The Shifting Pattern of Government Support:
Welfare Reform, Food Stamps and Food Bank Usage in North Carolina

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Abstract

One measure of welfare reform’s success has been the decline in food stamp recipients. However, research has not shown whether hungry individuals are simply turning to, or relying more heavily on, other sources. This study examines the combined monthly food outflow patterns of 193 emergency food providers (EFPs) in central North Carolina from 1995-2000. Using regression analysis and telephone surveys with EFP administrators, we show that while the number of food stamp recipients has declined, the amount of food going out through EFPs has risen. Results indicate that since welfare reform, these EFPs have withdrawn around 50 more tons of food for their clients than they otherwise would have. While these aggregate results cannot be applied to explain individual behavior, they do raise the question of whether one result of welfare reform is a shift of direct service provision from government to non-profits.
Introduction

Hunger continues to be a major problem in America.¹ For the past forty years government and nonprofits have shared responsibility for providing food and nutrition assistance to the hungry. A 2000 survey found that one-half of food-insecure households participated in at least one of the three largest Federal food assistance programs in the previous month, and about 17 percent – 2.4 percent of all U.S. households – obtained emergency food from a food pantry at some time during the year (Nord et al., 2002). The 1996 Personal Responsibility and Work Opportunity Act (P.L. 104-193), commonly known as welfare reform, has the potential of shifting burdens in this shared responsibility. That legislation placed significant limitations on eligibility for food stamps and certain benefits, and as a result, cut more funds from the Food Stamp program than any other program (Gunderson et al., 1999).

The role of private food assistance is growing. Emergency food providers (EFPs) have existed in the US for over 200 years. “Most were established as temporary stopgap measures in times of economic hardship, and once the crisis abated, they closed their doors until the next economic downturn. This 200 year old cyclic trend, however, appears to be changing, with many privately sponsored “emergency” programs becoming an integral component of the ongoing food assistance network in virtually every locale.” (Nichols-Casebolt & Morris, 2001, p.5). The numbers of EFPs exploded in the 1980s, in response to a severe economic downturn and changes in government programs. U.S. mayors are again reporting dramatic increases in the number of people using emergency food providers—an average of 23 percent in 2001 across 27 cities responding to a recent survey. Charlotte, N.C. experienced the 3rd largest increase, 42 percent (U.S. Conference of Mayors, 2001).

If fewer people have received food stamps and more have turned to nonprofit EFPs because of welfare reform, then there has been an important shift in the role(s) of government and nonprofits in the provision of food assistance. This study examines that possibility, using data from non-profit EFPs in central and eastern
North Carolina from 1995 to 2000. To better understand perceptions of front line administrators, the quantitative analysis is supplemented with interviews of 135 EFP or food pantry directors in the same area. Previous literature is somewhat limited in this area—mostly focusing on the relationship between welfare reform and food stamp usage. This study hopes to extend the relationship, looking at the connection between food stamp and EFP usage. Before presenting the methodology and results of the study, we first review the situation in North Carolina and other research related to the issue.

**Background**

Food banks are generally community-centered warehouses that solicit, store and distribute food from local producers, retail food sources, the federal Commodity Distribution program, and the food industry (Nichols-Casebolt & Morris, 2001). Food banks distribute this surplus food to EFPs--nonprofit member agencies that then, in turn, distribute food to their clients. These member agencies can be food pantries, which distribute free food and grocery items, or soup kitchens, which provide meals prepared on site. These local, street level agencies are run by both religious and non-religious charities. Financing and food come from direct donations and government support, including that of the federal Emergency Food Assistance Program and local governments (Nichols-Casebolt & Morris, 2001).

America’s Second Harvest is the nation's largest domestic hunger relief organization, representing over 200 food banks across the country. North Carolina has six America’s Second Harvest food banks throughout the state. The Food Bank of North Carolina (hereafter referred to as the NC Food Bank) is one of these six, serving as the central food warehouse for EFPs in thirty-four counties in central and eastern North Carolina.²

These counties represent the spectrum of economies, with county median annual household incomes ranging from $23,025 to $51,391. While central North Carolina includes the more affluent Research Triangle region, eastern North Carolina proffers a less affluent population. Additionally, those living in the eastern region of
the state have been subject to two major hurricanes within the past six years, resulting in a significant loss of housing and jobs.

Since the mid 1990s, the NC Food Bank has maintained a database of the monthly pounds of food each member agency has withdrawn. The NC Food Bank tracks food withdrawn in pounds because member agencies are charged a minimal per pound fee for the food they withdraw. Because of the uniformity of this data, the pattern of food bank usage can be tracked over time. From January 1997 to May 2000, the NC Food Bank’s monthly distribution to nonprofit EFPs increased by 140 percent. During this same time period, the number of food stamp recipients in the NC Food Bank’s service area, the same thirty counties, decreased 24 percent. Figures 2 and 3 illustrate the two trends. Data for Figure 2 has been adjusted slightly, as noted in the Methodology section below.³ The spike in the food stamp recipients is due to Hurricane Fran, but the trend is clearly downward sloping.

The decline in food stamp participation is a reflection of welfare reform’s restrictions placed on certain populations. The 1996 welfare reform legislation barred most legal immigrants and single, able-bodied workers from receiving food stamps (Food Research and Action Center, 1997; Venner, 2000).⁴ States were given the option to override this legislation provided that the costs of supplemental food stamps came out of their own pockets. North Carolina chose not to appropriate funds to cover excluded persons. In fact, the state approved an additional provision that no longer accepted homelessness as a reason for receiving food stamps.⁵ These polices became effective in North Carolina in January of 1997. While there has been a gradual increase recently in food stamp program participation, it has experienced a long-term decline in most
states. From January 1997 to January 2002, North Carolina experienced a 6.12 percent decline in food stamp program participation (Food Research and Action Center, 2002).

This study asks if the two trends illustrated above are related. That is, has the decline in food stamp usage resulted in an increase in persons seeking food assistance from EFPs. If so, it would suggest that in the time period since welfare reform, there has been a notable shift from government to the nonprofit sector in the provision of food assistance to the food insecure. While the aggregate results cannot be used to interpret changes in individual behavior, they would suggest that this possibility be examined more directly.

**Literature Review**

The Food Stamp program itself is the focus of much research, far more than can be summarized here. As of January 7, 2002, the Washington, D.C. think tank Center on Budget and Policy Priorities listed over 90 major studies on the program, the vast majority published just since 2000. While most focus on characteristics of the clients, some investigate the link between participation in the food stamp program and welfare reform. Ziliak et al. (2000) found that only about five percent of the decline in food stamp caseloads could be attributed to welfare reform. Other research has shown that the decline in food stamp caseloads are due somewhat to rising incomes, a small portion from direct effects from welfare reform, and the rest unexplained - simply fewer people participating (Office of Analysis, Nutrition and Evaluation, U.S. Department of Agriculture, 2001). Another study shows that the majority of families with children that left welfare also left the Food Stamp Program between 1997-1999, and not necessarily because of eligibility changes (Zedlewski & Gruber, 2001). Why would people simply stop participating? This is an open question, but some attribute this to administrative burdens and confusion over the program in the wake of changes to welfare programs (Wiseman, 2002). Finally, a recent study published by the Economic Research Service of the USDA finds that food stamp participation decline is a result of a combination of factors,
including the economy (Kornfeld, 2002). In the report, Kornfeld reports that 21 percent of the decline can be attributed to Temporary Assistance to Needy Families (TANF).

There are few research studies that focus on the relationship of the program and increased use of EFPs. One limitation is data availability. Food banks provide food to food pantries and soup kitchens. While many of these pantries and soup kitchens maintain data on number of clients served, their methods of tracking clients differ widely. Food pantries or soup kitchens may track the number of individuals coming through the door, the number of families served, or the number of meals served in a year. While some important estimations have been done on a local basis, (Eisinger, 1999) even those estimates are tenuous.

However, one important study found that about a quarter of food stamp leavers say they turned to a food pantry or soup kitchen in the past year for assistance (Office of Analysis, Nutrition and Evaluation, U.S. Department of Agriculture, 2001). Eisinger (1999) in particular has been investigating the issue. He notes, “Since the passage of welfare reform legislation in the summer of 1996, there are increasing signs that the burden on the charitable food sector has grown… Scattered evidence suggests that many of those who once were able to manage to feed their households with the help of food stamps have been drawn to the charitable food sector, either to supplement an increasingly inadequate allotment or to compensate for losing eligibility altogether” (Eisinger, 1999, p. 2). Daponte (2000) alludes to this potential shift in her study of the users of food stamps and food pantries in Allegheny County, Pennsylvania, stating, “…If households are simply receiving food assistance from private rather than public sources, then the burden of food provision has genuinely shifted to the local level” (Daponte, 2000, p. 73). This question is particularly disturbing, since, in other research, Daponte et al. (1999, 2001) find food stamps are much more meaningful in terms of assuring adequate food supplies in households than food pantries. While there seems to be some evidence that demand is increasing, and as noted above, that demand may be leading to an increase in supply of EFPs, that supply may have limited capacity. Research (Eisinger, 2000) and reports from EFPs nationally (Venner,
2000) indicate that these non-profits did not have the capacity to provide stable, long-term support for the hungry.

**Overall Methodology**

This study employed a two-part research strategy. First, to provide a more complete picture of food bank usage, we surveyed directors of nonprofit EFPs on their impressions and explanations of trends in their provision of emergency food. Second, we present the results of a regression analysis, which examines the likely determinants of food bank usage, including suggestions arising from the telephone interviews. These two methodologies were concurrent and symbiotic – the initial data trends helped form questions to include in the survey, and possible influences on food bank usage mentioned in the telephone survey were included in the final regression analysis.

The NC Food Bank distributes food to various types of agencies in its service area. To maintain consistency in data, this study includes the combined pounds of food withdrawn monthly from the full population of 193 nonprofit EFPs that have been NC Food Bank member agencies in 30 central NC counties from July of 1995 to May 2000. Other variable data were gathered by county and totaled for the NC Food Bank service area on a monthly basis for this same time period. These same 193 agencies were asked to participate in the telephone survey. A total of 135 agencies responded (75 percent response rate). Thus, the study focuses on increases in NC Food Bank distribution to a stable set of agencies over a five-year time span.

Because of the inability to track the number of clients served by the food assistance agencies in the area of this study, we focus on the amount of food withdrawn from the area food bank by EFPs as a proxy representing increased food assistance need. It is important to note that increases in pounds of food withdrawn from the NC Food Bank would likely not represent an increased availability of food, but rather increases in clientele at member EFPs. The NC Food Bank limits member agency food withdraw to that of a
thirty day supply as defined by the client demand they are experiencing. Thus, if an EFP increases its pounds of food withdrawn, it is because increased demand at their agency has redefined the amount of food that would serve as a 30 day supply.

Telephone Survey Methodology

The telephone survey asked respondents if they had noted an increase in clientele since July of 1995 and what explanations they had for any increases. NC Food Bank employees and previous agency surveys were consulted prior to survey development. Additionally, a previously developed agency survey (Eisinger, 2000) served as a point of reference. To increase the response rate, all 193 potential respondents were sent a pre-survey letter two weeks in advance informing them of the upcoming phone survey. Included with this letter was an abbreviated version of the survey. Five volunteers were trained to assist in conducting the phone survey. The survey (available upon request) provided the volunteers with a standard script, as well as specific instructions regarding questions. The phone survey began on June 20, 2000, and continued for three and one half weeks, until 75 percent, or 135 of the 193 directors were surveyed.

Agencies were asked to provide the interviewer with numbers of clients served for each year since 1995. While some agencies were able to provide this information, most could not. Respondents cited high administrative turnover and loss of records as the primary reason for this lack of data. Nearly all respondents were able to discuss general trends since 1995 of increase, decrease, or no change for all clients, as well as changes in the sub-populations their agencies serve, including families, Latinos, and single men.

It is important to note that interviewers did not give a list of reasons for trends from which respondents could choose. Respondents provided answers based on a wide range of experiences and perceptions. A shortcoming of this method is the variety in respondents' explanations of trends. It ensures, however, that the
respondent provided his or her perception of an issue, not simply a predetermined or interviewer-suggested answer.

The telephone interviews were done as the data for the empirical model, described below, were gathered. Some of the most common alternative explanations for the increase in nonprofit food assistance offered by phone survey respondents were then considered for the model. Some of the data for these variables, such as monthly county by county estimates back to 1995 of the growing Latino population (allowing for the calculation of a monthly estimate for the NC Food Bank service area), were simply not available. Other possible variables, such as monthly total public assistance recipients or total food stamp recipients for the area, posed major multicollinearity threats. Upon review of the data and consideration of their theoretical contribution to the model, some of these variables were eventually not included in the final analysis. Data on labor force and unemployment, however, were included as a result of the telephone interviews. The interviews also suggested the inclusion of a variable to control for a perceived surge in EFP use over the harshest winter months.

The Empirical Model

Time-series regression analysis is particularly appealing here because of the availability of uniform, monthly data on pounds of food withdrawn from the NC Food Bank. Because time series data do not meet the criterion of each observation’s independence from each other, lag variables were included and tests for autocorrelation were conducted. No major multicollinearity threats were found with the included variables.

Before the model and details on the variables are presented, two important concurrent events should be discussed. First, the analysis is complicated by the introduction of the Temporary Emergency Food Assistance Program (TEFAP) to the NC Food Bank. TEFAP is a federal program that provides basic, staple foods at no cost to qualifying low-income families—those below 185% of the federal poverty line. The NC
Food Bank began distributing food for TEFAP in October 1997. The introduction of TEFAP into The NC Food Bank’s distribution came nearly one year after the effects of welfare reform began to be felt. Because TEFAP’s introduction closely parallels that of welfare reform, it is necessary to adjust the data to exclude the effect of this program.\(^{11}\) In this way, we were able to isolate EFP’s increased demand outside of the increased supply from TEFAP.

Second, the mass physical displacement resulting from a natural disaster such as a hurricane leads to an increased drawdown of food from EFPs. Both Hurricanes Fran (September 1996) and Floyd (September 1999) resulted in major food withdrawals unusual from that of other months. Unfortunately, the data from these hurricane months are artificially inflated or deflated, depending on data recording problems.\(^{12}\) In response, we wanted to smooth the data somewhat, and did so by replacing the months with abnormal food poundage output—September, October and November of 1996 and 1999—with extrapolated values based on the overall trend for the variable. However, we still wanted to explicitly control for the storms in the model, so the same six months are coded with dummy variables and tested for significance.

\[
\text{FBU} = \alpha + \beta_1 \text{WR} + \beta_2 \text{WRtrend} + \beta_3 \text{L} + \beta_4 \text{U} + \beta_5 \text{WM} + \beta_6 \text{Fran} + \beta_7 \text{Floyd} + \beta_8 \text{FBU}_{t-1} + \\
\beta_9 \text{FBU}_{t-2} + \beta_{10} \text{FBU}_{t-3} + \varepsilon
\]

\(\text{FBU} = \text{NC Food Bank usage},\) or The Food Bank of North Carolina’s combined monthly pound output for 193 emergency food providers from July 1995 to May, 2000, adjusted for TEFAP.

\(\text{WR} = \text{Dummy variable for welfare reform immediate impact}.\) The purpose of this variable is to measure the short-term impact of welfare reform on pounds withdrawn by EFPs from The NC Food Bank. While North Carolina welfare policy began to take effect in January 1997, there was a lag of time before the policy began to make an impact. The lagged effect occurs because: 1) Not all food stamp recipients receive food stamps every month; 2) member agencies (non-profit EFPs) would first note a significant
increase in clientele over time before withdrawing additional food from the central NC Food Bank; 3) NC Food Bank member agencies traditionally withdraw a thirty day supply of food, thus limiting some agency visits to once a month. While in other research, the impact of the welfare reform could vary across states, there is no reason to assume that impact would vary across counties within the same state. Thus, the month of July 1997 was chosen as the month in which the policy would begin to make an impact. July of 1997 marks the beginning of the second quarter of North Carolina’s newly enacted welfare policy. The dummy variable is coded as "0" in months before July 1997 and "1" from July 1997 to May, 2000.

WRtrend = Dummy variable for post-policy intervention trend. The purpose of this “counter” variable is to measure the trend in the pounds withdrawn following the implementation of welfare reform. This variable is coded as "0" for months before July 1997 and "1, 2, 3, …n" for subsequent months. It is impossible to explicitly say this trend variable represents only welfare reform, but if this variable is found to be significant, given the context of the research question, welfare reform would certainly be a prime suspect.

L = The number of people in the labor force. This serves as a proxy for a measure of population because county-level intercensal population figures are only available by year, not by month. One can assume that a growth or decline in the labor force would parallel changes in the population. The purpose of this variable is to test survey respondents’ perception that their increases in clientele were due to population increases. While arguably an imperfect proxy for population, it has the added value of being a reflection of the economic conditions in the county.

U = Unemployment rate. Monthly unemployment rate for The NC Food Bank 30 county service area to test the accuracy of survey respondents’ perceptions that unemployment has led to an increase in clientele at their agencies.
\textbf{WM} = \textit{Control dummy for winter months.} This variable is coded 1 in November, December, and January of each year, and 0 in all other months. Its inclusion is based on the need to control for potential higher EFP use in the harshest winter months.

\textbf{Fran} = \textit{Hurricane dummy variable.} Although the use of extrapolated values initially controls for Hurricane Fran, this dummy variable further controls for the months of September, October, and November 1996.

\textbf{Floyd} = \textit{Hurricane dummy variable.} This variable accomplishes the same goal as variable Fran but with Hurricane Floyd and the months of September, October, and November 1999.

\textbf{FBU}_{t-1} = \textit{Lag variable.} This lag variable tests whether the pounds withdrawn in the current month can be predicted from the pounds withdrawn in the previous month. Lag one refers to the pounds withdrawn one month previous. This, and the following two lag variables, were included to help control for autocorrelation.

\textbf{FBU}_{t-2} = \textit{Lag variable.} Lag two refers to pounds withdrawn two months previous.

\textbf{FBU}_{t-3} = \textit{Lag Variable.} Lag three refers to pounds withdrawn three months previous.

\( \beta_i \) = parameter estimate \((i = 1 \ldots 10)\)

\( \varepsilon \) = \textit{Error.}
Results & Discussion

The telephone survey provides an important context for the regression results. Because responding agencies had served as EFPs for at least five years, respondents were able to describe their agencies’ long-term trends and their view of what was affecting those trends. Because the questions were open-ended, categories were created based on the responses. Selected results follow:

Table 1 about here

Table 2 about here.

Additional results showed that nearly half of respondents stated that the number of clients coming for emergency food assistance varies according to the time of year, with 25% of those noting an increase in winter months. Sixty two percent of respondents stated that client service varies according to time of month, with 69% of those noting an increase at the end of the month. Nearly half of those identifying an increase at the end of the month attributed this increase to a lack of food stamps for clients.

The survey results confirm that there has been an increase in clients, or at least the perception that there has been an increase in clients, served since 1995. Although welfare reform was given as a reason for changes in trends, it was not the most commonly occurring reason cited. Most respondents attributed any increase in clients to an increase in population in The NC Food Bank’s service area. As will be seen below, this reason begs further investigation because the time series analysis found no relationship between increased withdrawal of food from The NC Food Bank and changes in population. Unemployment and
underemployment were also common explanations of an increase in clients; however, again, the time series analysis indicated no relationship between unemployment and increased food withdrawal.

With this context in hand, we can turn to the model results. The model is statistically significant and explains 79 percent of the variance in pounds of food withdrawn by the EFPs (F=17.19; p< .05). A Durbin Watson test showed no signs of autocorrelation (D.W. = 1.864).

Table 3 about here

As seen in Table 3, of the ten independent variables, only two were statistically significant, the welfare reform immediate impact and the welfare reform trend variables. First, there was an immediate reduction in the amount of food withdrawn from The NC Food Bank, around 39.5 thousand pounds, or about 20 tons. While one might expect an immediate impact, the direction of the coefficient, indicating a reduction rather than an increase, is surprising, and to the authors, there is no obvious explanation. Perhaps confusion over the impact of welfare reform has a role to play.

But after this initial reduction, the number of pounds withdrawn each month is higher than would be expected prior to welfare reform. For each month following July 1997, EFPs withdrew almost 4,000 additional pounds of food, a total of 143,861 pounds between July 1997 and May 2000, over 70 tons of food. None of the other variables, such as the size of the labor force or unemployment in the area (which can represent the economic conditions of the area), were statistically significant, which would be surprising to the directors of the EFPs interviewed in the survey portion of this study.
Conclusion & Recommendations

While there are limitations to this study, the results suggest that in central and eastern North Carolina, welfare reform may have shifted the responsibility for provision of food assistance from a shared government-nonprofit role to a growing nonprofit role. Food stamp participation declined while the food distributed by EFPs increased. While it is currently too difficult to track actual numbers of clients, directors of these EFPs express an awareness of an increase in clientele, and attribute this increase to population increase (both immigrant and nonimmigrant) and the local job economy. However, when this perception was tested with a regression analysis, population, as measured by the size of the labor force, was not found to be a major factor. The local job economy also did not seem to be a factor. The increased clientele at EFPs, as represented by the amount of food going out the door, seems to be linked to the timing of the implementation of welfare reform, resulting in the NC Food Bank distributing a net amount of about 50 tons of food above what it normally would have distributed had it maintained its pre-welfare reform trend.

When assessing the effects of welfare reform on central and eastern North Carolina counties, policymakers should recognize that instead of reducing the need for food assistance, welfare reform may have simply moved the responsibility for providing food assistance to nonprofit EFPs. Reduction in the number of food stamp recipients has saved the state money; however, nonprofit EFPs receive state monies indirectly through tax breaks and directly through local government funding. The net effect may be a government-wide savings due to welfare reform much less substantial than the amount being publicized. The burden may simply have been shifted outward to nonprofit organizations, and indirectly, the local governments that support them. These results indicate the need to study the behavior of the EFP clients directly, to see if, indeed, welfare reform has changed how our society addresses emergency food provision.
Figure 2: The Trend in Food Stamp Recipients in the NC Food Bank’s Service Area
Figure 1: The Trend in Amount of Food Distributed by Emergency Food Providers, Controlling for Hurricanes and TEFAP
Table 1: Agency Service Trends Since 1995  
(percent of respondents)

<table>
<thead>
<tr>
<th>Trend</th>
<th>Decreased</th>
<th>Increased</th>
<th>Stayed the Same</th>
<th>Don’t Know</th>
<th>Declined to Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall client base</td>
<td>5</td>
<td>72</td>
<td>16</td>
<td>6</td>
<td>.7</td>
</tr>
<tr>
<td>Latino clients</td>
<td>4</td>
<td>47</td>
<td>44</td>
<td>4</td>
<td>.7</td>
</tr>
<tr>
<td>Senior Citizens</td>
<td>4</td>
<td>47</td>
<td>40</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Youth (2-12)</td>
<td>2</td>
<td>48</td>
<td>38</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Men</td>
<td>7</td>
<td>36</td>
<td>46</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

Totals may not add due to rounding.

Table 2: Reasons for Perceived Increase, by Type of Client  
(percent of EFP respondents)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Overall Client Base</th>
<th>Latinos</th>
<th>Elderly (age 65+)</th>
<th>Youth (2-12)</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welfare Reform</td>
<td>11</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Un/Underemployed</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>Population Increase</td>
<td>12</td>
<td>46</td>
<td>-</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>Word of Mouth</td>
<td>14</td>
<td>-</td>
<td>14</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Floods</td>
<td>7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Immigration</td>
<td>8</td>
<td>11</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Migrant Workers</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Aging Population</td>
<td>-</td>
<td>-</td>
<td>16</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cost of Medications</td>
<td>-</td>
<td>-</td>
<td>19</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Outreach</td>
<td>-</td>
<td>-</td>
<td>11</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lack of Food Stamps</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Increase in Single Mothers</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>17</td>
<td>-</td>
</tr>
<tr>
<td>Afterschool Programs</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Teen Pregnancy</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Increase in Single Fathers</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Homelessness</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>28</td>
<td>24</td>
<td>14</td>
<td>28</td>
<td>37</td>
</tr>
<tr>
<td>Don’t know</td>
<td>-</td>
<td>11</td>
<td>20</td>
<td>22</td>
<td>33</td>
</tr>
</tbody>
</table>

Totals may not add due to rounding.
Table 3: Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Coefficients (B)</th>
<th>Standard Error</th>
<th>Standardized Coefficients (Beta)</th>
<th>t-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-256516.000</td>
<td>370145.310</td>
<td>-.693</td>
<td></td>
</tr>
<tr>
<td>Welfare Reform immediate impact</td>
<td>-39525.045</td>
<td>18873.054</td>
<td>-.263</td>
<td>-2.094**</td>
</tr>
<tr>
<td>Welfare Reform trend</td>
<td>3888.141</td>
<td>1301.241</td>
<td>.661</td>
<td>2.988***</td>
</tr>
<tr>
<td>Labor Supply</td>
<td>.322</td>
<td>.290</td>
<td>.127</td>
<td>1.110</td>
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<tr>
<td>Unemployment</td>
<td>-757629.700</td>
<td>1406992.000</td>
<td>-.056</td>
<td>-.538</td>
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<tr>
<td>Rate</td>
<td></td>
<td></td>
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<tr>
<td>Winter Months</td>
<td>19549.441</td>
<td>12615.205</td>
<td>.119</td>
<td>1.550</td>
</tr>
<tr>
<td>Hurricane Fran</td>
<td>-6961.855</td>
<td>24122.766</td>
<td>-.022</td>
<td>-.289</td>
</tr>
<tr>
<td>Hurricane Floyd</td>
<td>-18529.440</td>
<td>24865.395</td>
<td>-.057</td>
<td>-.745</td>
</tr>
<tr>
<td>NC Food Bank Usage Lag one month</td>
<td>6.782E-02</td>
<td>.181</td>
<td>.060</td>
<td>.375</td>
</tr>
<tr>
<td>NC Food Bank Usage Lag 2 months</td>
<td></td>
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<tr>
<td>NC Food Bank Usage Lag 3 months</td>
<td></td>
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<tr>
<td>R-squared</td>
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<tr>
<td>Adjusted R-squared</td>
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<tr>
<td>F-Value</td>
<td>18.78**</td>
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**p<=.05; ***p<=.01
References


The data used in this analysis can currently be found under the author’s listing at the following web site: xxxxxxx (exact web site location to be added to text later to preserve author anonymity in the review process).

Due to a difference in invoicing, agencies located in Wilmington’s four-county service area are not included. Therefore, this study uses data from only 30 counties in the NC Food Bank’s service area.

This increase refers specifically to the increase realized by the 193 food pantry agencies analyzed in this study, not all Food Bank’s over 600 member agencies.

Unlike welfare benefits, welfare reform did not place time limits on food stamp receipt.


Since individual EFP service areas cross county lines within the NC Food Bank service area, a county or EFP specific examination was not possible, and the analysis is done on the total NC Food Bank service area level.

Because most respondents could not provide yearly numbers served, results from these questions (numbers 2-7) were not included in the results section.

Welfare reform has barred most legal immigrants from receiving food stamps. North Carolina's immigrant population consists largely of Latinos. Thus, if these immigrants are unable to receive federal assistance, there is an expected increase in their need of emergency food assistance.

Welfare reform has drastically reduced benefits to "able-bodied, unemployed 18-50 year olds with no dependents"(P.L. 104-193). The vast majority of people in this category are men. States were given the option to waive the work requirements because they did not have the capacity to effectively aid this group in meeting work requirements; North Carolina has not done so. (Food Research and Action Center, 3/14/97).

Data on the Latino population in the county school systems was included in initial tests of the empirical model. However, this was only available on a school year annual basis, not monthly. When the data were included with the annual value used for each month in the relevant school year, the variable was not found
to have a significant impact, or to otherwise significantly affect the model results. Therefore it was not included in the final model.

11 For each month since October 1997 the percentage of TEFAP pounds distributed was calculated. Then, the monthly pound totals for the 193 EFPs in the analysis were reduced by the percent of TEFAP pounds distributed for that month. Thus, pound output data is the EFPs’ increased withdrawal of food excluding those related to the TEFAP program.

12 During Fran, the Food Bank invoiced all food directly to agencies receiving the food, not indicating if it was for disaster relief or normal distribution. Because food was invoiced directly to the agencies, the unusually high food distribution was included in the analysis, artificially inflating the data. However, during Hurricane Floyd, the Food Bank invoiced most of the food as disaster relief to the county receiving the assistance, not to the agencies. Disaster relief is not included in figures for food output, which artificially deflates the data.

13 Additional results were not shown in the interest of space but are available from the authors.

14 For a comprehensive summary of survey results or a copy of the survey document, please contact the authors.