areas. Households may also be deemed categorically eligible if they receive certain forms of income support, such as Supplemental Security Income or TANF. Full details on the eligibility rules for food stamps can be found in Barrett (2006).



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The food stamp benefit level per household is based on the number of eligible household members and net household income. Because households are expected to contribute 30 percent of their resources to purchasing food, the net monthly income of the household is multiplied by .3, and the result is subtracted from the maximum allotment for the household size to find the actual monthly allotment. The maximum monthly allotment (for households with no net income) is the amount necessary for a household of that size to purchase the "Thrifty Food Plan," a nutritious but low-cost diet. The fiscal 2007 maximum monthly allotment is \$155 per month for a single person, \$284 for two people, \$408 for three people, \$518 for four people, \$615 for five people, \$738 for six people, \$816 for seven people, \$932 for eight people and \$117 for each additional person beyond eight. Few food stamp households are large. About 80 percent of households have one to three persons. Less than four percent of households have six persons or more (Barrett 2006).

The assumption that food stamp households will spend 30 percent of their available income on food may partly explain why households, even after receiving food stamps, continue to report experiencing food insecurity. Daponte and Stephens (2004) found that higher-income food stamps households (who receive lower food stamp allotments) may report higher levels of food insecurity than lower-income households (who receive higher food stamp allotments). They concluded that households receiving low food stamp allotments are not allocating other resources to food at the rate expected in the program design.

Daponte and Bade (2006) argued that the emergence of the private food assistance network corresponded to a change in the Food Stamp Program in 1977. Before this change, households were required to buy their food stamp allotment with the buy-in based on household income; hence, under the buy-in households in the program all received enough stamps to reach the "Thrifty Food Plan." Without a buy-in, these authors argue, households were free to use other resources for rent, fuel, clothing, or other purchases, making the marginal cost of food above the food stamp allotment higher than under a buy-in arrangement. The increased marginal cost of food above the allotment would lead to increased food insecurity and the rise in demand for emergency food assistance. Eliminating the buy-in requirement did, however, make the food stamp program far more attractive to households that could not or would not contribute 30 percent of their net income to purchasing the stamps, expanding the number of households receiving assistance.



### ***Food Pantries***

A food pantry is an agency that provides food for clients to take away and serve at home. Most food pantries provide a pre-packed box of groceries, whose contents depend on what they are able to obtain at no or low cost. Pantries are locally run and largely staffed by volunteers. Hours of operation, amount of food provided, and level of formality varies considerably from pantry to pantry, even among those operating in the same geographic area (Molnar et al. 2001).

Food pantries usually operate under the umbrella of a food bank, a centralized warehouse for the collection of emergency food, which is then distributed to pantries, kitchens, and shelters. Although some food banks and food pantries existed before the early 1980s, their primary growth has occurred in the last two decades. The nation's most extensive network of food banks is America's Second Harvest (A2H), which traces its origins back to a single food bank in Phoenix, Arizona, in the 1960s. The original food bank began its expansion into a nationwide network in the late 1970s.

Although food banks receive food from the federal government via The Emergency Food Assistance Program (TEFAP); they are stocked primarily with privately donated foodstuffs, coming from a variety of sources. Privately donated foods may come from growers, manufacturers, wholesalers, distributors, or individuals. There is no federal law regulating the distribution of privately donated food stuffs; however, emergency food assistance providers that receive TEFAP commodities must comply with state criteria for determining client eligibility. Eligibility is usually set at a percentage of the federal poverty level, with most states setting limits at or below 150 percent of poverty. States may also allow participation in certain other government welfare programs, such as food stamps or cash welfare (TANF or SSI), to automatically qualify a household for receipt of TEFAP items. Individual pantries that distribute TEFAP commodities are subject to audit to ensure recipients comply with eligibility guidelines.

Attempts to analyze the relationship between food pantry and food stamp use have been limited. Daponte (2000), examining the low-income (at or below 185 percent of poverty) population in Allegheny County, PA, used a multinomial logit model framework. Categories were: a) using food stamps, b) using food pantries, c) using both, and d) using neither. She found that married couples and households with elderly heads were more likely to use food pantries over food stamps, although both types of households were less likely than single parent



households to use either type of aid. She also found, for this sample, that food pantries tend to supplement, rather than replace food stamps.

Using data from a survey of food pantry clients in Wisconsin, Bartfeld (2003) estimated a single-equation probit model of food stamp use among single mothers who visit food pantries. Among this group of food pantry clients, age and education did not have a significant effect on food stamp use. In this sample, food stamp use was more common for mothers of children under five and for mothers with long-term disabilities. Individual likelihood of receiving food stamps was negatively correlated with county-level declines in caseloads, perhaps indicating that these areas had greater barriers to participation than areas with more modest declines.

Mosley and Tiehen (2004) analyzed patterns of food assistance use among low-income residents of the Kansas City metropolitan area. In this sample, almost 60 percent of food pantry recipients also received food stamps at some time during the study period and about a third of food stamp clients also visited a pantry. They concluded that households are not substituting one form of assistance for the other but rather are accessing multiple types of assistance when necessary. A similar finding, using a national sample, was reported by Bhattarai, Duffy, and Raymond (2005). Using a bivariate probit framework, they found food stamp and food pantry use to be positively correlated.

## **Methods and Results**

### ***Data Source***

Data used in this analysis were collected for a study conducted in 2005 by America's Second Harvest. For the study, over 52,878 clients of A2H emergency food providers completed interviews. In addition, data were collected on 31,342 agencies. Emergency food providers in this framework consisted of food pantries, meal kitchens, and shelters. A2H food banks also provide food to other agencies, outside the emergency food network, and these agencies were not included in the study (A2H 2006). As mentioned previously, because food stamps provide food for home consumption, this research will focus on food pantry clients.

The sample design, developed and implemented by Mathematica Policy Research, Inc, is complex. A summary of sample design is presented here, with full information available in Kim, Ohls, and Cohen (2006). One hundred fifty-nine food banks participated in the survey, about 76 percent of all A2H food banks. Each food bank sent a list of agencies to the survey design team and these lists were reviewed so that only agencies providing emergency food were retained. Of



these agencies, 24,125 (approximately) operated pantries. Depending on the size of the food bank 79 (large), 63 (medium), or 47 (small) agencies were desired for the sample. If there were fewer than the target number of eligible agencies, all eligible agencies from that food bank were selected. Although the goal was to have food pantries make up 70 percent of the total agencies selected for sampling, because of size limitations at some food banks, this goal could not always be reached. Also, some agencies (about 8.6 percent of all eligible agencies) provided multiple services, further complicating the design. The probability-proportional-to-size (PPS) procedure was used to select the agencies to be sampled, with size measured in terms of food poundage or direct client count if poundage was not available. In addition, agencies were sorted by zip code to assure geographic representation. Clients were then selected within agencies, based on hours of operation and a random count method. The data set contains variables to account for stratification, clustering (e.g. primary sampling units), and the weights related to selection probability for the clients.

In the A2H survey, 37,986 food pantry clients were interviewed, 71 percent of clients interviewed. Information was also collected on clients' household members, meaning that information on a total of 104,415 total clients was gathered. A detailed profile of pantry clients (along with kitchen and shelter clients) is presented in *Hunger in America, 2006, A Report on Emergency Food Distribution in the United States in 2005*, available from America's Second Harvest (A2H). Food security of client households was measured using the USDA food security module, with responses coded into the older USDA categories of "food secure," "food secure without hunger," and "food secure with hunger."

### ***Food Security and Food Stamps***

A problem that has plagued many previous analyses of the impact of food stamps on food security is the issue of self-selection into the program by those with food security problems. Food security status of those who apply for food stamps would be expected to be worse than those who do not, because problems obtaining enough food is a major reason households seek food stamps. In empirical analysis, food stamp use is thus often paradoxically found to be associated with higher levels of food insecurity (see for example Wilde and Nord 2005) or to have no effect on food security level (see for example Gundersen and Oliveira 2001), even when confounding factors are controlled. Because of the longitudinal nature of most data sets used in these analyses, it is not possible to assess the food security status of the families just before and



shortly after receiving food stamps. Noting this difficulty, Gibson-Davis and Foster (2006) used propensity scores to assess the effect of food stamps on food insecurity and found that while food stamps do not decrease the probability of being food insecure, they may lessen the severity of the problem.

In many previous studies, data available may report only whether a household receives food stamps, not whether the household has applied. Because the household's decision involves application, and receipt of food stamps depends on the household meeting program eligibility requirements, the food stamp participation figure may not adequately capture households' decision-making. Indeed, in the A2H survey, 67 percent of pantry clients reported that someone in the household had applied for food stamps, but only 36 percent of pantry households reported currently receiving food stamps (A2H 2006). Thus, current food stamp use substantially undercounts households that have applied for stamps, at least among food pantry clients.

For A2H clients, in a simple two-way analysis, those receiving food stamps reported lower levels of food security than those who did not (A2H 2006). However, a more detailed analysis, looking at application for food stamps in addition to food stamp receipt, reveals a different pattern. Table 1 reports food security status (with percentages corrected for survey design) of food pantry clients who have never applied for food stamps, those who have applied and are currently receiving food stamps, and those that have applied but are not receiving stamps. To the questions "Have you ever applied for food stamps?" and "Are you receiving food stamps now?" 37,359 food pantry respondents provided usable answers. In this analysis, 37,078 data points were usable, as 214 observations were dropped for having unusable answers to the food security questions and an additional 56 data points had unusable survey weights.

Among food pantry clients who have never applied for food stamps, just under 41.9 percent report being food secure, compared to 25.5 percent of those who currently receive food stamps and 21.9 percent who have applied but are not receiving food stamps. Mean income as a percentage of poverty is also reported for each group. (Additional observations were dropped for lack of usable income measures, leaving 34,121 observations for calculation of the means.) Pantry clients who had not applied for food stamps had the highest average income, at approximately 90 percent of the poverty level. Those who had applied but did not receive stamps had the next highest average incomes, about 78 percent of poverty. The group receiving food stamps had the lowest average incomes, approximately 61 percent of poverty.



Table 1. *Food Security Status and Income of Respondents by Application for Food Stamps, 2005*

|                                | Have not applied (%) | Have applied and are receiving (%) <sup>1</sup> | Have applied and are not receiving (%) |
|--------------------------------|----------------------|---|--|
| Food secure (%)                | 41.9                 | 25.5  | 21.9                                   |
| Food secure without hunger (%) | 35.2                 | 40.0  | 41.9                                   |
| Food secure with hunger (%)    | 22.8                 | 34.5  | 36.2                                   |
|                                | n = 11,296           | n = 13,947                                      | n = 11,835                             |
|                                |                      | F Value = 58.2*                                 |  |
| Mean income as % of poverty    | 90.1                 | 60.8  | 76.8                                   |
|                                | n=10,088             | n=13,051  | n=10,982                               |
|                                |                      | F Value = 113.5*                                |  |

Analysis adjusted for survey weights.

<sup>1</sup> Information in this column reproduces the original analysis by America's Second Harvest (2006), page 119.



These findings provide evidence that those who don't apply for food stamps are better off in terms of average income and food security level than those who do apply. The results also show that among those who apply, those who receive food stamps report higher levels of food security than those who do not, despite having a lower average income. Thus, food stamps do appear to improve food security among pantry households, although the effect is not large.

The A2H survey asked food stamp recipients how long their monthly food stamp allotment normally lasted. Table 2 examines the food security status and the mean income of food stamp recipients by how long their food stamps last. Those who said their food stamps lasted four weeks or longer had the highest likelihood of being food secure, just over 50 percent, while those who reported food stamps lasting only a week were the least likely to be food secure, with under 18 percent of this group reporting household food security. Income for those who reported food stamps lasting only a week was the highest for any of these groups at about 70 percent of poverty. Those whose food stamps lasted the longest had the lowest average incomes, 53 percent of poverty. These findings relate to the program design which gives the most food stamps to those with the lowest incomes. These results mirror those of Daponte and Stephens (2004) who found that higher income food stamp households may have lower levels of food security than lower income food stamp households, because of smaller food stamp allotments.



Table 2. *Food Security and Mean Income of Food Stamp Clients by How Long Food Stamps Last, America's Second Harvest Clients, 2006*

| How long food stamps last | Percent of food stamp clients <sup>1</sup> | Mean income as percent of poverty | Percent food secure |
|---------------------------|--|-----------------------------------|---------------------|
| 1 week or less            | 25.8                                       | 73.1                              | 17.6                |
| 2 weeks                   | 30.3                                       | 56.6                              | 19.6                |
| 3 weeks                   | 26.9                                       | 55.3                              | 23.7                |
| 4 weeks or longer         | 17.0                                       | 53.2                              | 50.5                |
|                           | n = 13,509                                 | n=12,648                          | n=13,466            |

Analysis adjusted for survey weights.

<sup>1</sup> Information in this column reproduces an original analysis by America's Second Harvest (2006), page 138.

A set of simple logistic regressions was run to examine the relationship of increased income to changes in the probability of being food secure. Using PROC SURVEYLOGISTIC in SAS, to account for the survey design and the survey weights, the probability of being food secure was regressed against income as a percentage of poverty for food stamp recipients, for those who had applied for food stamps but are not receiving them, and for those who had never applied for stamps. In all cases, the marginal effect of increasing income was significant at the 0.001 level, but the level of effect was different across groups. (Regression results available on request). For those receiving food stamps, increasing income from 50 to 75 percent of poverty increased the probability of being food secure from 24.4 percent to 25.4 percent, an increase of 1 percent. Among those who had never applied, the same increase in income changed the probability of being food secure from 34.7 to 38.3 percent, an increase of 3.6 percent. Among those who had applied but did not receive food stamps, an income increase from 50 to 75 percent of poverty would raise the probability of being food secure from 18.3 percent to 20.7 percent, a change of 2.4 percent. Thus, an increase in income had the smallest effect on the probability of being food secure for food stamp recipients. Because food stamp recipients are expected to



contribute 30 percent of disposable income to buying food, the decrease in food stamp benefits partially offsets their ability to achieve higher levels of food security through earnings. Thus, of all groups, food stamp recipients show the smallest response of food security to increases in income.

Because results in this study pertain to food pantry clients, who as a group may be expected to have lower food security than all impoverished people in general, the overall levels of food security reported here may be lower than those that would be found in low-income households that do not use food pantries. Further research would thus be warranted. Including a question about application for food stamps in national samples would allow for a similar analysis of the broader population.

### **Conclusions**

Results of this paper provide evidence that food stamps do play a role in reducing food insecurity among food pantry clients. Although this result may seem intuitive, because of the problem of selection bias, previous research has often not been able to find a positive link between food security status and food stamps. Results also show that while food stamps have a positive impact on household food security, the effect is small. Further, because increased income is associated with lower benefits, additional income has a much smaller effect on the food security levels of food stamp households than those that do not receive stamps.

The program design may explain why food stamps do not make more low-income families food secure. It may be unrealistic to expect households with net earnings at or below the poverty level to devote 30 percent of those earnings to food, especially those who live in areas with high housing costs or who have high utility bills or other strains on their resources. In the United States, the average household spends less than 10 percent of disposable income on food (USDA/ERS 2007), yet food stamp recipients, a group noted for high levels of food insecurity are expected to contribute three times this amount of their disposable income to buying food. If families cannot afford this 30 percent income contribution, they will be chronically unable to meet the "Thrifty Food Plan" target for food expenditures. Reducing the expected household contribution to a lower percentage of net income more in line with what the typical U.S. family spends on food could ease food security problems among food stamp clients.

Because such a high percentage of emergency food assistance clients do not receive food stamps, even among those who apply to the program, expanded eligibility to the food stamp



program for those with higher incomes or asset levels may also be worth examining. Although expanded access and increased benefits are costly, health problems associated with food insecurity also cost society in terms of increased medical expenditures and lost productivity.

A closer examination of factors that prevent food insecure households from applying for food stamps may also be warranted. A number of respondents in the A2H survey said they did not apply for food stamps because they did not think they were eligible (A2H 2006, 141). Program rules are complex, making it difficult for a family to quickly assess whether they would, in fact, meet eligibility requirements. To determine eligibility usually involves filling out a lengthy application and reporting to an office that may be several miles away from the prospective client's home. Eliminating the net income test and simplifying the asset test could go a long way toward providing potential applicants with better knowledge of their likelihood of receiving stamps, which may encourage additional eligible families to apply.

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