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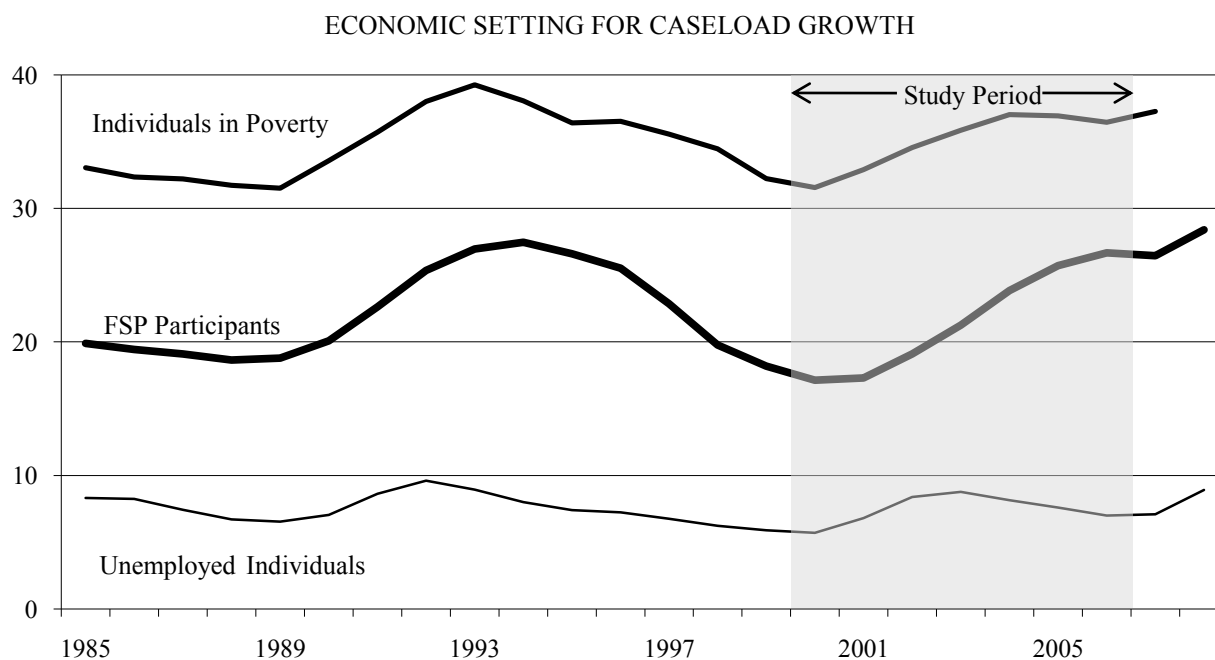
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EXECUTIVE SUMMARY

From 2000 to 2008, the average monthly number of Food Stamp Program¹ (FSP) participants rose by 65 percent (from 16.7 million to 28.4 million—see Figure 1) because of increases in the number of individuals eligible to participate in the program and the participation rate. These changes occurred during a period that included both a declining national unemployment rate and state-specific FSP policy changes in eligibility determination rules, income reporting requirements, and program outreach efforts. This study examines how the increase in the number of program participants from 2000 to 2006 was associated with the economic and policy factors that characterized the changing environment during this period.

FIGURE 1



WHAT IS THE ISSUE?

Conventional wisdom dictates that the FSP should be countercyclical, with periods of increasing caseloads roughly corresponding to periods of economic decline and increasing unemployment. For example, the trends depicted in Figure 1 show that the decrease in the number of unemployed individuals in the early 1990s was followed by a decrease in the FSP caseload. Certainly, the economy affects participation in the FSP in several ways:

¹ Our data predate the 2008 Farm Bill's name change of the Food Stamp Program to the Supplemental Nutrition Assistance Program (SNAP) which became effective on October 1, 2008. For this reason we retain the Food Stamp Program terminology throughout this report.

- **Eligibility.** Eligibility is based primarily on financial need; in general, to be eligible, households must have income and assets below specified thresholds. In worse economic times, individuals may be more likely to be unemployed or working at lower wages or for fewer hours. Asset levels may also diminish as individuals draw on their savings to finance day-to-day expenditures.
- **Benefit Levels.** The level of the benefit depends, in large part, on the amount of earned and unearned income in the household. If individuals are working fewer hours or at lower wages in worse economic times, they can anticipate higher benefits. In addition, unearned income, such as returns on savings or investments may be lower.
- **Barriers to Participation.** Barriers to participating in the FSP include stigma associated with participating and the time and monetary costs of applying for the program and recertifying to maintain eligibility. Worsening economic conditions may decrease stigma by increasing the perceived acceptability of the FSP. An economic downturn may also lead to more instability in wages, hours worked, and employment status, increasing the number of changes to report and the time and money spent reporting those changes.
- **Participation Decision.** Even if the benefits associated with participating outweigh the expected costs, beliefs about the state of the economy can also affect an eligible household's decision to enroll in the FSP. Farrell et al. (2003) found that some eligible households with a short-term drop in income may not participate in the FSP because they may believe that their drop in income is temporary. Such a belief may be less common during an economic downturn than economic recovery.

Quantifying the economy's impact on the benefits and costs of FSP participation is difficult because many factors simultaneously influence the program. In 1996, during an economic recovery, welfare reform legislation made sweeping changes to the nation's welfare programs, changing cash assistance from an entitlement to a temporary program designed to move people into work. This legislation also included changes to the FSP that reduced benefit levels, disqualified many immigrants, and set time limits for many nondisabled nonelderly childless adults or able-bodied adults without dependents (ABAWDs). In the early 2000s, during an economic downturn, the 2001 Agriculture Appropriations gave states some flexibility to align the treatment of vehicle values in the asset test with the treatment under state Temporary Assistance to Needy Family (TANF) programs. Regulatory changes implemented in 2001 gave states options such as expansion of categorical eligibility, and simplified reporting and status reporting, which reduced the requirements for participants to report income and job changes. In addition, the Farm Security Act of 2002 made several changes that restored benefits to some legal immigrants, simplified the treatment of income, expanded simplified reporting to more households, and allocated funds for improving access, participation, and outreach.

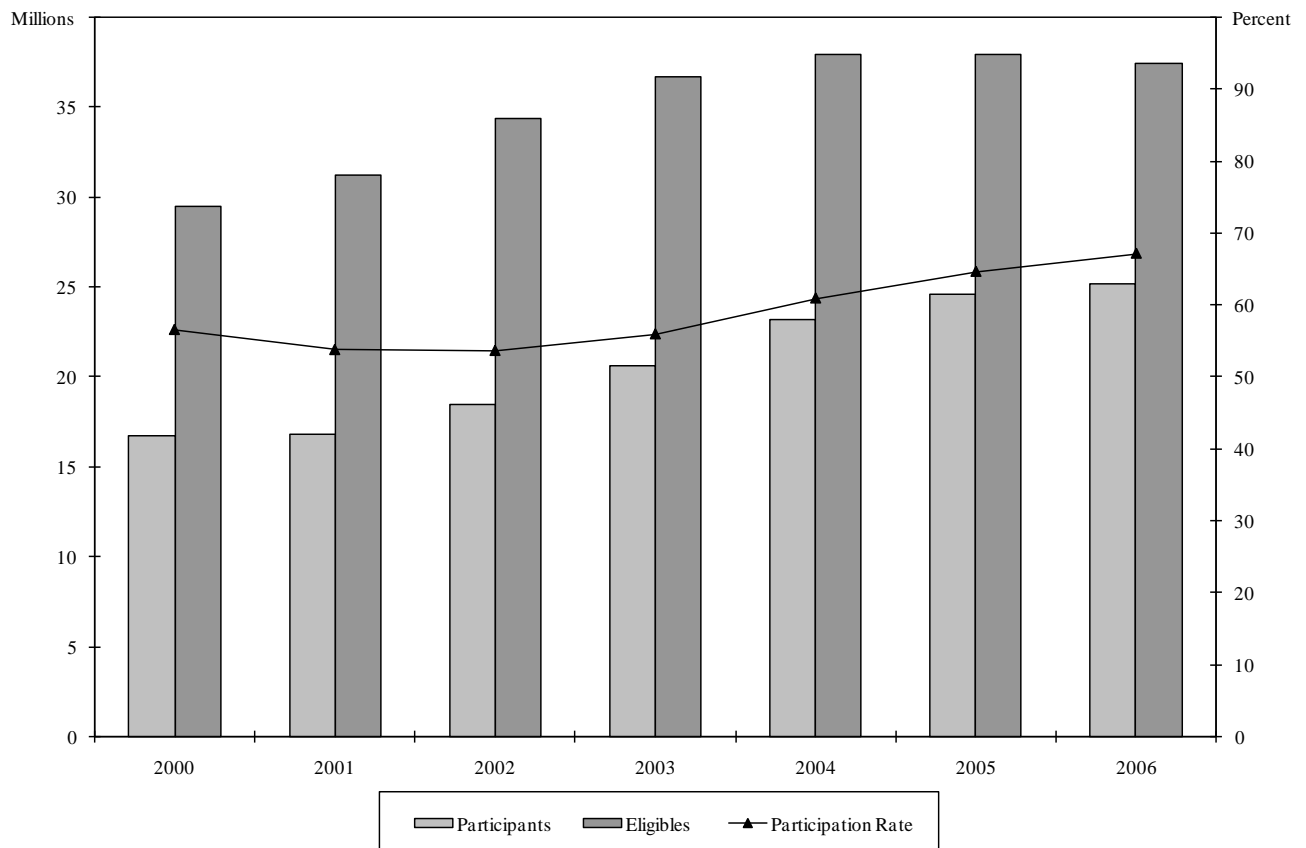
While the changes in FSP participation and unemployment in Figure 1 largely comport with the idea that the program is countercyclical, there was a break from this trend in the mid 2000s—following the period of decreasing unemployment, the FSP caseload continued to rise. This may be due to a fundamental change in the effect of the economy on participation or the influence of program policies introduced during the early 2000s. This study attempts to identify why this

occurred by examining the roles that changes in economic and policy factors played in increasing FSP participation.

WHAT DID THE STUDY FIND?

The number of program participants can increase when more people are eligible for the program, when more of those who are eligible participate, or both. In the early 2000s, the increase in the number of participants was driven entirely by the increase in the number eligible (the participation rate was declining) and in the later years by the increase in the percentage participating (the number eligible leveled off before decreasing from 2005 to 2006) (see Figure 2). Both components account for a large share of the caseload growth, with their relative importance varying over time and across states. During 2000 to 2006, more than half of the increase in the number of participants was due to an increase in the number who were eligible. Slightly under half was due to an increase in the percentage that participated. While many individual states shared this trend, some had different experiences, such as caseload growth that was attributed to either an increasing number of eligibles or an increasing participation rate over the entire period.

FIGURE 2
PARTICIPANTS, ELIGIBLES, AND PARTICIPATION RATE, 2000 TO 2006



Several key findings related to how changes in the economy and program policies affect both the number of eligibles and the participation rate are:

- Changes in states' unemployment rates affected both the eligibles count and the participation rate, while changes in states' labor force participation rates and minimum wages affected only the number of eligibles in the program.
 - The economy had a countercyclical association with the participant count, a result that is consistent with recent studies examining earlier periods (Ratcliffe et al. 2008; Klerman and Danielson 2008).
 - The FSP participation rate was negatively associated with the unemployment rate. As the unemployment rate decreases, individuals who remain unemployed may become increasingly likely to participate, perhaps as their savings levels diminish.
 - Increases in state labor force participation rates and minimum wages were associated with decreased state FSP caseloads.
- The introduction of FSP policies designed to expand eligibility or ease reporting also was associated with increased numbers of participants.
 - States that offered simplified reporting had higher caseloads than did states with other reporting requirements. This is consistent with related research (Klerman and Danielson 2008; Cody et al. 2007; Hanratty 2006). However, we found the waiver allowing states with simplified reporting to reduce benefits on the basis of all types of income or earnings change information to have no association with the participant count.
 - States offering expansive categorical eligibility had higher caseloads. This is attributed to the policy's positive association with the participation rate in states with this policy. Expanded categorical eligibility targets individuals with incomes above 130 percent of the federal poverty level or with asset values exceeding standard FSP eligibility thresholds. For both groups of individuals, sizable application costs and small benefit amounts may yield a small, or even negative, net benefit to participating. By reducing the costs associated with applying, expanded categorical eligibility may increase the net benefit for these individuals and increase the participation rate.
 - Per capita program outreach expenditures had a positive, though statistically insignificant, association with state participant counts. However, an alternative model specification that allowed for interactions between the unemployment rate and program policies revealed that outreach efforts were associated with higher caseloads more so in times of low unemployment. Outreach efforts can result in sustained increases in the participant count despite an improving economy if they are more effective at reaching lower-skilled individuals who remain unemployed despite an improving economy or the amount of resources devoted to program outreach, including the

allocation of total administrative expenditures and total staff time devoted to outreach, as well as the level of staff enthusiasm and energy, is greater during times of low unemployment.

- Respondents from state FSP offices and community-based organizations (CBOs) described a range of state circumstances that they believed to have affected caseload size or participation rates. Adoption of options available under the Farm Security Act of 2002; changes to FSP application layout, availability, and processing; widespread and targeted outreach efforts; and state economic and demographic changes were mentioned by respondents in several states.
- The changes in the participant count could not be explained by a single factor, but rather were due to concurrent economic and policy changes, together with factors unique to each year.
 - The change in economic factors between 2003 and 2006, a period of declining national unemployment, decreased the participant count by more than one million individuals.
 - Model predictions indicate that the change in program policies over this period increased the participation count by a smaller amount.
 - A substantial portion of the actual change in the participant count was explained by year fixed effects—unobserved factors common to all states that change over time. These factors may be picking up the effects of the changing economy that are not represented by the economic measures included in the model. For example, the qualitative interviews revealed that local economic indicators are potentially more important than those aggregated to the state level in terms of explaining observed program participation dynamics.

HOW WAS THE STUDY CONDUCTED?

In three phases, the current study explores the policy and economic environment from 2000 to 2006 and suggests reasons for the caseload growth.

Phase 1—Decomposition and Multivariate Analysis. Using state and year (2000-2005) panel data, we began the quantitative portion of the analysis by decomposing the increase in the participant count into the change in the number eligible and the change in the participation rate to identify the role each of these factors play. (We defined the number of eligibles using estimates from a microsimulation model that uses the Current Population Survey.) While previous related research has focused almost exclusively on changes in the participant count using a single-equation model, we estimated a two-equation model of changes in the eligibles count and changes in the participation rate as a multivariate analog to the descriptive decomposition. Using estimates from each equation, we then backed out the net effect of a set of economic and policy

variables on changes in the participant count. Examining changes in the eligibles count and the participation rate separately provides greater flexibility than estimating a single-equation participant count model. In particular, the model's main advantage lies in its ability to use a different set of covariates in the eligibles count and participation rate equations, allowing us to specify the pathways through which economic and policy variables may affect the participant count and test these hypotheses using model estimates. Furthermore, though each of the two equations in the model can be estimated independently, estimating them jointly as a Seemingly Unrelated Regressions model produces more efficient parameter estimates, in terms of lower standard errors.

Phase 2—State Interviews. Building on these empirical findings, in the second phase we used the quantitative information to select 11 states that we expected would cover a range of experiences. In each state, we contacted both FSP administrators and staff from community-based organizations (CBOs) involved in increasing access to and participation in the FSP to discuss the relationships between their state economies and policies and FSP caseloads during this period. Responses to interview questions both confirmed the importance of key variables in our empirical model and suggested new variables that we then included to improve the fit of the model to the data. Interview responses also informed our interpretation of the quantitative results, either through suggesting ways in which a policy or economic change cannot be fully captured by data (such as in describing outreach efforts rather than expenditures, or in describing local economic changes not shared by the entire state) and clarifying how programmatic changes affect policy implementation (for example, the interaction between simplified reporting policies and extended office hours).

Phase 3—Updated Two-Equation Analysis with New Variables. In the third phase, we expanded the set of variables used in the quantitative model based on factors that many state FSP administrators and community-based organization staff suggested were important during the qualitative portion of the study. In this phase, we also added an additional year of data (2006), which had become available in the interim.

I. INTRODUCTION

The number of participants in the Food Stamp Program (FSP) has reached record levels. In April 2008, it surpassed its previous record from 1994 of 28 million participants (when disregarding the spike in the number of people issued disaster benefits following Hurricanes Katrina and Rita in 2005). By March 2009, 33 million people were participating. The number has been on the rise since fiscal year 2000, when just over 17 million participated in an average month. The average number of participants increased 65 percent between fiscal years 2000 and 2008.²

During much of this time, other indicators commonly associated with the state of the economy either improved or remained fairly stable (see Figure I.1). The national unemployment rate, for example, was 4.0 percent in 2000, but peaked at 6.0 percent in 2003, decreasing to 4.6 percent for 2006 and 2007. Additionally, the number of people in poverty peaked at 37 million in 2004, and then hovered at or slightly below 37 million through 2007.

Conventional wisdom dictates that the FSP should be countercyclical, with periods of increasing caseloads roughly corresponding to periods of economic decline and increasing unemployment. For example, the trends depicted in Figure I.1 show that the decrease in the number of unemployed individuals in the early 1990s was followed by a decrease in the FSP caseload. Certainly, the economy affects participation in the FSP in several ways:

- **Eligibility.** Eligibility is based primarily on financial need; in general, to be eligible, households must have income and assets below specified thresholds. In worse economic times, individuals may be more likely to be unemployed or working at lower wages or for fewer hours. Asset levels may also diminish as individuals draw on their savings to finance day-to-day expenditures.
- **Benefit Levels.** The level of the benefit depends, in large part, on the amount of earned and unearned income in the household. If individuals are working fewer hours or at lower wages in worse economic times, they can anticipate higher benefits. In addition, unearned income, such as returns on savings or investments may be lower.
- **Barriers to Participation.** Barriers to participating in the FSP include stigma associated with participating and the time and monetary costs of applying for the program and recertifying to maintain eligibility. Worsening economic conditions may decrease stigma by increasing the perceived acceptability of the FSP. An economic downturn may also lead to more instability in wages, hours worked, and employment

² Our data predate the 2008 Farm Bill's name change of the Food Stamp Program to the Supplemental Nutrition Assistance Program (SNAP) which became effective on October 1, 2008. For this reason, we retain the Food Stamp Program terminology throughout this report.

status, increasing the number of changes to report and the time and money spent reporting those changes.

While the changes in FSP participation and unemployment in Figure I.1 largely comport with the idea that the program is countercyclical, there was a break from this trend in the mid 2000s—following the period of decreasing unemployment, the FSP caseload continued to rise. This may be due to a fundamental change in the effect of the economy on participation or the influence of program policies introduced during the early 2000s. Of interest to policymakers, then, is what is different about the economic expansion that began in 2003. Why did the number of participants in the FSP continue to increase in 2005 and 2006? What economic and policy factors are associated with the continued increase in the number of participants? This report describes our approach, using both quantitative and qualitative analyses, to identify why this occurred by examining the roles that changes in economic and policy factors played in increasing FSP participation.

In this chapter we provide an overview of how our study contributes to related research and describe our data sources. Chapter II describes the results of our quantitative analysis in detail. Chapter III describes our qualitative approach and findings, and the relationship between the quantitative and qualitative findings. Finally, Chapter IV summarizes the findings and describes the conclusions to be drawn from this multi-method study.

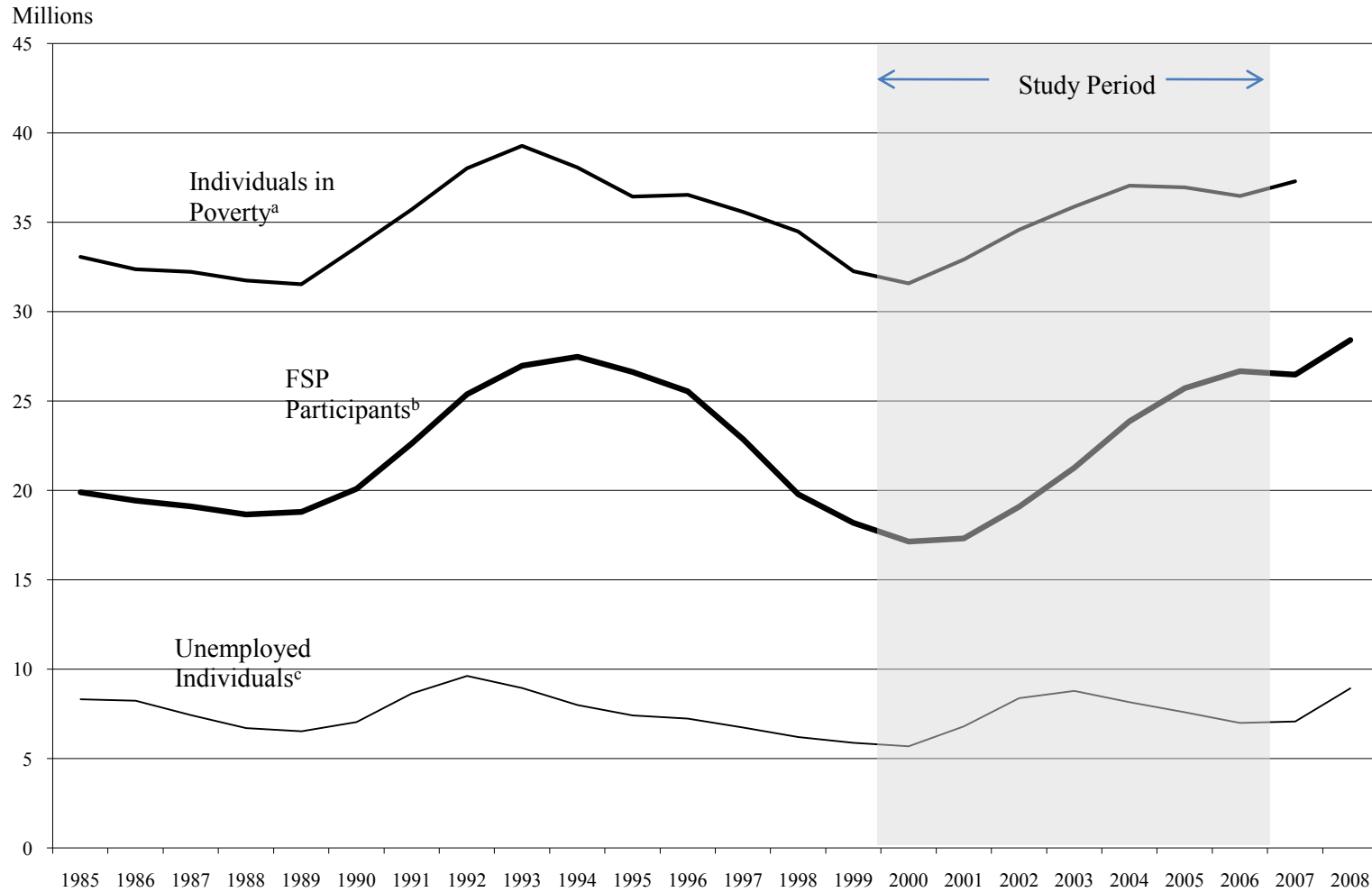
A. RELATED RESEARCH

Quantifying the economy's impact on FSP participation is difficult because many factors simultaneously influence the program. In 1996, during an economic recovery, welfare reform legislation made sweeping changes to the nation's welfare programs, changing cash assistance from an entitlement to a temporary program designed to move people into work. This legislation also included changes to the FSP that reduced benefit levels, disqualified many immigrants, and set time limits for many nondisabled nonelderly childless adults or able-bodied adults without dependents (ABAWDs). In the early 2000s, during an economic downturn, the 2001 Agriculture Appropriations gave states some flexibility to align the treatment of vehicle values in the asset test with the treatment under state Temporary Assistance to Needy Family (TANF) programs. Regulatory changes implemented in 2001 gave states options such as expansion of categorical eligibility, and simplified reporting and status reporting, which reduced the requirements for participants to report income and job changes. In addition, the Farm Security Act of 2002 made several changes that simplified the treatment of income, expanded simplified reporting to more households, and allocated funds for improving access, participation, and outreach.

Beliefs about the state of the economy can also affect an eligible household's decision to enroll in the FSP. In examining the relationship between FSP participation and monthly income, Farrell et al. (2003) concluded that some eligible households with a short-term drop in income may not participate in the FSP because they may believe that their drop in income is temporary. Such a belief may be more common during a time of economic recovery than during an economic downturn.

FIGURE I.1

FSP PARTICIPANTS, UNEMPLOYED INDIVIDUALS, AND INDIVIDUALS IN POVERTY



^aAnnual values. Source: Bureau of the Census, Poverty in the United States: 2007

^bAverage monthly values. Source: Food and Nutrition Service - Fiscal Year 2008 Program Operations Data

^cAverage Monthly Values. Source: Bureau of Labor Statistics

Note: FSP participant counts reduced to exclude individuals (1) receiving benefits in error, (2) receiving disaster assistance, or (3) who would have been income-ineligible without an expanded categorical eligibility program.

Many studies have looked closely at factors associated with earlier increases and decreases in the number of participants. McConnell (1991) analyzed the increase from 1989 to 1990. Using participant data from the FSP Quality Control data, McConnell found that an increase in unemployment and other factors related to the economy were the major reasons for an increase in the caseload in some states, although other states were more affected by changes in other program policies. Medicaid, for example, had just introduced several changes that increased eligibility for and participation in Medicaid and encouraged Medicaid participants to receive FSP benefits. In addition, the Homeless Assistance Act included changes in the FSP that encouraged more homeless individuals to participate in the program. Immigration reform also led to an increase in the number of legal immigrants, making some eligible for the FSP.

Kuhn et al. (1997) investigated the influence of macroeconomic conditions on poverty and FSP participation from 1972 to 1995 and found that changes in the inflation and unemployment rates were important determinants of the FSP participation rate. They attributed the result to the decline in the real value of Aid to Families with Dependent Children (AFDC) benefits during the 1980s and the decline in real wages that increased FSP eligibility. They then predicted how rates of FSP participation and poverty would respond to a possible economic recession in the late 1990s, estimating that a mild recession would lead to a maximum increase from 10.0 percent of the population participating to 10.7 percent, with increasing poverty rates exacerbating the forecasted increase in participation rates. (In 2000, 6 percent of the population received FSP benefits in an average month; by 2007 it rose to 9 percent.)

Several studies focused on the decrease in the number of participants in the late 1990s. During this time, while the economy was expanding, welfare reform introduced major changes to the FSP as well as to other programs, such as AFDC, which later became TANF. Changes were also made to the Supplemental Security Income (SSI) program, the recipients of which are often automatically eligible for the FSP. The U.S. Department of Agriculture (USDA) (2001), using an eligibility model based on Current Population Survey (CPS) data and the same descriptive decomposition applied in the current study, attributed about 44 percent of the decrease in the number of participants from 1994 to 1999 to a decrease in the number of eligible individuals, and about 56 percent to a decrease in the proportion of eligible individuals who chose to participate in the FSP. Figlio et al. (2000) and Ziliak et al. (2003) estimated how the Electronic Benefits Transfer (EBT) program and waivers from the work requirement for ABAWDs affected FSP caseloads after controlling for macroeconomic trends. The estimates from their models indicated that approximately 35 percent of the FSP caseload reduction from 1994 to 1998 was due to state differences in rates of unemployment and employment growth. The amount of the reduction attributed to state-to-state differences in welfare reform was minimal. Wallace and Blank (1999) analyzed the declines in both AFDC and FSP caseloads in the early to mid 1990s, with a particular focus on the role played by the economy. They found that 8 to 19 percent of the AFDC caseload decline and 28 to 44 percent of the FSP caseload decline from 1994 to 1998 could be explained by unemployment rates, whereas welfare reform explained 8 and 6 percent of the declines, respectively.

Extending the research into the early 2000s, Klerman and Danielson (2008) estimated dynamic models of changes in the FSP caseload by partitioning the group of FSP participants into those who receive both FSP and AFDC/TANF benefits and those who receive only FSP benefits. While controlling for general economic conditions and trends, they examined how FSP

policies such as sanctions for over- and underpayments, benefit receipt using the EBT system, simplified reporting, and transitional benefits affect caseloads. They found that while the economy was more important than TANF implementation in explaining the caseload decline in the 1990s, FSP policy changes that increased program access were more important than the economy in explaining the rise in the early 2000s.

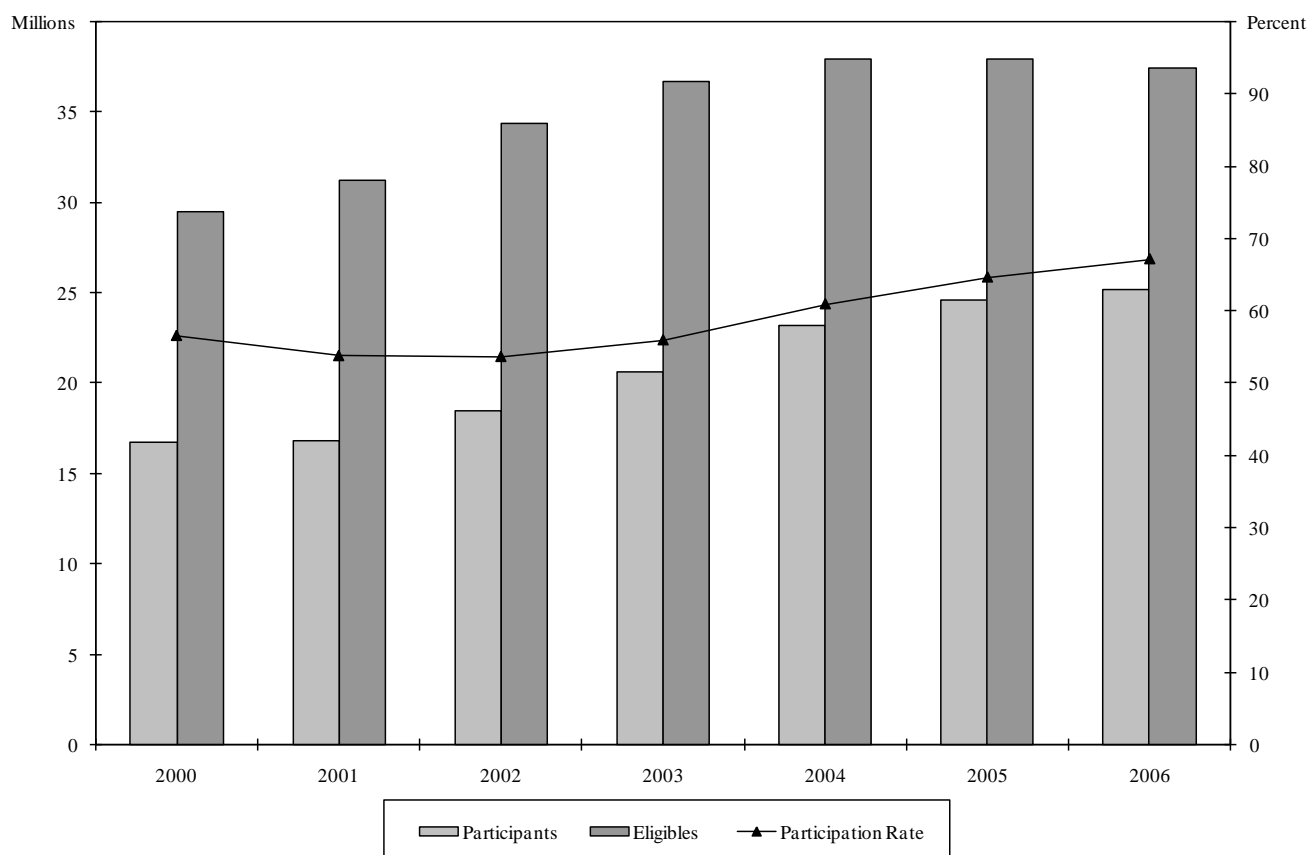
Ratcliffe et al. (2008) also examined changes in FSP participation using a rich data set consisting of a combination of the 1996 and 2001 SIPP panels and state-level information on FSP, welfare, minimum wage, and earned income tax credit policies. Unlike related studies, Ratcliffe et al. use individual-level data, rather than aggregated state-level counts, to examine the association between program policies and caseload changes. They find several state-specific policies increased the likelihood of receiving FSP benefits, including more lenient vehicle exemption policies and expanded categorical eligibility.

Several FSP studies have surveyed states to gain the perspective of state administrators and others directly working with FSP participants. McConnell (1991) used regression models of FSP participation to identify states to be surveyed following the caseload increase in the late 1990s. The researcher was able to gather information about changes that had not been quantified in the data analysis, such as operational changes to improve access, and to identify the specific parts of broader policy changes that administrators saw as more important, such as changes to improve accessibility. The U.S. Government Accountability Office (GAO) (2007) surveyed FSP staff in all states to identify changes in program procedures intended to improve program access. In addition, the agency focused in on a few states to help identify additional program changes, such as the use of community organizations to provide program information and application assistance to low-income individuals.

B. RESEARCH QUESTIONS

In this study we examine factors affecting participation in the FSP from 2000 to 2006, expanding upon the existing research by extending the period of research through 2006, which is three years past the peak in unemployment and two years past the currently available research. Because increases in both the number of eligibles and the participation rate contributed to increases in the number of participants over the study period (see Figure I.2), we model each of these two components separately and determine their associations with a set of economic and policy variables. We then back out the net implied effect of these variables on the participant count. In addition, we examine the role of these factors by state, and incorporate the insights of both FSP administrators who are actively involved in developing and implementing program changes in their states and workers in community organizations who have been working directly to increase access to the program.

FIGURE I.2
PARTICIPANTS, ELIGIBLES, AND PARTICIPATION RATE, 2000 TO 2006



Specifically, we address the following research questions:

- What role did the economy play in the increase in the number of FSP participants between 2000 and 2006?
- What roles did other factors, such as FSP policies, outreach activities, and changes in participation rates, play in the increase in the number of FSP participants during this period?
- What factors did state and county FSP administrators and community organization staff credit with the change in their state caseload?

Policymakers will be able to use the results of this research to guide the development of effective strategies for increasing participation among the eligible population, as well as to better understand how changes in the economy may contribute to caseload changes.

We conducted the study in three stages. First, we performed a preliminary quantitative assessment of the data. We decomposed the increase in the participant count, by state, into the portion attributable to an increase in the state’s eligible count and to the portion attributable to an

increase in the state's participation rate. We then used a regression model to predict the change in the number of participants for each state given the known economic and policy environments in that state. Second, from this preliminary assessment, we identified 11 states to contact for additional information about their state economic and policy climates. Third, from the information gathered from the states, we identified additional policy and economic factors to include in our regressions and repeated the preliminary analysis.

C. DATA

The descriptive and multivariate analyses are estimated using data sets that contain state-level counts of FSP participants and eligibles, as well as state-level FSP policies. Because estimates of the number of individuals eligible to participate are only available for an average month in each year, we set the unit of time in all analyses to a year and use estimates of the average monthly participant and eligibles counts as well as annual FSP policies.

Each year, Mathematica Policy Research, Inc. (MPR) provides estimates of the number of individuals eligible for the FSP based on a microsimulation model that uses CPS data (Wolkwitz 2008). This model forms FSP households and allocates annual income amounts for the household across months to compute the monthly gross income. Net income is imputed from the gross income based on other economic and demographic characteristics of the household. Then the model applies the gross and net income tests to each household to determine their income eligibility. Finally, the model imputes the probability that the household will pass the asset test. The person-weight of each income-eligible individual on the file is multiplied by the probability of passing the asset test. The national data are then disaggregated into state estimates.³

We determine the number of participants from the FSP's Summary of Program Operations Data, available from the Food and Nutrition Service (FNS). Using additional information from FNS, we also adjust the monthly totals of the number of participants to account for those who receive benefits for disaster assistance to avoid erroneously attributing a caseload change that is driven by natural disasters to a policy or economic change. Using information from the FSP Quality Control (FSPQC) data, we adjust the monthly totals to remove people who receive benefits in error or whose income would disqualify them were it not for an expanded categorical eligibility program.⁴

While we will describe these policies in more detail in the next section, we describe here our data sources. The FSP State Options Reports (USDA 2006; 2005; 2004; 2003a; 2003b; 2002) provide information for several policies discussed in the next section, including simplified reporting and state waivers for this reporting requirement; transitional benefits; policies allowing vehicles to be excluded from the asset eligibility test; expanded categorical eligibility, and the use of electronic benefit transfer cards. We obtained data on SSI Combined Application Projects

³ The state estimates become the basis for the official state participation rates (for example, Cunyningham, Castner, and Schirm 2008).

⁴ The FSPQC data are collected from a sample of FSP participants in each state for the purpose of estimating state error rates.

(SSI CAP) through 2004 from the Food Research and Action Center (FRAC) (2004) and updated it for years 2005 to 2006 using the research of Wolkwitz and Ewell (2007). Variables such as outreach spending and nutrition education spending are drawn from both FNS administrative cost data and from historical records of FNS outreach grant award amounts listed on the FNS website.⁵ We use state population estimates from the Census Bureau to produce per capita spending amounts for these variables.

We measure the strength of state labor markets using unemployment rates, labor force participation rates, and various characteristics of state wage distributions. We obtained nonseasonally adjusted unemployment rates and labor force participation rates (based on unemployment and employment totals) from the Bureau of Labor Statistics.⁶ The 20th percentiles of wage distributions are estimated using CPS data from October of each year. For other characteristics, such as state minimum wage levels, we used data from the table of historical state minimum wages prepared by the U.S. Department of Labor, Employment Standards Administration, Wage and Hours Division.⁷

The implementation of state FSP policies in many cases does not correspond to the start of the federal fiscal year. The state options reports catalog state policies in effect as of a certain month of a given year. For most policies, we define a particular policy as being in effect in a given fiscal year if it is in effect in October of that fiscal year.⁸

⁵ See <http://www.fns.usda.gov/fsp/outreach/grants.htm>

⁶ See <http://www.bls.gov/lau/lausad.htm>

⁷ See <http://www.dol.gov/esa/whd/state/stateMinWageHis.htm>

⁸ When we have monthly data available for a particular policy from a source other than the state options report, we assume the policy was in effect for a given fiscal year if it is in effect for at least half of the months of the fiscal year.

II. QUANTITATIVE ANALYSIS

As a starting point for all analyses, we estimate state participation rates using the number of participants and estimates of the number of eligibles. We motivate our analysis by estimating a descriptive model that decomposes the increase in the number of participants into the increase in the number eligible and the increase in the participation rate. We then estimate a multivariate model that examines the associations between changes in employment and policy factors and changes in both the number of eligibles and the participation rate.

A. DECOMPOSITION OF INCREASE IN NUMBER OF PARTICIPANTS

The number of participants in the FSP increased substantially from 2000 to 2006. An increase can occur when more people are eligible for the program, when more of those who are eligible participate, or both. To identify the role that each of these factors play, we use the following identity:

$$P_{2006,i} - P_{2000,i} = \frac{(r_{2000,i} + r_{2006,i})}{2}(E_{2006,i} - E_{2000,i}) + \frac{(E_{2000,i} + E_{2006,i})}{2}(r_{2006,i} - r_{2000,i}),$$

where $P_{t,i}$ is the number of participants in year t and state i , $E_{t,i}$ is the number eligible in year t and state i , and $r_{t,i}$ is the participation rate in year t and state i . Conceptually, the first term, $\frac{(r_{2000,i} + r_{2006,i})}{2}(E_{2006,i} - E_{2000,i})$, measures the effect on the number of participants in state i when the number of eligible persons changes and the participation rate remains constant at its 2000 and 2006 average value. The second term, $\frac{(E_{2000,i} + E_{2006,i})}{2}(r_{2006,i} - r_{2000,i})$, measures the effect on the number of participants in state i when the participation rate changes and the number eligible remains constant at its 2000 and 2006 average value. Using this decomposition, we find that, from 2000 to 2006, over half of the increase in the number of participants nationally was due to an increase in the number who were eligible and slightly under half was due to an increase in the percentage of eligibles that participated (see Table II.1). Furthermore, from Figure I.2, we can see that in the early 2000s the increase in the number of participants was driven entirely by the increase in the number eligible (the participation rate was declining) and in the later years by the increase in the percentage participating (the number eligible leveled off before decreasing from 2005 to 2006).⁹

⁹ During this time period, noncitizens were a large group affected by changes in eligibility, with benefits restored to noncitizen adults who have been in the country for at least five years in April 2003 and noncitizen children in October 2003. Thus, some of the increase in eligible individuals over this time period can be attributed to immigrants. To disentangle the increase in the number of participants due to economic and other factors from changes in FSP eligibility rules, we also perform this decomposition for households with no immigrant members. In Table A.1 in Appendix A we see the change in the number of participants, eligibles, and the participation rate for this subset of the population, and we find that the 52-percent increase in the number of participants was driven slightly more by the increase in the participation rate than the increase in the number of eligibles.

TABLE II.1

DECOMPOSITION OF INCREASE IN NATIONAL PARTICIPANT COUNT, 2000 TO 2006

	2000	2006	Change 2000 to 2006 ^a	Resulting Increase in Participant Count (percent)
Participants (millions)	16.70	25.17	51	
Eligibles (millions)	29.46	37.42	27	58
Participation rate (percent)	56.69	67.26	11	42

Source: FSP Operations, FSPQC data, and March CPS data for the years shown.

^a Change in participants and eligibles is percentage difference, change in participation rate is percentage point difference.

Note: FSP participant counts reduced to exclude individuals (1) receiving benefits in error, (2) receiving disaster assistance, or (3) who would be income-ineligible were it not for an expanded categorical eligibility program.

Re-estimating the decomposition by state reveals substantial state-level differences in the amount of the change in the participant count attributed to changes in the state eligibles count and participation rate. In Table II.2 we present a tabulation of all the states and the District of Columbia that had an increase in the number of participants from 2000 to 2003 and 2003 to 2006, respectively, and if so, the primary reason for the increase. (Tables A.2 and A.3 in Appendix A list the state names for each category in Table II.2). From 2000 to 2003, 4 states and the District of Columbia showed decreases in the number of participants. Of those with an increase, almost half of the states (22) had decreases in the participation rate, so the increase in the number of participants was driven by the increase in the number of eligibles. In another 12 states the increase was driven much more by the increase in the number of eligibles than by the increase in the participation rate. In 7 states the increase in the participation rate was the dominant reason for the increase in the number of participants.

TABLE II.2

TABULATION OF STATES ACCORDING TO CHANGE IN PARTICIPANT COUNT AND REASON FOR INCREASE IN PARTICIPANT COUNT

	2000 to 2003	2003 to 2006
Participant Count Decreased	5	3
Participant Count Increased	46	48
Due to increase in number eligible		
Participation rate decreased	22	4
Proportion due to increase in eligibles much larger (≥ 60 percent)	12	5
Proportion due to increase in eligibles slightly larger (50 to 60 percent)	3	4
Due to increase in participation rate		
Participation rate decreased	1	24
Proportion due to increase in eligibles much larger (≥ 60 percent)	7	9
Proportion due to increase in eligibles slightly larger (50 to 60 percent)	1	2

In contrast, from 2003 to 2006, almost half (24) of the states with increases in the number of participants had decreases in the number of eligibles, so the increase in the number of participants was driven entirely by the increase in the participation rate among those who were eligible. In another 9 states the increase was driven much more by the increase in the participation rate than the increase in the number eligible.

B. MULTIVARIATE ANALYSIS OF CHANGE IN THE NUMBER OF PARTICIPANTS

As a multivariate analog to the descriptive decomposition estimated in the last section, we estimate a two-equation model of changes in the eligibles count and changes in the participation rate. Using estimates from each equation, we are able to back out the net effect of a set of macroeconomic variables and federal and state FSP policy variables on changes in the participant count.

1. Empirical Model

While previous related research has focused almost exclusively on changes in the participant count, examining changes in the eligibles count and the participation rate separately provides greater flexibility than estimating a single-equation participant count model. One advantage is the ability to use a different set of covariates in the eligibles count and participation rate equations. This is useful because some variables, such as whether a state offers benefits using an EBT system, are likely to affect the participation rate, but not the eligibles count. Estimating a one-equation model instead would require us to be agnostic about the pathway through which a variable like EBT is associated with the participant count. Furthermore, the two-equation model allows the parameter estimates of the coefficients of any variable that is common to both equations to differ across equations. Thus, variables like the unemployment rate can affect the eligibles count and the participation rate differently. It is indeed possible to find statistically significant coefficients of a variable in both the eligibles count and participation rate equations, but to find no net effect of the variable on the overall participant count. In this case, estimating a one-equation regression model of the determinants of the participant count, instead, may simply produce an insignificant estimate and hide these countervailing effects.¹⁰ Because of its many advantages, we select the two-equation model to estimate the determinants of changes in the participant count over time, and use the estimates from this model to make predictions and conduct simulations.¹¹

While each of the two equations in the model can be estimated independently, we choose to estimate them jointly in a seemingly unrelated regressions (SUR) model. An SUR model

¹⁰ It is also possible, though less likely, for the coefficients of a variable in each equation to be insignificant, though the net effect on the participant count is statistically significant. This results from the standard error of the net effect being a function of the cross-equation covariance of the parameter estimates from each equation, in addition to their equation-specific variances.

¹¹ To allow the reader to observe and compare differences across model specifications, however, we also estimate the single-equation participant count model. See Appendix A, Table A.2 for details.

assumes that the random error terms are correlated across equations in each year.¹² This defining feature of the model is motivated by the idea that, in a given state, the unobserved factors that affect the number of eligibles may potentially affect the participation rate as well. For example, if an economy is weak, but improving, certain displaced workers may shift their preferences toward working more as their expectations about future employment grow. The likelihood of being eligible may decrease because some of them are obtaining jobs at wages that make them ineligible. At the same time, the likelihood of participating may decrease because they think their unemployment will soon come to an end. Under the right set of conditions, such as having different sets of regressors in each model and having a statistically significant correlation parameter for the error terms, estimating the equations jointly as an SUR model produces more efficient parameter estimates than estimating them independently.¹³

The SUR model of changes in the FSP eligibles count and participation rate for each state i in year t is defined as:

$$\begin{aligned} C_{i,t}^E &= \mu^E + \alpha^E E_{i,t} + \xi^E F_{i,t}^E + \gamma_t^E + \delta_i^E + \varepsilon_{i,t}^E \\ C_{i,t}^R &= \mu^R + \alpha^R E_{i,t} + \xi^R F_{i,t}^R + \gamma_t^R + \delta_i^R + \varepsilon_{i,t}^R \\ (\varepsilon_{i,t}^E, \varepsilon_{i,t}^R) &\sim N(0, \Sigma), \quad \Sigma = \begin{bmatrix} \sigma_{E,E} \mathbf{I}_n & \sigma_{E,R} \mathbf{I}_n \\ \sigma_{E,R} \mathbf{I}_n & \sigma_{R,R} \mathbf{I}_n \end{bmatrix} \end{aligned}$$

where $C_{i,t}^E$ and $C_{i,t}^R$ are the natural logarithms of the per capita FSP eligibles count and the participation rate, respectively, in state i and year t ; $E_{i,t}$ is a vector of measures of economic activity; $F_{i,t}^E$ and $F_{i,t}^R$ are vectors of FSP policy variables; γ_t^E and γ_t^R are vectors of year effects; δ_i^E and δ_i^R are time-invariant, state-specific deviations from the intercept terms μ^E and μ^R ; and $\varepsilon_{i,t}^E$ and $\varepsilon_{i,t}^R$ are the random error terms that are assumed to be correlated in state i and year t .¹⁴ The time-invariant state fixed effects capture state-specific propensities for individuals to participate in the FSP. We use the log of per capita eligibles and the log of the participation rate to allow for possible nonlinear responses of the eligibles count and participation rate to changes in explanatory variables and potentially to reduce heteroscedasticity among the error terms.

¹² The correlation parameter is estimated and a test of independence is performed to determine whether the estimate is statistically different from zero. For all specifications of the SUR model, we strongly reject the null hypothesis of independence across equations.

¹³ Given a statistically significant correlation coefficient for the error terms, if the set of regressors in one equation is a subset of the set of regressors in the second equation, then there is no efficiency gain in the estimation of the smaller equation; if neither set of regressors is a subset of the other, then there may be efficiency gains for both equations (Greene 1997).

¹⁴ Previous related research used a variety of dependent variables. For example, several studies used per capita caseloads, that is, the number of participating households as a percentage of the state population. Wilde et al. (2000) use per capita FSP caseloads; Ziliak et al. (2000) use per capita AFDC caseloads. Dynarski et al. (1991) used monthly averages of FSP participant counts in a fiscal year quarter while Kuhn, et al. (1997) and Danielson and Klerman (2006) used per capita FSP participant counts.

The yearly measures of economic activity include the state unemployment rate and the labor force participation rate. The unemployment rate measures how many labor force participants are currently unemployed. The labor force participation rate is a complementary characteristic that measures how many individuals in the population are part of the labor force, defined as those who are either employed or out of work and actively looking for a job. While the unemployment rate and the labor force participation rate are meant to measure general economic conditions, we also include the 20th percentile of the state wage distribution¹⁵ and the state minimum wage to capture characteristics of the low-wage labor market in which most FSP eligibles work and search for jobs. The minimum wage variable is particularly important given the analysis period of 2000 through 2006, as many states adopted minimum wages greater than the federal minimum wage of \$5.15 per hour during this period.

The set of FSP policy variables included in the model is intended to measure state efforts to improve access to the FSP and decrease transaction costs associated with continuing to participate in the program. To simplify the interpretation of the empirical findings and provide a broader policy context, we have categorized these variables into five groups consisting of policies expected to expand eligibility, ease access, promote outreach, ease reporting, and limit access. Below, we present this categorization and include in brackets the names of the policy variables presented in the tables of results. The bulleted items provide descriptions of the variables.

a. Policies Expected to Expand Eligibility

- A variable that indicates whether a state has adopted a policy that, at a minimum, excludes one vehicle per adult in the household in the asset test performed when determining a household's eligibility for the program. The asset test is less restrictive than the federal program rules in states that have adopted these policies. [vehicle]
- A variable indicating whether a state offers optional expanded categorical eligibility. A household is categorically eligible if all of its members receive SSI, cash or in-kind TANF, or general assistance. Beginning in 2002, a household is also categorically eligible if it receives or is certified to receive benefits or services through programs that are at least 50 percent funded by TANF or maintenance of effort (MOE) sources. States also have the option to expand categorical eligibility to households that receive benefits or services through programs that are less than 50 percent funded through TANF or MOE sources, though, in some circumstances, the household's gross income must be under 200 percent of poverty. The "expanded categorical eligibility" variable in our analysis identifies states that have taken the option to expand categorical eligibility. [catel]
- A variable indicating whether a state offers transitional benefits to individuals leaving the TANF program for up to five months after exit. In states with transitional benefits,

¹⁵ Some studies such as Blank (1999) also included the state median wage, but we found the median and the 20th percentile wage to be highly correlated (correlation coefficient=0.86) and omitted the median from our empirical model.

FSP clients who leave TANF may have their FSP benefit levels frozen for up to five months. In those five months, additional household income will not be used to decrease benefits or terminate eligibility. If a TANF leaver's income qualifies them for more benefits, however, the benefit amount may be increased. [transben]

b. Policies Expected to Ease Access

- A variable that indicates whether FSP participants in each state received benefits via the EBT program for at least half of the year. EBT cards, similar to bank cards, replace paper coupons. States were required to provide benefits electronically by 2006, and by the start of FY 2005, the entire caseload had been converted to EBT. [ebt]
- A variable indicating whether a state offers a Combined Application Project (CAP) for recipients of SSI benefits. In these states, single-person SSI households complete a streamlined application and receive benefits that have been computed differently from other FSP households. [cap]

c. Policies Expected to Promote Outreach

- A variable that measures state outreach spending to increase access to and participation in the FSP. This is based on federal and nonfederal outlays as part of state FSP administrative costs as well as FNS grant awards to organizations within a state. [outreach]
- A variable measuring the FSP total amount of federal and nonfederal outlays spent on nutrition education programs within a state. FNS encourages states to provide nutrition education to participating and eligible nonparticipating individuals and reimburses states for 50 percent of the allowable administrative costs of the activities. [nutreduc]
- A variable measuring the state-level income threshold for eligibility in the State Children's Health Insurance Program (SCHIP). While there is a considerable amount of state-level variation in the eligibility rules for this program, we use a broadly defined income eligibility threshold for each state. [schipelig]

d. Policies Expected to Ease Reporting

- A variable that indicates whether state agencies offer simplified reporting of increases and decreases in a participant's income. Historically, federal FSP policy has required recipients to report changes in their financial circumstances to state agencies at each re-certification appointment or when changes in monthly income exceed \$25. Caseworkers determine the length of re-certification periods, which vary by individual characteristics and circumstances (for example, typically shorter lengths for individuals with earnings and longer lengths for elderly individuals). More recently, states have been given the option to offer simplified reporting in which they

reduce the number of times between re-certifications that households need to report changes in earned income. [earnsimp]

e. Policies Expected to Limit Access

- A variable that indicates that the state with simplified reporting also has a waiver allowing them to reduce benefits on the basis of reported income or earnings change information affecting eligibility and benefits levels in other programs. This is introduced into the model only as an interaction term with simplified reporting. [wearnsimp]

We include the same set of covariates in both the participation rate and the eligibles count equations with the exception of those hypothesized to affect the participation rate only. These include EBT, CAP, simplified reporting for earners, waiver for simplified reporting for earners, SCHIP eligibility threshold, per capita outreach spending, and per capita nutrition education spending.¹⁶ Thus, the policy variables that we assume to affect both the participation rate and the eligibles count are the vehicle exclusion, expanded categorical eligibility, and transitional benefits policies.

2. Empirical Findings

Below, we discuss the findings from several sets of models. Our main specification is the two-equation SUR model described earlier. We also discuss the findings from three additional specifications in which lagged measures of the economic and policy variables are included in the model and each policy variable is interacted with the unemployment rate. We carry these three specifications throughout the report when making predictions and performing simulations.¹⁷

¹⁶ We also included several policies in our preliminary model specification including simplified reporting for nonearners; change reporting policies such as status reporting, and reporting of income changes of at least \$100 for both earned and unearned income; whether a state uses biometric technology in the application process; and total administrative program expenditures net of expenditures on outreach and nutrition education. We excluded these policy variables from the final specification for a variety of reasons, including the high degree of collinearity with the simplified reporting variable (simplified reporting for nonearners and status reporting and \$100 earned and unearned income reporting policies) and the lack of variation in the states' policy over time (biometric policy).

¹⁷ As a set of sensitivity analyses, we also estimated a one-equation participant count model, a dynamic SUR model in which a lagged measure of the dependent variable is included among the set of covariates, and a dynamic SUR model in which lagged values of the dependent variable and lagged values of key economic measures are included among the set of covariates. Findings from the one-equation static model, estimated to compare with previous research are included Appendix A of the report. The two dynamic models were estimated because many studies purport that dynamic models, relative to static models, provide a richer specification with which to examine caseload trends. However, we have limited confidence in the results of the dynamic models and thus do not include them in the report. Our lack of confidence is due mostly to the inability to estimate a dynamic model using a short analysis period. Whereas prior related studies of AFDC or FSP caseload trends often have access to more than 15 years of annual or monthly data, our analysis is based on 7 years of annual data. As Nickell (1981) shows, including lagged values of the dependent variable among the set of covariates in an empirical model with fixed effects biases the estimator due to the correlation between the lagged dependent variable and the fixed effect. The severity of potential bias increases with shorter panels, so we do not discuss the findings from this set of models.

All models are estimated using a weighted Generalized Least Squares (GLS) procedure, where the weights are based on state population. Related analyses have differed in their use of weighted data, which has often depended on whether a homoscedastic error structure is assumed. For example, in their analysis of AFDC/TANF and/or FSP caseload dynamics, Klerman and Danielson (2008) and Ziliak et al. (2000) use unweighted data and allow for heteroscedasticity, while Wilde et al. (2000) and Blank (2001) use weighted data and do not allow for heteroscedasticity. While we do not formally “correct” for error terms that are potentially heteroscedastic, normalizing the eligibles count by state population and normalizing the participant count by the number of eligibles (to form the participation rate) certainly makes the assumption of homoscedasticity more plausible. Taking logarithmic transformations of each of these variables also helps to reduce the risk of heteroscedasticity.

For each SUR model, we perform a statistical test to determine whether the error terms from the participation rate and eligibles count equations are independent across equations. We use a Lagrange multiplier test statistic developed by Breusch and Pagan (1980). In each SUR estimation, we strongly reject the null hypothesis of independence across equations, suggesting that there are efficiency gains from estimating the equations jointly.¹⁸

a. Main Model Findings

Table II.3 contains results from the main SUR model. The first two columns contain the coefficient estimates for the participation rate and eligibles count equations (asterisks indicate statistically significant estimates). The third column contains the combined effect of the estimates in the first two columns on the participant count. For variables that are common among both equations, the combined effect is the sum of the estimates of the coefficients in the participation rate and eligibles count equations. For variables specific to only the participation rate equation, the estimate of the coefficient in the participation rate equation is also the effect on the participant count. For example, since $C_{i,t}^R$ is the logarithm of the participation rate and $C_{i,t}^E$ is the logarithm of the per capita eligible count, the sum $(C_{i,t}^R + C_{i,t}^E)$ is the logarithm of the per capita participant count:

$$(C_{i,t}^R + C_{i,t}^E) = (\mu^R + \mu^E) + (\alpha^R + \alpha^E)E_{i,t} \\ + (\zeta^R + \zeta^E)F_{i,t} + \tilde{\zeta}^R \tilde{F}_{i,t}^R + (\gamma_t^R + \gamma_t^E) + (\delta_i^R + \delta_i^E) + (\varepsilon_{i,t}^R + \varepsilon_{i,t}^E)$$

where $F_{i,t}$ is the set of FSP policy variables that are common to both $F_{i,t}^R$ and $F_{i,t}^E$, and $\tilde{F}_{i,t}^R$ is the subset of policy variables that is included only in the participation rate equation.¹⁹

¹⁸ All test statistics for these significance tests have p-values of less than 0.0001.

¹⁹ Standard errors of the sum of parameters across equations are estimated using the variance-covariance matrix from the system of equations. Thus, they are a function of the covariance among parameters across equations.

TABLE II.3

ESTIMATES OF THE DETERMINANTS OF THE STATE FOOD STAMP PROGRAM
PARTICIPANT COUNT (MAIN MODEL)

Explanatory Variables	Dependent Variable		
	Participation Rate ^a	Eligibles ^b	Per Capita Participant Count ^c
unemprate	-0.021 ***	0.058 ***	0.037 ***
lfprate	0.015	-0.034 ***	-0.019 **
perc20th	-0.013	0.003	-0.010
minwage	0.001	-0.017 ***	-0.016 ***
vehicle	-0.008	0.012	0.004
catel	0.056 ***	0.004	0.060 ***
transben	0.004	-0.001	0.003
ebt	0.007		0.007
cap	0.005		0.005
outreach	0.045		0.045
nutreduc	-0.057 ***		-0.057 ***
schipelig	-0.001 **		-0.001 **
earnsimp	0.035 ***		0.035 ***
wearnsimp	0.010		0.010

* Significantly different from zero at the 0.10 level, two-tailed test.

** Significantly different from zero at the 0.05 level, two-tailed test.

*** Significantly different from zero at the 0.01 level, two-tailed test.

Note: All models include year effects and state fixed effects and are based on data for 51 states from 2000 to 2006.

Standard errors for all coefficient estimates can be found in Appendix A.

^a Participation rate is calculated as $\ln(\text{Participants}/\text{Eligibles})$.

^b Eligibles are calculated as $\ln(\text{Eligibles}/\text{Population})$.

^c Per capita participant count is calculated as $\ln(\text{Participants}/\text{Population})$. These estimates are derived by using the SUR estimates for the eligibles and participation rate equations.

Standard errors of the sum of parameters across equations are estimated using the variance-covariance matrix from the system of equations. Thus, they are a function of the covariance among parameters across equations. To obtain a high degree of precision in the estimates of the coefficients of the policy variables in our original static model, it is crucial to have sufficient variation in the policy variables both across states and over time. Table II.4 illustrates the proportions of states that have implemented a specific policy in each year of the analysis period. For example, the first column shows that 73 percent of states had an EBT policy in 2000. As this table demonstrates, there is a reasonable level of cross-state and cross-year variation in the policies.

TABLE II.4

MEAN VALUES OF STATE ECONOMIC FACTORS AND FSP POLICIES
IN SELECTED YEARS^a

	All Periods		
	2000	2003	2006
unemprate	3.88	5.59	4.43
lfprate	51.26	51.04	51.46
perc20th	7.57	7.76	7.69
minwage	4.17	3.88	3.95
vehicle	0.00	0.67	0.76
catel	0.00	0.71	0.73
transben	0.00	0.12	0.33
ebt	0.73	0.90	1.00
cap	0.04	0.10	0.16
outreach	0.03	0.05	0.06
nutreduc	0.65	1.03	1.05
schipelig	209.57	213.92	217.16
earnsimp	0.06	0.57	0.92
wearnsimp	0.00	0.29	0.61

^a Estimates are mean values of variables across states for each fiscal year.

i. Economic Variables

The SUR estimation results indicate that many economic and policy variables are strongly associated with changes in the per capita participant count. Beginning with several measures of economic activity, we find that a rise in the unemployment rate of one percentage point increases the per capita participant count by 3.7 percent. Some studies such as Hanson and Gundersen (2002) report this association by translating the results into absolute numbers of participants, rather than in per capita terms. In our case, a one-percentage-point increase in the unemployment rate increases the national participant count by 0.71 million participants. The estimate indicates that FSP participation responds countercyclically to changes in the unemployment rate.

An interesting finding in our model, which prior studies have been unable to investigate due to specifying a one-equation participant count model, is the channels through which changes in

the unemployment rate affect the participant count. We find that a one percentage point increase in the unemployment rate is associated with a 2.1 percentage point decrease in the participation rate and a 5.8 percentage point increase in the per capita eligibles count. The unemployment rate may positively affect the eligibles count because a greater unemployment rate implies there are fewer income earners in the labor force, and as a result there are more individuals who are eligible to receive FSP benefits. A negative association with the FSP participation rate is intuitively less clear. To interpret this finding, it is easier to consider a decrease in the unemployment rate. While unemployed, some individuals may choose not to participate if they believe they will remain unemployed only for a short while longer. This may be due to their ability to finance their expenditures using savings or to their perception of the application and participation costs associated with enrolling in the program. As the unemployment rate decreases, some of these individuals may become employed, but at jobs that pays less than they had hoped, forcing them to supplement their earned income by participating in the FSP. Some of these individuals may also remain unemployed and become increasingly likely to participate as their savings levels diminish. In both cases, the decreasing unemployment rate is associated with becoming more likely to participate.

We find that a one-percentage-point increase in the labor force participation rate decreases the per capita number of eligibles by 3.4 percentage points and increases the participation rate by 1.5 percentage points, resulting in a statistically significant 1.9 percentage point net decrease in the per capita participant count.²⁰ The negative association with the number of eligibles is expected, as a smaller labor force implies there are a greater number of individuals out of work and not looking for jobs. While the sign of the association between the labor force participation rate and the FSP participation rate was less certain a priori, a positive association may exist if a greater number of FSP eligibles are actively looking for work, but cannot find a job. Thus, the estimate should depend on whether a sizable proportion of the job vacancies available to labor force participants are targeted toward the low-skilled, low-wage population, a group that largely comprises individuals who are typically eligible for the FSP, or whether the vacancies are targeted to higher-skilled workers. While our the estimate in the participation rate equation is statistically indistinguishable from zero, the positive estimate suggest that the types of jobs available to labor force participants are not targeted to job seekers who are typically eligible for the FSP.

The final set of economic variables in our model includes the state minimum wage and the 20th percentile of the state wage distribution. While a higher state minimum wage is typically associated with a higher 20th percentile of the state wage distribution, there is a sizable amount of independent variation in each variable (the sample correlation coefficient is 0.28). The percentage of states with minimum wages greater than the federal minimum wage of \$5.15 grew rapidly from 20 percent in 2000 to 35 percent in 2006. Our findings indicate that a one-dollar increase in the minimum wage is associated with a 1.6 percent decrease in the per capita participant count. The sign of the minimum wage coefficient estimate is attributed mainly to the

²⁰ Because the standard deviation of the labor force participation rate is almost three times as large as the standard deviation of the unemployment rate, a one-percentage-point increase in the labor force participation rate is slightly smaller than a one-percentage-point increase in the unemployment rate, relative to the dispersion of the distributions of the two rates across states. Thus, this is potentially a large effect.

negative association between a state's minimum wage and the number of eligibles. While small increases in the minimum wage should not cause most eligible individuals to become ineligible,²¹ the wage increases may produce spillover effects for workers earning wages greater than the minimum, causing these workers to become ineligible. The 20th percentile wage is also negatively associated with the participant count, though the estimate is not statistically significant.

ii. FSP Policies

Below, we interpret the empirical findings for the policy variables in the broader context of each of the five policy categories. These groups consist of policies expected *a priori* to expand eligibility, ease access, promote outreach, ease reporting, and limit access.

Policies Expected to Expand or Extend Eligibility. Variables capturing policies expected to expand eligibility to the program include (1) the exclusion of at least one vehicle per adult in the household in the asset test performed when determining eligibility, (2) the presence of expanded categorical eligibility, and (3) the offer of transitional benefits to individuals leaving the TANF program for up to five months after exit. The microsimulation model used to derive the eligibles count incorporates information for whether a state has a "vehicle exclusion" policy, but does not account for whether states have any of the other policies included in our empirical model. The results for policies that are included in our empirical model, but are excluded from the microsimulation, will most likely be underestimated. In particular, the coefficients of the categorical eligibility and transitional benefits policies may be underestimated in the eligibles count equation and overestimated in the participation rate equation.

Expanded categorical eligibility may affect both the number of eligibles and the participation rate. Indeed, we find that states offering expanded categorical eligibility have a 6.0 percentage point higher per capita participant count than states without this policy. Due to our limited treatment of the categorical eligibility policy in the microsimulation model described above, the association with the number of eligibles is not statistically significant at the 0.10 level. However, we do find a significant positive association between the participant count and the participation rate in states with this policy. Expanded categorical eligibility targets individuals with incomes above 130 percent of the federal poverty level or with assets values exceeding standard FSP eligibility rules. For both groups of individuals, sizable application costs and small benefit amounts may yield a small, or even negative, net benefit to participating. In fact, Cunnyngham and Ohls (2008) find that households eligible only through expanded categorical eligibility were eligible for only 4 percent of the benefits for which all eligible households qualified, mostly due to their higher incomes. By reducing the costs associated with applying, expanded categorical eligibility may increase the net benefit for these individuals and increase the participation rate. Unlike the categorical eligibility policy, neither the offer of transitional

²¹ In 2004, the annual income eligibility threshold (130 percent of poverty for a family headed by a single adult with one child) was \$16,926. An individual earning a minimum wage of \$5.15 working full time (35 hours per week for 50 weeks) would have received \$9,012.50 annually (or \$10,762.50 if the minimum wage was \$6.15).

benefits to individuals leaving the TANF program nor the vehicle exclusion policy is significantly associated with a change in the per capita participant count.

Policies Expected to Ease Access. Variables capturing policies expected to ease program access include measures of whether FSP participants received benefits via the EBT program and whether a combined application for recipients of SSI benefits is offered (SSI CAP). We do not find significant associations between the participant count and either the SSI CAP or EBT policy. For SSI CAP, this may be due to the small share of participants that enrolled into the FSP through CAP. For instance, in a majority of the seven states offering CAP in 2005, the number of households participating through CAP made up less than 11 percent of all participating households.²² Finding no significant relationship between EBT and participation is in line with several related studies (see McKernan and Ratcliffe (2003) and Ziliak, Gundersen, and Figlio (2003)), although there are several studies that find a significant positive association (see Ratcliffe et al. (2008); Currie and Grogger (2001); Kabbani and Wilde (2003); and Kornfeld (2002)). The study periods in these analyses extend from the late 1990s to 2004 over which there was considerable variation in what states offered electronic access to program benefits. While all states issued benefits electronically by 2005, there remains enough variation over our study period (2000 to 2006) to identify the association (73 percent of states offered this access in 2000 and 87 percent in 2002). Thus, we do not attribute the lack of statistical significance to the amount of variation in EBT in our sample.

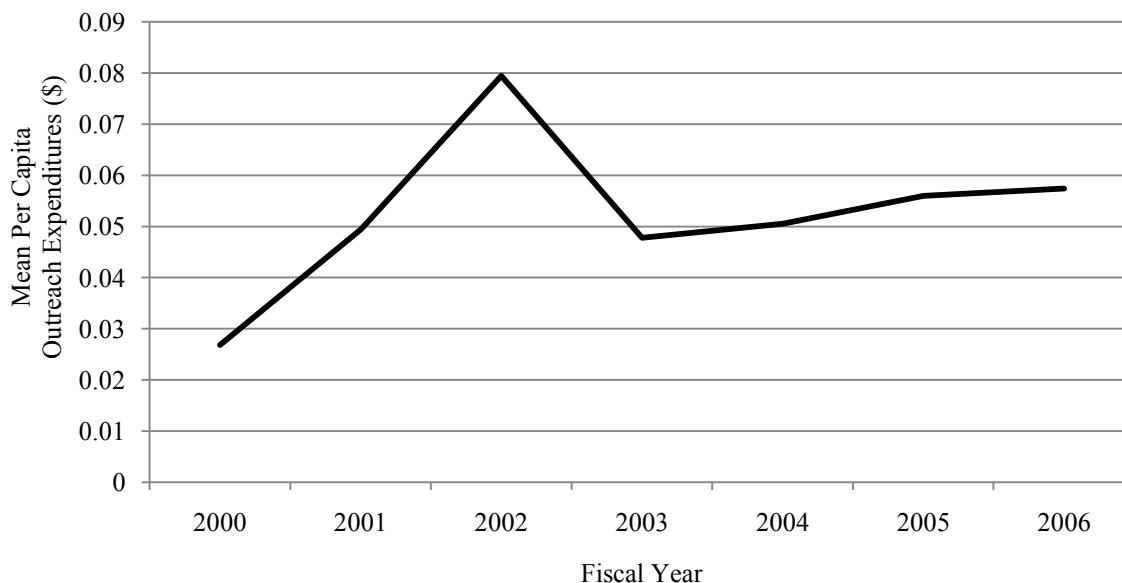
Policies Expected to Promote Outreach. Variables capturing policies expected to promote outreach include per capita federal and state expenditures on nutrition education, per capita federal, state, and grant-based or nonprofit-based outreach expenditures, and SCHIP eligibility thresholds. Figure II.1 shows the mean state amounts of real per capita outreach expenditures from 2000 to 2006. Overall, the trend is increasing over time, from approximately \$0.027 per person in 2000 to \$0.057 per person in 2006. The 2002 Farm Security Act authorized the USDA to provide \$5 million per year to assist states with their efforts to increase access to and participation in the FSP. The USDA has also provided about \$1 million each year since 2003 to community organizations for outreach.

Given such a high level of expenditures devoted to increasing program access and participation, we expected the per capita outreach expenditures variable to be positively associated with increases in the participant count. While our findings do suggest a positive association exists, it is statistically insignificant at the 0.10 level. It is possible that our measure of per capita outreach expenditures is not fully capturing the extent of the community outreach activities that occurred throughout the country in the early 2000s. For example, some programs may be more effective than others and community organizations may be using private funding sources to conduct outreach activities. In addition, whether outreach expenditures are classified under “outreach” or “general administrative purposes” in the National Data Bank from which we construct the outreach variable depends on whether a state has an approved Outreach Plan as part of its Annual Plan. Thus, using only those expenditures that are listed under “outreach” may bias the estimate of the association with the participant count.

²² See www.fns.usda.gov/fsp/government/promising-practices/CAPsDevelopmentGuidance.pdf

FIGURE II.1

AVERAGE REAL PER CAPITA OUTREACH EXPENDITURES ACROSS STATES, BY FISCAL YEAR



Based on feedback from interviews with state and community-based organization staff (see Chapter III), we included a variable to capture per capita nutrition education spending. Before estimating our model, our research hypothesis was that per capita nutrition education spending should be positively associated with the per capita participant count. Nutrition education programs are available to both FSP participants and eligible nonparticipants, but participation in nutrition education is not required of FSP participants. A positive association may exist if FSP participants desire to learn more about how to buy and prepare nutritious foods or these types of programs are viewed as a non-pecuniary benefit of participating in the FSP. Another possibility is eligible nonparticipants who participate in nutrition education programs may decide to participate in the FSP after learning more about it in these classes. Our findings indicate that there is a significant negative association between per capita nutrition education spending and the per capita participant count, with a one-dollar increase in per capita nutrition education expenditures being associated with a 5.7 percent decrease in the per capita participant count.²³ While it is at odds with our research hypothesis, a negative association between nutrition education expenditures and the number of participants per capita is supported by descriptive evidence. Between 2000 and 2006, the coefficient of correlation between these two variables is -0.046 . It is possible that the negative association is describing the relationship between the number of participants and lower administrative expenditures spent on programs other than nutrition education, such as outreach. Another possibility is that the disproportionate share of

²³ It is useful to note that the mean per capita nutrition education expenditures over the analysis period was about 98 cents per person, with a standard deviation of one dollar. Thus, while the magnitude of the estimate may appear to be large, a one-unit change in the variable is equivalent to change of one standard deviation in per capita nutrition education expenditures.

federal nutrition education expenditures received by California relative to other states strongly influences the estimates. We re-estimated the model including an interaction term between California and per capita nutrition education expenditures and found a statistically insignificant estimate of -0.001 for per capita nutrition education expenditures for all states besides California. The estimate for California, however, remained large and negative. This association reflects (1) the sharp increase in per capita nutrition education expenditures from 2000 to 2003 in California (\$2.23 per person compared to an average of \$0.38 per person across all states) and (2) the decrease in the participation rate in California from 2000 to 2003.

The variable measuring SCHIP eligibility thresholds for income was included in the empirical model based on the interviews that will be discussed in the Chapter III. These interviews suggest that as SCHIP expanded nationally, states became interested in checking whether families applying for SCHIP were also eligible for and interested in applying for the FSP. Our findings indicate that a 10 percentage point increase in the SCHIP income eligibility threshold (the mean eligibility threshold is 214 percent of the federal poverty level) is associated with a 0.1 percent decrease in the per capita participant count. We expected a positive association, and indeed, the impact was positive and statistically significant; however, the magnitude of the association is very small.

Policies Expected to Ease Reporting. There were several regulatory changes in the early 2000s, such as simplified reporting and status reporting, which reduced the requirements for participants to report income and job changes. We include a variable in our model capturing simplified reporting for earners. We find that this policy is associated with an increase in the participant count. For example, the per capita participant count in states with simplified reporting for earners (and without a waiver policy for reported changes) is 3.5 percent greater than in states without such reporting. (We discuss the findings for simplified reporting for earners in states with a waiver policy in the “limit access” section below.) Given the percentage of FSP participating households with income from earnings increased from 27 percent to 30 percent between 1999 and 2006 (Wolkwitz 2007), this policy plays an increasingly important role in raising the proportion of eligible individuals who participate in the program.

Policies Expected to Limit Access. The final set of variables included in the model captures policies that may act to limit access to the program and includes only the reporting waiver variable. The waiver allowing states with simplified reporting to reduce benefits on the basis of income or earnings change information is positively associated with the participant count instead of negative, though the estimate is small and is not statistically significant.

b. Findings from Lagged Models

Recent empirical studies such as Ratcliffe et al. (2008) and Klerman and Danielson (2008) have found lagged effects of economic factors and FSP policies to be important determinants of caseload changes. Policymakers may begin to implement a particular policy at a given point in time, but “full” implementation may require several months or years to be reached. Similarly, participants and eligible nonparticipants are most likely not aware of a policy change the moment it occurs, but learn about it over time through conversations with caseworkers, from government marketing campaigns, and in casual conversation with other participants and nonparticipants.

We separately add economic and policy variables that have been lagged one year to our main model specification and present the results in Tables II.5 and II.6. While it is possible to define the lag period to be longer than one year, doing so would considerably decrease the length of the analysis period. Since the analysis period is significantly shorter than the periods in related studies due to the availability of the eligibles count data, we examine only lags of one year.

TABLE II.5
ESTIMATES OF THE DETERMINANTS OF THE STATE FSP
PARTICIPANT COUNT (ECONOMIC LAG MODEL)

Explanatory Variables	Dependent Variable		
	Participation Rate ^a	Eligibles ^b	Per Capita Participant Count ^c
unemprate	-0.041***	0.033***	-0.008
lfprate	0.047***	-0.038***	0.009
perc20th	-0.014	0.001	-0.013
minwage	-0.010	-0.012*	-0.022***
vehicle	0.004	0.008	0.012
catel	0.062***	0.002	0.064***
transben	-0.009	0.006	-0.003
ebt	0.010		0.010
cap	0.009		0.009
outreach	-0.058		-0.058
nutreduc	-0.046***		-0.046***
schipelig	-0.001**		-0.001**
earnsimp	0.035***		0.035***
wearnsimp	0.020		0.020
unemprate1	0.022	0.042***	0.064***
lfprate1	-0.040***	0.013	-0.027***
perc20th1	0.005	-0.018*	-0.013
minwage1	0.030***	-0.009	0.021***

* Significantly different from zero at the 0.10 level, two-tailed test.

** Significantly different from zero at the 0.05 level, two-tailed test.

*** Significantly different from zero at the 0.01 level, two-tailed test.

Note: All models include year effects and state fixed effects and are based on data for 51 states from 2000 to 2006.

A suffix of "1" on the variable name indicates a one-year lag of the economic variable.

Standard errors for all coefficient estimates can be found in Appendix A.

^a Participation rate is calculated as $\ln(\text{Participants}/\text{Eligibles})$.

^b Eligibles are calculated as $\ln(\text{Eligibles}/\text{Population})$.

^c Per capita participant count is calculated as $\ln(\text{Participants}/\text{Population})$. These estimates are derived by using the SUR estimates for the eligibles and participation rate equations.

TABLE II.6

ESTIMATES OF THE DETERMINANTS OF THE STATE FSP
PARTICIPANT COUNT (POLICY LAG MODEL)

Explanatory Variables	Dependent Variable		
	Participation Rate ^a	Eligibles ^b	Per Capita Participant Count ^c
unemprate	-0.022**	0.058***	0.036***
lfprate	0.019*	-0.033***	-0.014
perc20th	-0.013	0.003	-0.010
minwage	-0.007	-0.013**	-0.020***
vehicle	-0.002	0.002	0.000
catel	0.030*	0.011	0.041***
transben	0.025	-0.009	0.016
ebt	0.009		0.009
cap	-0.006		-0.006
outreach	-0.023		-0.023
nutreduc	-0.046***		-0.046***
schipelig	-0.001		-0.001**
earnsimp	0.026*		0.026*
wearnsimp	0.011		0.011
vehicle1	-0.022	0.039***	0.017
catel1	0.036**	-0.010	0.026*
transben1	-0.018	0.004	-0.014
ebt1	0.004		0.004
cap1	0.038*		0.038*
outreach1	0.122		0.122
nutreduc1	-0.010		-0.010
schipelig1	-0.000*		0.000
earnsimp1	0.026*		0.026*
wearnsimp1	-0.007		-0.007

* Significantly different from zero at the 0.10 level, two-tailed test.

** Significantly different from zero at the 0.05 level, two-tailed test.

*** Significantly different from zero at the 0.01 level, two-tailed test.

Note: All models include year effects and state fixed effects and are based on data for 51 states from 2000 to 2006.

A suffix of "1" on the variable name indicates a one-year lag of the policy indicator.

Standard errors for all coefficient estimates can be found in Appendix A.

^a Participation rate is calculated as $\ln(\text{Participants}/\text{Eligibles})$.

^b Eligibles are calculated as $\ln(\text{Eligibles}/\text{Population})$.

^c Per capita participant count is calculated as $\ln(\text{Participants}/\text{Population})$. These estimates are derived by using the SUR estimates for the eligibles and participation rate equations.

The results of the economic lag model are similar to the main model (without lagged economic variables) with one main exception. The unemployment rate has a stronger association with changes in the participant count, with a one percentage point increase in the unemployment rate over two consecutive years increasing the per capita participant count by 5.6 percent (the increase in the main model was 3.7 percent). While signs of the associations between the current unemployment rate and the participation rate and eligibles count are the same as in the main model, only the association between the *lagged* unemployment rate with the eligibles count is significant. This suggests that eligible nonparticipants do not make FSP participation decisions based on the unemployment rate from the prior year.²⁴

Comparing the results of the main model (without lagged policy variables) and the policy lag model (Table II.6), we find the effects of the economic factors generally remain unchanged. One notable difference is the statistical significance of the coefficient of the labor force participation rate. While its association with the participant count is no longer significant in the policy lag model, the associations with both the eligibles count and the participation rate are each statistically significant (and of similar magnitude to the main model). The lack of statistical significance with the participant count is due to the increase in the size of the association with the participation rate. The positive association suggests that the types of job vacancies that are available for labor market participants are not targeted to FSP-eligible individuals who are looking for work.

Two policy variables that had no observed contemporaneous effect in the main model have fairly strong lagged associations in the policy lag model. States that exclude at least one vehicle per adult in the household in the asset test performed when determining eligibility have 3.9 percent higher per capita eligible counts in the subsequent year. However, the effect on the participant count is not statistically significant. Similarly, states that offer SSI CAP have a higher participant count in the subsequent year.

For simplified reporting and categorical eligibility, there was an observed contemporaneous association in the main model. This association is present in the policy lag model as well; however, there are also lagged effects of the policies that impact the participant count over time. For both policies, the lagged effects are no larger than the contemporaneous effects.

In the main model, we found no significant association between outreach expenditures and the participant count. Using data from the Survey of Income and Program Participation from 1996 to 2003 to examine changes in individuals' program participation decisions over time, Ratcliffe et al. (2008) also found no association between per capita outreach spending and an individual's likelihood of participating in the FSP. However, they found positive, though weakly significant, association in an alternative specification that allows for one- and two-year lags in policy variables, such as per capita outreach spending. In their lagged specification, greater

²⁴ The associations with the minimum wage are also different in the economic lag model findings compared to the main model. An increase in the minimum wage of one dollar over two years has virtually no impact on the participant count, whereas it increased the participant count by 1.6 percent in the main model. We do not emphasize this finding, however, since the correlation between the current and lagged minimum wage variables is much higher than the correlations between the current and lagged measures of any other variables.

outreach spending two years ago is associated with a greater likelihood of participating today. In our policy lag model, we find no statistically significant association between contemporaneous or lagged outreach spending and changes in the participant count. But the sign of the contemporaneous effect changes from positive to negative once the lagged measure is included. Additionally, the magnitude of the coefficient of the lagged outreach measure is large and positive.

While the economic and policy lag models are richer from a behavioral perspective, we have less trust in the findings from these models compared to the main model. This is due to our inability to define lagged measures of more than one year given the data to which we have access. Indeed, other studies such as Blank (2001); Wilde et al. (2000); and Wallace and Blank (1999) found an improved model fit when including longer lag periods of two to four years. In addition, with lags of only one year, the correlation between the current and lagged measures is often high, increasing the level of collinearity among these sets of variables in both the eligibles count and participation rate equations.

c. Economic and Policy Factor Interactions Model Findings

A limitation of the main model specification is that it does not explicitly allow for interactions between economic and policy factors. However, policies such as income reporting requirements and outreach spending may have different effects when the economy is strong relative to when it is weak. For instance, program outreach efforts may reach more people when the unemployment rate is high and nonparticipating eligible individuals obtain food more often at soup kitchens or food pantries, where many community outreach programs are based. Another possibility is that the form of outreach matters. Social marketing campaigns such as television advertising may have greater viewership when more people are out of work, consequently such ads could potentially play a role in increasing the participation rate. We explore these types of interactions in this section by interacting the variables in each set of the five policy categories with the unemployment rate.

Establishing a similar degree of precision in a model that includes interaction terms is more challenging than in the main model, as the level of cross-state and cross-year variation in the policy variables must be maintained at high and low levels of the unemployment rate. Table II.7 shows the proportion of states experiencing low (or high) unemployment in each year that have implemented a specific policy. For example, the fourth column shows that, among states experiencing low unemployment in 2000, 76 percent had an EBT policy. While there is no agreed upon threshold defining what constitutes a sufficient level of variation, Table II.7 suggests that the level of variation that exists over the full analysis period is maintained in good and bad economic times. Thus, we expect the standard errors of the parameters of this augmented model to be small enough to make a valid inference.

i. Interpreting Coefficients on Interaction Terms

The interpretation of coefficients from empirical models that include interaction terms depends on whether we interact a continuous variable, the unemployment rate, with either a binary policy variable such as “vehicle” or a continuous policy variable such as “outreach.”

For binary policy variables, the association between the unemployment rate and the per capita participant count is a function only of parameter estimates presented in Table II.8. For continuous policy variables, this association is also a function of the level of the policy variable. For example, when the unemployment rate is interacted with per capita outreach expenditures, the association between the unemployment rate and the per capita participant count depends on the amount of per capita outreach expenditures:

$$\frac{\partial(C_{i,t}^E + C_{i,t}^R)}{\partial(UErate_{i,t})} = (\alpha^E + \alpha^R) + \xi^R(outreach_{i,t})$$

where α^E and α^R are the coefficients on the unemployment rate in the eligibles count and participation rate equations, respectively, and ξ^R is the coefficient on the interaction term between the unemployment rate and the per capita outreach expenditure variables in the participation rate equation.²⁵ For a binary policy variable, this derivative would equal $(\alpha^E + \alpha^R) + \xi^R$ for a state with the policy and $(\alpha^E + \alpha^R)$ for a state without the policy.²⁶

The second way to interpret the interaction term is to estimate the total effect of the policy on the per capita participant count. This depends on the level of the unemployment rate for binary policy variables. For example, the total effect of the EBT policy is:

$$(C_{i,t}^E + C_{i,t}^R)_{EBT=1} - (C_{i,t}^E + C_{i,t}^R)_{EBT=0} = (\xi^E + \xi^R) + \delta^R(UErate_{i,t})$$

where ξ^E and ξ^R are the coefficients on the EBT policy variable in the eligibles count and participation rate equations, respectively, and δ^R is the coefficient on the interaction term between the unemployment rate and the EBT variables in the participation rate equation. The equation for continuous policy variables, such as per capita outreach expenditures, is similar to that used for binary variables. We measure the effect of the policy variable using the derivative:

$$\frac{\partial(C_{i,t}^E + C_{i,t}^R)}{\partial(outreach_{i,t})} = (\xi^E + \xi^R) + \delta^R(UErate_{i,t})$$

²⁵ In our analysis, we evaluate this derivative at the 75th and 25th percentiles of the sample distribution of a continuous policy variable among all states over the full analysis period.

²⁶ This example applies to policy variables that are included only in the participation rate equation and not in the eligibles count equation. For binary policy variables that are included in both equations, the derivative would be the equal to the sum $(\alpha^E + \alpha^R) + (\xi^E + \xi^R)$ with the policy.

TABLE II.7

MEAN VALUES OF STATE ECONOMIC FACTORS AND FSP POLICIES IN SELECTED YEARS, BY UNEMPLOYMENT LEVEL^a

	All Periods			Periods of Low Unemployment ^b			Periods of High Unemployment ^c		
	2000	2003	2006	2000	2003	2006	2000	2003	2006
unemprate	3.88	5.59	4.43	3.54	4.17	3.89	5.29	6.02	5.51
lfprate	51.26	51.04	51.46	51.71	53.55	51.90	49.39	50.26	50.60
perc20th	7.57	7.76	7.69	7.63	7.80	7.66	7.32	7.74	7.73
minwage	4.17	3.88	3.95	4.14	4.48	3.89	4.29	3.70	4.07
vehicle	0.00	0.67	0.76	0.00	0.67	0.74	0.00	0.67	0.82
catel	0.00	0.71	0.73	0.00	0.58	0.74	0.00	0.74	0.71
transben	0.00	0.12	0.33	0.00	0.08	0.35	0.00	0.13	0.29
ebt	0.73	0.90	1.00	0.76	0.83	1.00	0.60	0.92	1.00
cap	0.04	0.10	0.16	0.02	0.00	0.09	0.10	0.13	0.29
outreach	0.03	0.05	0.06	0.02	0.08	0.04	0.07	0.04	0.08
nutreduc	0.65	1.03	1.05	0.69	1.21	1.11	0.49	0.97	0.93
schipelig	209.57	213.92	217.16	213.37	213.33	220.44	194.00	214.10	210.59
earnsimp	0.06	0.57	0.92	0.07	0.50	0.88	0.00	0.59	1.00
wearnsimp	0.00	0.29	0.61	0.00	0.42	0.59	0.00	0.26	0.65

^a Estimates are mean values of variables across states for each fiscal year.^b Years in which the state unemployment rate is at or below the median of 4.8 percent, where the median is estimated over all states and all years.^c Years in which the state unemployment rate is above 4.8 percent, where the median is estimated over all states and all years.

TABLE II.8

ESTIMATES OF THE DETERMINANTS OF THE STATE FSP PARTICIPANT COUNT
(INTERACTIONS MODEL)

Explanatory Variables	Dependent Variable		
	Participation Rate ^a	Eligibles ^b	Per Capita Participant Count ^c
unemprate	-0.001	0.050***	0.049***
lfprate	0.010	-0.036***	-0.026***
perc20th	-0.013	0.004	-0.009
minwage	0.002	-0.014**	-0.012*
vehicle	0.035	-0.026	0.009
catel	-0.141**	-0.068	-0.209***
transben	-0.090	0.175**	0.085
ebt	0.032		0.032
cap	0.091		0.091
outreach	0.565**		0.565***
nutreduc	0.007		0.007
schipelig	-0.001*		-0.001**
earnsimp	0.143**		0.143**
wearnsimp	0.022		0.022
ue_vehicle	-0.007	0.009	0.002
ue_catel	0.035***	0.013	0.048***
ue_transben	0.019	-0.034***	-0.015
ue_cap	-0.016		-0.016
ue_ebt	-0.008		-0.008
ue_outreach	-0.105***		-0.105***
ue_nutreduc	-0.012		-0.012
ue_earnsimp	-0.020		-0.020
ue_wearnsimp	-0.003		-0.003

* Significantly different from zero at the 0.10 level, two-tailed test.

** Significantly different than zero at the 0.05 level, two-tailed test

*** Significantly different from zero at the 0.01 level, two-tailed test.

Note: All models include year effects and state fixed effects and are based on data for 51 states from 2000 to 2006.

Variable names preceded by "ue_" represent interactions between the unemployment rate and policy variables.

Standard errors for all coefficient estimates can be found in Appendix A.

^a Participation rate is calculated as $\ln(\text{Participants}/\text{Eligibles})$.

^b Eligibles are calculated as $\ln(\text{Eligibles}/\text{Population})$.

^c Per capita participant count is calculated as $\ln(\text{Participants}/\text{Population})$. These estimates are derived by using the SUR estimates for the eligibles and participation rate equations.

While Table II.8 contains the raw coefficient estimates from these models, we focus on the findings presented in Table II.9. In these findings we:

1. Evaluate whether the association between the unemployment rate and the per capita participant count differs depending on whether a particular policy has been implemented (if the policy variable is binary such as “vehicle”) or on the level of the policy (if the policy variable is continuous such as “outreach”).
2. Evaluate the associations of the policy and the per capita participant count at low and high levels of the unemployment rate, as well as whether these associations are statistically different from one another. The latter evaluation essentially determines whether the unemployment rate influences the association between the policy and the per capita participant count.

ii. Empirical Findings

We find that a one percentage point increase in the unemployment rate is associated with a 3.6 percent increase in the per capita participant count in a state with the average configuration of FSP policies.²⁷ This is slightly less than the 3.7 percent increase in the per capita participant count in the main model. Examining how this association changes conditional on the presence of an individual policy, we find that most of the coefficients of the interaction terms in Table II.8 are negative (though statistically insignificant at conventional significance levels). This indicates that a one percentage point increase in the unemployment rate increases the per capita participant count by a *smaller* amount in states with these policies compared to states that have not implemented the policies. Because many states implemented these policies after 2002 or 2003, when unemployment was decreasing, it seems more appropriate to provide intuition for this finding by considering the effects of a *decrease* in the unemployment rate. Policies designed to ease program access, promote outreach, and ease reporting should partially mitigate the decrease in the participant count that follows a decrease in the unemployment rate. As individuals return to work in an improving economy, or employed individuals earn higher wages, these policies help retain the program levels realized before the economic upturn.

A variable with a positive interaction coefficient is the categorical eligibility policy. This policy is designed to expand access to the program among individuals with income or asset levels that would otherwise make them ineligible. A decrease in the unemployment rate is associated with a greater decrease in the participant count in states with categorical eligibility than in states without it. While this is a counterintuitive finding, we realize there is significant variation in the types of categorical eligibility policies that states offer. For instance, categorical eligibility may be granted to individuals who obtain a child care benefit or a transportation benefit that is funded through TANF Maintenance of Effort funds. As the unemployment rate decreases and these individuals return to work, they may become ineligible for the FSP. If the

²⁷ This estimate is not presented in Table II.8, but is obtained by adding the coefficient of the unemployment rate of 0.049 to the sum of the products of the interaction term coefficients and the mean levels of the policy variables among all states over the full analysis period.

TABLE II.9

INTERPRETED COEFFICIENTS OF INTERACTION TERMS BETWEEN UNEMPLOYMENT RATE AND POLICY FACTORS

	Effect of Unemployment Rate ^{a,b}			Total Effect of the Policy ^c	
	With Policy	Without Policy	Significance of Difference	Low Unemployment Rate	High Unemployment Rate
Interactions with Policies That Expand Eligibility					
vehicle	0.037	0.035		0.017	0.020
catel	0.058	0.010	***	-0.017	0.060 ***
transben	0.023	0.038		0.025	0.001
Interactions with Policies That Ease Access					
cap	0.021	0.037		0.027	0.001
ebt	0.035	0.043		0.000	-0.013
Interactions with Policies That Promote Outreach					
outreach	0.039	0.041	***	0.145	-0.023
nutreduc	0.033	0.043		-0.041 ***	-0.060 ***
Interactions with Policies That Ease Reporting					
earnsimp	0.027	0.047		0.063 ***	0.031 **
Interactions with Policies That Limit Access					
wearnsimp	0.033	0.036		0.010	0.005

* Significantly different from zero at the 0.10 level, two-tailed test.

** Significantly different from zero at the 0.05 level, two-tailed test.

*** Significantly different from zero at the 0.01 level, two-tailed test.

Note: All models include year effects and state fixed effects and are based on data for 51 states from 2000 to 2006.

^a For continuous policy variables such as outreach and nutrition education expenditures, "with policy" and "without policy" refer to the policy variable evaluated at the 75th and 25th percentiles, respectively.

^b Estimates denote the effect of the unemployment rate with and without each policy for an average state (i.e., a state with the mean configuration of policies).

^c The values for low and high unemployment rates correspond to the 25th and 75th percentiles of state unemployment rates across the analysis period (4.0 and 5.6 percent, respectively).

standard FSP application process is more cumbersome than participants experienced when they obtained eligibility through TANF, they may decide not to re-apply. This supports the observation that the unemployment rate has a greater association in states with this policy. However, categorical eligibility in some states also allows individuals to place some of their earnings in savings and still pass the asset test. As the unemployment rate decreases and individuals work more, this aspect of categorical eligibility is likely to become more important in expanding eligibility to those who would be ineligible otherwise. This would suggest a smaller association between the unemployment rate and the participant count in states with this policy. Our conclusion is that, while the observed association between the unemployment rate and the participant count in states with and without the policy can be interpreted, the variation in categorical eligibility policies across states makes it difficult to establish a single research hypothesis.

An alternative to interpreting the model findings through examining the effect of the unemployment rate on the participant count in states with and without a policy is to examine the effect of the policy in states with low and high unemployment. We find that all policies that had significant associations with the per capita participant count in the main model continue to have significant associations (with the same sign) in the interactions model (see Table II.9). For most of these policies, the association exists either only when the unemployment rate is high (for example, categorical eligibility) or at both levels of the unemployment rate (for example, simplified reporting and nutrition education).

The negative coefficients of most of the interaction terms in Table II.8 suggest most policies have a greater (more positive) association with the participant count in times of low unemployment than in times of high unemployment. An interesting example is program outreach. In our main model, we found no significant association between program outreach and the per capita participant count. In the model that includes interaction terms, we continue to find no significant association when evaluating the effect at unemployment rates of 4.0 and 5.6 percent (see low and high unemployment rate columns in Table II.9); however, the magnitude of the association is much greater in times of low unemployment.²⁸ In fact, an unemployment rate of 4.0 percent represents the 25th percentile of the unemployment rate distribution taken over the full analysis period (2000 to 2006). But, evaluating the effect of outreach at the 25th percentile taken in 2006 only (3.5 percent) reveals a sizable positive association of 0.195 that is statistically significant at the 0.10 level. There are several ways through which outreach efforts can result in sustained increases in the participant count despite an improving economy. First, an improving economy may change the composition of the group of unemployed individuals, increasing the proportion that is lower-skilled and less likely to find a job. Outreach efforts may be much more effective at reaching these individuals. Second, workers that remain unemployed despite an improving economy may be unemployed for longer periods of time and may become unable to

²⁸ While the coefficient estimates of both the outreach and ue_outreach variables are statistically significant in Table II.8, the standard error of the total effect of the policy is not significant at the 0.10 level. This is because this standard error depends on the value of the unemployment rate at which we are evaluating the effect, as well as the covariance between the outreach and ue_outreach variables. While the covariance term is negative, the unemployment rate increases the standard error of the total effect of the policy.

continually rely on savings to finance their expenditures. While outreach efforts may have not persuaded these individuals to participate early in their unemployment spell when savings levels were higher, these efforts may be more effective once these funds become scarce. Third, periods of low unemployment may foster a different administrative environment in terms of the amount of resources devoted to program outreach. For instance, the allocation of total administrative expenditures and total staff time devoted to outreach, as well as the level of enthusiasm and energy brought by staff, may be greater during times of low unemployment, leading to a “higher quality” outreach effort during improving economic times.

d. Model Predictions

In this section, the model estimates are used to predict the impact of changes in economic and policy factors on the increase in the participant count, the eligibles count, and the participation rate over the analysis period. Because the national unemployment rate peaked in 2003, we focus on the change between 2003 and 2006. Most states had worse economic conditions in 2003 than in 2006 in terms of higher unemployment rates, lower labor force participation rates, and lower minimum wages. In addition, fewer states had implemented the more flexible FSP policies in 2003 than in 2006. Thus, for most states, the economy improved and “favorable” FSP policies became more common between 2003 and 2006.

Predictions of the change in the participant count, eligibles count, and the participation rate between 2003 and 2006 are formed allowing for actual changes in the sets of economic and policy factors. For the participant count, we use the model estimates and the mean values of the economic and policy variables across states in 2003 and 2006 to determine the predicted state-level mean growth rate for the per capita participant count, \widehat{G}_p , and then apply this rate to the per capita national participant count in 2003. Next, we adjust for the national population in 2006 to obtain the predicted number of participants in 2006 nationally. This is shown in the following equation:

$$\frac{\text{Part}_{2003}}{\text{Pop}_{2003}} \times (1 + \widehat{G}_p) \times \text{Pop}_{2006} = \widehat{\text{Part}}_{2006},$$

Where Part_{2003} is the national participant count in 2003, Pop_t is the national population in year t , and $\widehat{G}_p = \frac{1}{51} \sum_{i=1}^{51} ((\widehat{C}_{i,2006}^E + \widehat{C}_{i,2006}^R) - (\widehat{C}_{i,2003}^E + \widehat{C}_{i,2003}^R))$, with $\widehat{C}_{i,t}^E$ and $\widehat{C}_{i,t}^R$ equal to the mean predicted values of the dependent variables in the SUR model for each year t .

We repeat this procedure to predict the eligibles count and the participation rate using the state-level mean growth rates for each measure. We note that, unlike the participant and eligibles count, the participation rate is not adjusted by the population in each year:

$$\frac{\text{Elig}_{2003}}{\text{Pop}_{2003}} \times (1 + \widehat{G}_E) \times \text{Pop}_{2006} = \widehat{\text{Elig}}_{2006},$$

$$\text{Rate}_{2003} \times (1 + \widehat{G}_R) = \widehat{\text{Rate}}_{2006}$$

i. Predictions From Main Model

As shown in Table II.10, the actual number of participants increased between 2003 and 2006 from 20.59 to 25.17 million.²⁹ Allowing for actual changes in the sets of economic and policy factors, our main model predicts 24.89 million participants in 2006. This demonstrates the close fit of the model to the data, and is expected due to the inclusion of year effects.

Next, we hold the economic factors constant between 2003 and 2006 at their 2003 values and allow for actual changes in FSP policies when making predictions. This resulted in a prediction of 25.99 million participants in 2006. Because in both cases FSP policies were allowed to change as they actually did between 2003 and 2006, we attribute the difference in the 2006 participant count predictions to the improving economy. Said differently, the improvement in the economy between 2003 and 2006 decreased the participant count by 1.10 million (calculated by 25.99 minus 24.89) participants.

We use the same methodology to determine whether the negative association between the economy and the participant count was attributed to the change in number of eligibles or the participation rate. We find that the improving economy decreased the number of eligibles by 3.16 million, but increased the participation rate by 1.8 percentage points between 2003 and 2006. Thus, despite increasing the participation rate, the effect of the improving economy on the number of eligibles resulted in a net decrease in the participant count from 2003 to 2006.

Next, we perform a similar simulation by holding one set of policy factors constant between 2003 and 2006 at their 2003 values and allowing for actual changes in economic factors and the remaining sets of policy factors when making predictions. For example, we hold constant the set of policies designed to ease program access at their 2003 values and allow for actual changes in all economic factors and the remaining four sets of policy factors. We then compare this predicted number of participants (or eligibles or the participation rate) to the predicted number that allows all economic and policy factors to change as they actually did. Comparing the 2006 prediction based on actual changes in all policies with the 2006 prediction holding constant each set of policies at their 2003 values, we find small positive effects of policies designed to expand eligibility, ease access, ease reporting, and limit access. And, we find a small negative effect of policies designed to promote outreach. For instance, the introduction of policies designed to expand eligibility, including vehicle exclusion, categorical eligibility, and transitional benefits, increased the number of participants by an estimated 0.05 million. Similarly, the introduction and expansion of policies that ease reporting, which are represented by the simplified reporting policy for earners, increased the number of estimated participants by 0.26 million. Outreach policies decreased the participant count by 0.07 million, a result that is driven by the relatively large negative estimate of the coefficient on nutrition education expenditures (in combination with the mean increase in these expenditures from 2003 to 2006).

²⁹ The FSP participant counts in our sample are reduced to exclude individuals (1) receiving benefits in error, (2) receiving disaster assistance, or (3) who would be income-ineligible were it not for an expanded categorical eligibility program.

The participant count increases associated with four out of the five sets of policies were due, primarily, to increases in the participation rate.³⁰ The only variables included in the eligibles count equation were the three variables representing policies designed to expand eligibility (vehicle exclusion, categorical eligibility, and transitional benefits). These policies were not only positively associated with an increase in the participation rate, but an increase in the number of eligibles as well. Similarly, the decrease in the number of participants associated with changes in policies that promote outreach was due solely to a decrease in the participation rate, as these policy variables were not included in the eligibles count equation.

Summing the changes in the participant count, eligibles count, and participation rate across all five sets of policies, we find that the introduction and expansion of the full set of the policies increased the participant count by 0.32 million, resulting from an increase in the eligibles count of 0.04 million and an increase in the participation rate of 0.8 percentage points.

To reconcile (1) the sizable *decrease* in the number of participants between 2003 and 2006 predicted by the changes in economic factors and the small *increase* in the number of participants predicted by the full set of program policies and (2) the overall *increase* of 4.89 million participants predicted by the model, it is necessary to examine the year fixed effects included in the estimation. These effects are significantly large and predict an increase of more than 5 million participants. Obtaining year fixed effects estimates of this size that dominate the contribution of the observable economic and policy factors to the predicted change in the dependent variable is less than ideal, as it implies that the predictive power of the model lies in factors unobserved to the econometrician that have changed over time. However, this result is not specific to the current study, as many investigations of caseload trends in AFDC, TANF, or the FSP have witnessed predicted changes that are explained more so by the unexplained fixed effects than by the set of economic and policy factors (Clarke et al. 2004; Kornfeld 2002; Blank 2001; Wallace and Blank 1999; Kuhn et al. 1997).

³⁰ While the predicted participation rate in Table II.9 is 67.6 percent both when allowing these policies to change and when holding these policies constant at their 2003 values, the lack of change is due to rounding. An increase is observed when differencing the non-rounded values.

TABLE II.10

ACTUAL AND PREDICTED CHANGES IN THE PARTICIPANT COUNT, ELIGIBLES COUNT, AND PARTICIPATION RATE (2003 TO 2006)
EXPLAINED BY INDEPENDENT VARIABLES (MAIN MODEL)

	2003 Actual Number	2006 Actual Number	2006 Predicted Number	2006 Predicted Number with Economic Factors Held Constant at 2003 Value	2006 Predicted Number with Policy Factors Held Constant at 2003 Value				
					Policies That Expand Eligibility ^a	Policies That Ease Access ^b	Policies That Promote Outreach ^c	Policies That Ease Reporting ^d	Policies That Limit Access ^e
Participants (millions)	20.59	25.17	24.89	25.99	24.84	24.87	24.96	24.62	24.82
Eligibles (millions)	36.71	37.42	37.90	41.06	37.86	37.90	37.90	37.90	37.90
Participation rate (percent)	56.1	67.3	67.6	65.8	67.6	67.6	67.8	66.9	67.5

^a vehicle, catel, and transben

^b cap and ebt

^c outreach, nutreduc, and schip

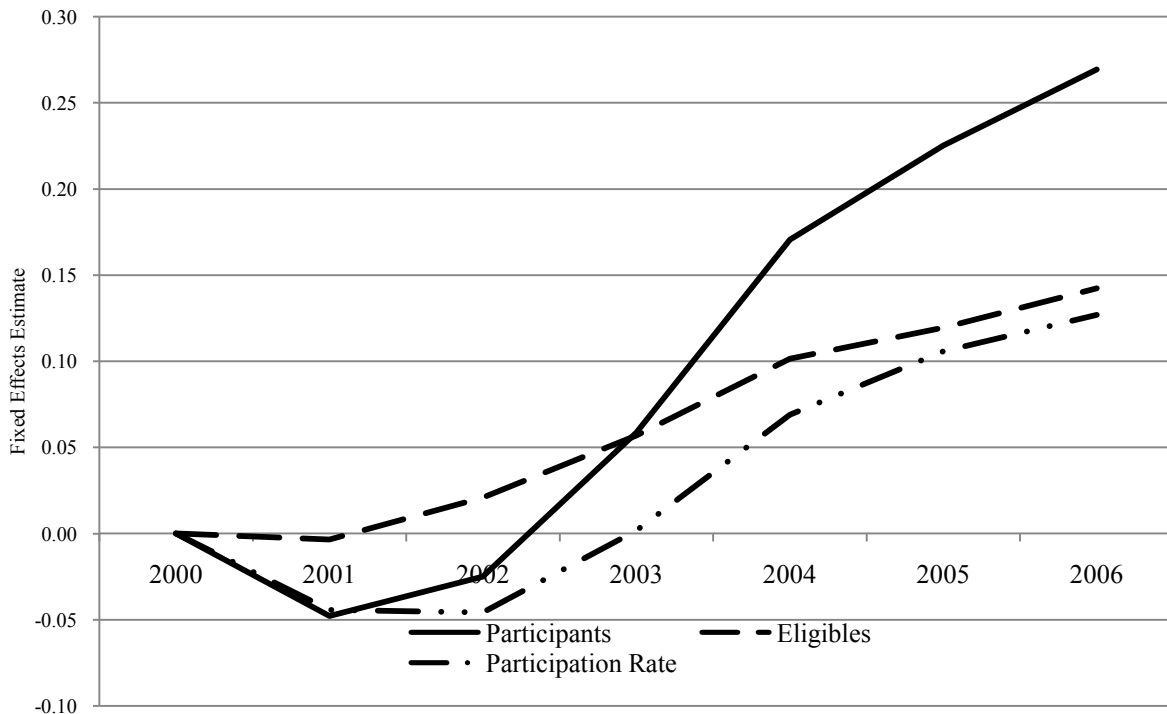
^d earnsimp

^e wearnsimp

Note: Estimates of national population in 2003 and 2006 are 290,796,023 and 299,398,464, respectively. Growth rate estimates can be found in Appendix Table A.5.

Differences in the year fixed effects estimates over time suggest that there are unobserved changes at the national level in factors other than those represented among the set of economic and policy factors included in the model. Figure II.2 shows the year fixed effects estimates for the eligibles count and participation rate equations, and the implied year fixed effect estimate in the participant count equation for the main SUR model. The steep increase that began in 2002 and continued through 2006 may be attributed to shifts in the behavior of participants and eligibles. For instance, as the economy improved between 2003 and 2006, and as individuals returned to work or received higher wages, individuals' preferences for remaining on the FSP while working may have differed from the set of preferences possessed during prior economic upturns. It is possible that individuals were remaining on the program longer because the purchasing power of their wages had not increased enough despite the improving economy. While we account for national inflation by deflating the monetary variables in the estimation, there may be substantial differences across states in changes in food and energy prices over this time period that affected individuals' purchasing power. Indeed, it is possible that the year fixed effects, though common across all states, are picking up some of the state-level variation in price trends.

FIGURE II.2
YEAR FIXED EFFECTS ESTIMATES



Alternatively, the steep increase beginning in 2002 and continuing through 2006 may be attributed to the Farm Security Act of 2002 and its effect on both administrative staff and community-based organizations in promoting program outreach and informational awareness. As we discuss in the next chapter, the expenditure-based measure of outreach included in our model may not be a good representation of a state's outreach efforts. It is possible that the year fixed

effects are picking up the significant increase in these efforts over time across all states. Another possibility is that the 2002 Farm Security Act's restoration of benefits to noncitizen adults who have been in the country for at least five years (effective April 2003) and noncitizen children (effective October 2003) increased the number of eligibles significantly. Because we do not account for state-level changes in the number of noncitizens in our models, these changes may be fully or partially subsumed by the models' year fixed effects.

Finally, as discussed in Schoeni (2001) in a review of empirical research on FSP participation trends, the year fixed effects may be picking up the effects of the changing economy that are not represented by the four economic factors included in the model. It is our view that the unemployment rate and other indicators, like the 20th percentile of state wage distributions and the minimum wage, may not adequately characterize the economic environment in which FSP participants are working or looking for jobs. In auxiliary analyses, we tested the sensitivity of our results to including other economic indicators such as the median unemployment duration in each state, as well as economic indicators such as the Consistent Economic Index (developed by the Federal Reserve Bank of Philadelphia) that serve as aggregate macroeconomic indicators, but found little difference in the year fixed effects estimates. It is also possible that state-level indicators are poor measures of what is happening at the local level, a point emphasized by Bartik and Eberts (1999) in their analysis of AFDC trends. We discuss this in Chapter III when presenting the qualitative findings.

ii. Predictions from Three Alternative Models

Table II.11 contains the number of participants and eligibles and the participation rate predicted using the SUR models that contain lagged economic and policy variables, as well as the SUR model that includes interactions between the unemployment rate and the policy variables. Because these results are similar to those presented above for the main SUR model, we present a brief discussion of these findings.

When adding lagged economic variables to the main model, the economic lag model predicts 24.95 million participants in 2006, about 0.19 million less than the prediction using the main model. The effects of the improvement and introduction of the full set of policies are similar to those in the main model. However, while the improving economy remains associated with a decrease in the participant count, the effects of the economy are smaller in magnitude than in the main model. This is attributed to the reduction in the size of the association between the participant count and the minimum wage, despite the increase in the size of its association with the unemployment rate.

When including lagged policy variables in the original specification, the model predicts 24.70 million participants in 2006, slightly less than that predicted using the main model. While the effects of the economy are similar in magnitude to those in the main model (the improving economy is associated with a decrease in the participant count), the overall policy effect is larger in the lagged model. The improvement and introduction of the full set of policies increased the participant count by 0.43 million participants, compared to the 0.36 million participants predicted by the main model. The larger increase is attributed to the increase in the prediction from policies designed to ease reporting, namely the simplified reporting policy. The predicted

TABLE II.11

ACTUAL AND PREDICTED CHANGES IN THE PARTICIPANT COUNT, ELIGIBLES COUNT, AND PARTICIPATION RATE (2003 TO 2006)
EXPLAINED BY INDEPENDENT VARIABLES (ECONOMIC LAG MODEL, POLICY LAG MODEL, AND INTERACTION MODEL)

	2003 Actual Number	2006 Actual Number	2006 Predicted Number	2006 Predicted Number with Economic Factors Held Constant at 2003 Value	2006 Predicted Number with Policy Factors Held Constant at 2003 Value				
					Policies That Expand Eligibility ^a	Policies That Ease Access ^b	Policies That Promote Outreach ^c	Policies That Ease Reporting ^d	Policies That Limit Access ^e
SUR Model (Economic Lag Model)									
Participants (millions)	20.59	25.17	24.70	25.72	24.60	24.61	24.87	24.29	24.71
Eligibles (millions)	36.71	37.42	37.86	40.98	37.48	37.86	37.86	37.86	37.86
Participation rate (percent)	56.1	67.3	67.2	65.2	67.5	67.0	67.7	66.1	67.2
SUR Model (Policy Lag Model)									
Participants (millions)	20.59	25.17	24.95	25.38	24.92	24.92	25.05	24.69	24.82
Eligibles (millions)	36.71	37.42	38.13	40.72	38.05	38.13	38.13	38.13	38.13
Participation rate (percent)	56.1	67.3	67.5	64.7	67.5	67.4	67.7	66.8	67.1
SUR Model (Interactions Model)									
Participants (millions)	20.59	25.17	24.66	25.60	24.57	24.64	24.72	24.24	24.60
Eligibles (millions)	36.71	37.42	37.68	40.52	37.43	37.68	37.68	37.68	37.68
Participation rate (percent)	56.1	67.3	67.4	65.6	67.5	67.3	67.5	66.2	67.2

^a vehicle, catel, and transben

^b cap and ebt

^c outreach, nutreduc, and schip

^d earnsimp

^e wearnsimp

decrease in the number of participants attributed to changes in outreach policies is also much larger in the lagged model. This is due to the lagged outreach measure having a strong positive association with the participant count, but decreasing in value from 2003 to 2006. The amount of per capita outreach expenditures increased on average from 2000 to 2006, except between 2002 and 2003. In 2002, the amount was 1.7 times larger than in 2003, representing the large funding levels from the Farm Security Act that year. Thus, while per capita outreach expenditures increased from 2003 to 2006, lagged per capita outreach expenditures decreased.

Including interaction terms in the original model specification also produces similar predictions.³¹ The improvement and introduction of the full set of policies increased the participant count by 0.55 million participants, resulting from increases in the eligibles count and participation rate that are larger than those in the main model. This reflects the negative estimates on most of the interaction terms between the unemployment rate and policy variable, with the economy providing the context in which many of the policies work best.

³¹ Caution should be taken in interpreting predictions from this model associated with changes in economic factors only or changes in policy factors only, as it is impossible to isolate the effect of each set of factors due to the interactions between them.

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III. STATE INTERVIEWS

Interviews with state and community organization staff enabled us to synthesize the data analysis with the insights of FSP administrators who are actively involved in developing and implementing program changes and community organization staff who have been working directly to increase access to the FSP. Based on a preliminary quantitative analysis, similar to the analysis described in the beginning of Chapter II, we identified 11 states from which to collect our qualitative data. We used the quantitative information to select states that we expected would cover a range of experiences. In the summer of 2008 in each of these 11 states, we contacted both FSP administrators and staff from community-based organizations (CBOs) involved in increasing access to and participation in the FSP.

Based on the study's key research questions, and asking respondents to focus on the period from 2000 to 2005 (the most recent year for which we had data at the time of the calls), the following guided our conversations with state FSP and CBO staff in each of the 11 states:

- Why, when the economy was improving, did the participant count continue to increase?
- How much of the increase is explained by changes in the state economy?
- Did factors other than the economy contribute to the increase? If so, what are these factors?

Respondents from state FSP offices and CBOs described a range of state circumstances that they believed to have affected caseload size or participation rates. Adoption of options available under the Farm Security Act of 2002; changes to FSP application layout, availability, and processing; widespread and targeted outreach efforts; and state economic and demographic changes were frequently mentioned by respondents in several states. Responses to interview questions both confirmed the importance of key variables in our empirical model and suggested new variables that we then included to improve the fit of the model to the data.

The design and timing of the study required us to ask respondents to recall what had occurred three to eight years before the call—a challenging task for some staff and impossible for others who had not been in their current position during the study period. Because of the high potential for recall error, we did not include in the model any information associated with dates that respondents gave us. Instead, we used the conversations to identify new avenues to explore while finding other, more complete, data sources to use to modify the models.

This chapter reviews site selection and recruitment processes, describes interview topics, summarizes the cross-site findings from interviews, and discusses how the findings from the qualitative data collection can inform and enhance findings from the quantitative analyses. Appendix B provides detailed summaries of results for each state.

A. SITE SELECTION AND RECRUITMENT

We used five criteria to identify states for phone interviews and selected 11 states whose characteristics met at least one, and up to three, of these criteria:

1. ***States with large and small changes in the per capita participant count.*** We ranked states according to the change from 2000 to 2005 in the participant count as a share of state population, and selected states with some of the smallest and largest changes in the per capita participant count.³²
2. ***States with an increase in the participant count, where decomposition analysis reveals that other states do not share the reason for that increase.*** For most states, the increase in the participant count was attributable solely or mostly to the increase in the number of eligibles from 2000 to 2003 and an increasing participation rate from 2003 to 2005. For this criterion, we selected states where either the decomposition analysis identified the same reason in both time periods or the pattern was opposite of what most states experienced.
3. ***States with large discrepancies between the actual participant count change and that predicted using a regression model, or with other unexpected results from the multivariate analysis.*** First, we identified states where the change our model predicted did not match the actual change in the data as closely as it did in most of the other states. Second, we selected states where predicted and actual changes in the participant count were closely aligned to identify two types of surprising results:
 - The economic and policy factors both predicted a decrease, but the model's unobservable factors led to a predicted increase in the participant count similar to the change that actually occurred.³³
 - The participant count increased despite a prediction of nearly no change due to economic factors and a decrease due to policy factors.
4. ***States that are typical in terms of decomposition analysis (opposite of criterion 2), participation changes, and the change in participant count predicted by a regression model (opposite of criterion 3).*** We selected some states that are not characterized by unusual results so that, in combination with what we learn from the states selected by using the first three criteria, we are able to obtain a more comprehensive perspective on the situations that many states are likely to face. In the context of the empirical model, “typical” means that we expect the FSP participant count to respond countercyclically to the unemployment rate and to have a positive

³² We used 2000 to 2005 in the preliminary analysis and 2006 when the data became available (after the state interviews were completed).

³³ The “unobservable” factors contributing to the model prediction were state and time fixed effects. We based predictions on the coefficients of economic and policy factors as well as the coefficients of state and time indicators.

association with the introduction of and improvement in policies designed to ease access, expand eligibility, ease reporting, and promote outreach.

5. **Regional diversity.** We focused on the first four criteria when selecting states, but also made efforts to ensure geographic balance among the states so that a single region would not disproportionately represent respondents’ perspectives.

Table III.1 illustrates the distribution of the states we interviewed across these four criteria. In observance of the Office of Management and Budget requirements to ask the same question of no more than nine respondents, we did not ask all states about each of the criteria applicable to them.

TABLE III.1
SELECTION CRITERIA BY STATE

State	Primary	Alternate	Criterion 1	Criterion 2	Criterion 3	Criterion 4
Arkansas	X		X			X
Connecticut	X		X			X
Idaho		X		X		
Kentucky	X		X		X	
Mississippi	X			X	X	
North Carolina		X				X
New Jersey	X		X		X	X
Oklahoma	X			X	X	
South Carolina	X			X	X	
Vermont	X		X	X	X	
Washington	X		X		X	

To identify potential respondents at the state FSP level, we used contact information from FNS and the American Association of Food Stamp Directors. For CBOs, we searched the Feeding America database of local food banks, as well as the Food Research and Action Center’s website to identify CBOs in each of the selected states that were providing hunger and nutrition services to a large share of the state.

Realizing the schedule constraints faced by administrators, the research team created respondent buy-in to the survey by:

- providing letters to each FSP and CBO administrator from the ERS project officer and MPR project director, as well as a notification letter to each FNS region to alert regional staff to the calls

- including with the letters a state-specific fact sheet that detailed the reason the state was selected and provided an overview of the project
- calling FSP and CBO administrators to explain the reason a state was selected for the survey (that is, the state category defined by the researchers), emphasizing that the experience of that state is critical to an overall understanding of how the FSP caseload may be affected by economic forces, and to request their feedback during a telephone interview
- allowing the administrator to suggest another person in their organization who could better answer the questions if the initial contact felt they would not be able to provide information on the interview topics

Using these methods, we obtained the participation of 9 of the original 11 states. In one of the original states, the retirement of a recent administrator in the state FSP office meant that no remaining staff had experience with their organization extending back into the 2000 to 2005 time period under study. In the other original state, FSP staff could not participate during the months we conducted interviews due to high workload and low availability of staff with the expertise and time to answer our questions. We contacted 2 replacement states after learning of the 2 states that could not participate.

B. INTERVIEW PROCEDURES AND FINDINGS

1. Interview Procedures

Starting from the four site selection criteria, we developed 10 modules of questions for state interviews. For example, using criterion 1 (states with large and small changes in the number of per capita participants), we developed different questions for states with large and small changes, to focus the conversation on policy and economic factors that might explain the changes. We administered 2 to 3 modules of questions per state, taking care to ask each module in at least two states but not to ask any module of more than 9 respondents. Each module consisted of 1 to 3 main questions, followed by a series of suggested probes the interviewer could use to elicit greater detail from the respondent. Where needed, the interviewer or note taker also used additional unscripted probes (for example, “You previously mentioned the SCHIP expansion. Can you tell me more about when that occurred and what it entailed?”) to fully understand any topics raised by the respondent. Sample questions similar to those we asked states are included in Appendix B of this report. Interviews took between 20 and 45 minutes to complete, depending on the number of topics covered (2 to 3) and the amount of information that respondents had to share. Two MPR staff conducted each interview.

2. Interview Findings: Common Themes and Unique Circumstances

In reviewing and synthesizing interview data, we examined respondents’ information about state experiences to assess the level of support for our decomposition analysis (whether changes in participation rates or in the eligibles count explained caseload changes) and the variables included in the multivariate empirical models. In most states, respondents believed that the

decomposition outcomes and the policy variables included in the statistical model made sense in the context of their state. However, respondents could not always shed light on discrepancies between actual and predicted caseloads. Often, respondents cited strong outreach programs and tough economic conditions, and in some instances these factors could have explained discrepancies, as the empirical model includes neither the quality and form of outreach nor localized economic conditions.

Respondents agreed that the policy factors we listed were likely to have impacted caseloads. Vehicle exclusions, simplified reporting, introduction of EBT cards, and categorical eligibility particularly resonated. Some policy changes and state practices not included in our original models arose in multiple interviews. These included transitional benefits for TANF clients, FSP nutrition education,³⁴ participation requirements for the FSP Employment and Training program, and ABAWD exemptions for some counties or for entire states in some years. Several states also described efforts, after implementing SCHIP, to cross-match eligible clients in the FSP and SCHIP programs to make sure the clients were receiving all benefits for which they were eligible.

Respondents from CBOs, in particular, stressed the effectiveness of outreach and focused their responses on customer service and program access. CBOs and state offices often collaborated, and several respondents said that online screening tools and simplified applications (or mock applications used as screeners) helped states and CBOs reach more eligible clients. Eight of the 11 states we interviewed reported they had decreased the length of their applications, combined applications for multiple assistance programs and/or made applications available online. Changes to office locations and hours of operation in some states allowed clients to complete some application portions during extended hours.³⁵ Two states mentioned granting hardship exemptions for the in-person interview more frequently, either because of a liberal interpretation of the policy, or because office closures due to budget cuts caused additional hardship for clients to get into the office. However, increased accessibility was not universally experienced by the states we interviewed. For example, staff in one state reported that because of anti-welfare sentiments they were highly discouraged, and sometimes legally prohibited, from engaging in outreach. Data are not available to allow the statistical model to account for the quality, mode (for example, flyers, radio spots, advertisements on a city bus, and so on), or target population of outreach efforts. Similarly, no data are available to allow the model to control for changes to accessibility due to modified application format and availability, or changes to office hours and location.

Resource and staffing limitations hampered service delivery in some state offices and may have affected participation rates. For example, staff in one state thought hiring freezes caused a

³⁴ Although changes to the Food Stamp Nutrition Education program would not be expected to directly affect the caseload, respondents in one state that had contracted these education activities out to food service providers speculated that increased attention on nutrition education may have increased the visibility of the FSP, therefore creating an outreach-like effect of increasing participation.

³⁵ Modernized FSP application processes and procedures (such as extended office hours, telephone interviews, and new modes of application) though mentioned frequently, were not added to the model due to the unavailability of data.

decline in the participation rate, and staff in another state thought that the participation rate increased due to the leadership of one administrator who was designated responsible for the state's FSP. In three states, the relative ease or difficulty of modifying the legacy mainframe eligibility determination system to change eligibility rules affected whether the states were able to adopt policies that state and CBO staff thought might affect client participation decisions. Several states also raised the issue of state budget crises in the early to mid-2000s as something that could have affected participation.

Generally, respondents reported that their state's economy was weak for some or all of the study period. Only 2 of the 11 states reported a strong economy and a third said that economic conditions were stable. Many states cited local (on the state level or smaller scale) economic factors, such as:

- ***Being "Ahead Of" or "Behind" the National Economy.*** For example, feeling they experienced rising food prices sooner or economic decline later than other states.
- ***Declines in Local Businesses and Industries.*** A number of states reported performing outreach when plants or other major employers closed.
- ***High Numbers of Working Poor who were Eligible for the FSP, Even in Good Economic Times.*** People in the state were employed, but in jobs where income was low enough to allow their households to qualify for benefits.

Respondents also reported that the demographic shifts that occurred following Hurricanes Katrina and Rita were important. Several states mentioned that refugees from the Gulf Coast became permanent residents of their state, that disasters were a motivating factor for clients to apply, and that those clients often were eligible for regular benefits when the disaster certification ended.

3. Using Interview Findings to Inform Quantitative Analyses

In this study, we collected and analyzed qualitative data in order to describe the economic and policy environments that selected states faced during a period when the national FSP caseload was rising. While the multivariate model computed how much of the variation of changes in the participant count can be explained by changes in economic and policy factors, interviews with state and CBO staff revealed information that could not be captured in a systematic way by a multivariate model. This includes how the attitude or motivation of key players within a state may influence the implementation of policy changes that are related to participation.

The qualitative analysis can, potentially, inform the findings from the quantitative analysis in three ways. First, it can provide intuition for interpreting the estimates of the associations between changes in the participant count and changes in the economic and policy factors. For example, knowing that several large employers left the state could help us determine whether changes in the rate of employment growth reflect the creation and loss of jobs that are held predominantly by low-skilled or low-educated workers, or whether these were high-paying jobs

for high-skilled workers. Second, it can identify observable factors that were omitted from the model. For example, state administrators may observe that while two states have the same unemployment rate, the duration of unemployment is greater in one state than in another state and this may have implications for the FSP participation rate. Third, it can help us to understand the unobservable factors that worsen the fit of the model to the data. Examples include the expectations of near future changes in the economy, or the perceived administrative cost of participation by current program participants. By discussing each of the mechanisms through which the qualitative work influences the quantitative results, we attempt to synthesize the study findings.

a. Interpreting Estimates of Association between the Participant Count and Economic and Policy Factors

As mentioned in Chapter II, from 2000 to 2006 there was a significant increase in the amount of federal, state, and nonprofit expenditures devoted to increasing program access and participation through outreach. Knowing this prior to conducting our analysis, we expected a strong positive association between outreach expenditures and program participation; instead, we found an insignificant positive association. This may be explained by interviews with CBOs and state program offices who often described not the amount of outreach expenditures, but instead the method and intensity of outreach. They suggested that both the quality and ingenuity of the outreach effort characterized successful outreach efforts in their states.

Changes in program office locations or hours of operation, as described in the interviews, can inform the interpretation of model estimates for certain sets of variables. For example, simplified and change reporting policies that attempt to ease reporting requirements for changes in income or hours worked may have different associations with the participant count in states that have extended office hours than in states that do not. In states with extended hours, participants who work may face smaller transaction costs associated with remaining on the program because they do not have to take time off from work to attend recertification appointments or report status changes.

b. Identifying Important, Observable Factors Currently Omitted from the Model

The interviews revealed that local economic indicators are potentially more important than those aggregated to the state level in terms of explaining observed program participation dynamics. While this has been a lesson traditionally purported by many researchers in the regional economics literature, it is often disregarded due to the unavailability of reliable estimates of local measures for all states. In their analysis of AFDC caseload dynamics in the 1990s, Bartik and Eberts (1999) make a strong case for using local labor demand variables to reflect job opportunities for low-skilled workers. They use the average wage premium implied by the industrial mix of various states, as well as two other measures based on both the education requirements and the number of welfare recipients across state industries. A change in the classification of CPS industry codes in 2002 prevents us from constructing such a set of categories that include the same industries over time.

The interviews also provided useful information about the importance of certain variables, some of which measured state FSP policies, which originally were not included in our model. These include transitional benefits, nutrition education expenditures, and a measure of cross-state variation in SCHIP eligibility. We chose not to add policy variables to the model that indicate work exception policies for ABAWDs and employment and training programs since they pertain to small populations of participants.

c. Determining Potential Unobservable Factors in the Model

The empirical model contains state and year fixed effects as well as a state- and time-varying error term. The fixed effects attempt to pick up unobservable factors specific to each state or year, while the error term attempts to pick up any changes in the participation rate or eligibles count that vary across states and over time that is neither explained by the observable factors of the model nor by the (unobserved) fixed effects. Through the interviews, we learned about several potential unobservable factors that may influence the state participation levels. First, demographic and economic shifts across states, such as migration patterns, were important. For example, we learned that a housing boom in Idaho brought many construction laborers from California to the state to work, which staff in that state credited with possibly increasing the number of eligibles and the participation rate. It is this type of demographic change that might be present in a state fixed effect term (assuming the change was sustained over time). Second, the resource and staffing limitations experienced by several state offices are also examples of unobservable administrative factors potentially associated with changes in participation; they may be “hampering the provision of benefits,” as one respondent described. Third, the changes in program office locations or hours of operation may have not only changed the effects of income reporting policies as described above, but also lessened the transactional costs associated with remaining on the program that are often described as a reason for nonparticipation among eligibles.

C. GENERALIZABILITY OF FINDINGS TO OTHER STATES

The purposive selection of states from which to collect qualitative data precludes us from generalizing from those 11 states to the rest of the nation. We contacted these states for reasons specific to what we observed in the state data. While the states we did not interview may share one or many characteristics with other states we selected, the qualitative portion of the study was not designed with external validity in mind. That is, we can learn a great deal about state experiences by talking with staff from 11 states, but cannot assume that other states faced the same economic or policy environments.

Furthermore, with interviews conducted in 2008 about state experiences in 2000 through 2005, the information that staff shared with us is subject to potential recall error. Reports of timing or policy specific information may have been misremembered or incorrect. Triangulating state and CBO responses with publicly available data indicated that reported policy changes were typically consistent across all three measures. While this provides some support for use of the qualitative vignettes to better understand changes in the data, the potential existence of recall error further limits the generalizability of these state experiences to a more national perspective.

Despite these limitations, however, information gathered in interviews for this project enhances the quantitative findings and can inform critical thinking about how a portfolio of policy and economic changes may contribute to caseload trends.

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IV. CONCLUSION

From 2000 to 2008, the number of Food Stamp Program (FSP) participants in an average month increased by 65 percent, from 16.7 million to 28.4 million, resulting from increases in both the number of individuals eligible to participate in the program and the participation rate. The environment in which these changes occurred was characterized by a declining national unemployment rate, but at the same time that states were being given the authority to implement state-specific FSP policies such as changes in eligibility determination rules, income reporting requirements, and program outreach efforts. The analysis presented in this study sought to understand how the increase in the number of program participants from 2000 to 2006 was associated with the economic and policy factors that characterized this changing environment.

Using state and year panel data from 2000 to 2006 and a two-equation regression model of the determinants of the number of FSP eligibles and the participation rate, we were able to investigate the channels through which economic and policy factors are related to the number of participants. Building on these empirical findings, we conducted interviews with FSP and community-based organization staff to discuss relationships between state economies, polices, and FSP caseloads.

By using preliminary results from the quantitative analysis to inform site selection for the qualitative portion of the study, and by using qualitative findings subsequently to refine the model and to interpret results in the third and final phase, the study incorporates the strengths of FSP administrative data and stakeholder knowledge. Interview respondents supplied feedback about the unique aspects of the 11 states we contacted, with anecdotes ranging from innovative outreach efforts and expanded office hours to the adverse effect of factory closings or changing industries within a state. Although the qualitative findings have limited generalizability to all states, they are valuable in informing the quantitative analysis through (1) interpreting estimates of the associations between the participant count and the sets of economic and policy factors, (2) indentifying important observable factors omitted from the preliminary specification of the quantitative model, and (3) determining potential unobservable factors in the model. Even after refining the preliminary model specification using the qualitative findings, the interview responses continued to provide the context for interpreting counterintuitive findings.

In assessing the results of the multivariate model, together with insights gained from the qualitative portion of the study, we identified several key findings:

- Changes in states' unemployment rates affected both the eligibles count and the participation rate, while changes in states' labor force participation rates and minimum wages affected only the number of eligibles in the program.
 - The economy had a countercyclical association with the participant count, a result that is consistent with recent studies examining earlier periods (Ratcliffe et al. 2008; Klerman and Danielson 2008).
 - The FSP participation rate was negatively associated with the unemployment rate. As the unemployment rate decreases, individuals who remain

unemployed may become increasingly likely to participate as their savings levels diminish.

- Increases in state labor force participation rates and minimum wages decreased state FSP caseloads.
- The introduction of FSP policies designed to expand eligibility or ease reporting also increased the number of participants.
 - States that offered simplified reporting had higher caseloads than did states with other reporting requirements. This is consistent with related research (Klerman and Danielson 2008; Cody et al. 2007; Hanratty 2006). However, we found the waiver allowing states with simplified reporting to reduce benefits on the basis of all types of income or earnings change information to have no association with the participant count.
 - States offering expansive categorical eligibility had higher caseloads. This is attributed to the policy's positive association with the participation rate in states with this policy. Expanded categorical eligibility targets individuals with incomes above 130 percent of the federal poverty level or with asset values exceeding standard FSP eligibility thresholds. For both groups of individuals, sizable application costs and small benefit amounts may yield a small, or even negative, net benefit to participating. By reducing the costs associated with applying, expanded categorical eligibility may increase the net benefit for these individuals and increase the participation rate.
 - Per capita program outreach expenditures had a positive, though statistically insignificant, association with state participant counts. However, an alternative model specification that allowed for interactions between the unemployment rate and program policies revealed that outreach efforts were associated with higher caseloads more so in times of low unemployment. Outreach efforts can result in sustained increases in the participant count despite an improving economy if they are more effective at reaching lower-skilled individuals who remain unemployed despite an improving economy or the amount of resources devoted to program outreach, including the allocation of total administrative expenditures and total staff time devoted to outreach, as well as the level of staff enthusiasm and energy, is greater during times of low unemployment.
 - Respondents from state FSP offices and CBOs described a range of state circumstances that they believed to have affected caseload size or participation rates. Adoption of options available under the Farm Security Act of 2002; changes to FSP application layout, availability, and processing; widespread and targeted outreach efforts; and state economic and demographic changes were mentioned by respondents in several states.

- The changes in the participant count could not be explained by a single factor, but rather were due to concurrent economic and policy changes, together with factors unique to each year.
 - The change in economic factors between 2003 and 2006, a period of declining national unemployment, decreased the participant count by more than one million individuals.
 - Model predictions indicate that the change in program policies over this period increased the participation count by a smaller amount.
 - A substantial portion of the actual change in the participant count was explained by year fixed effects—unobserved factors common to all states that change over time. These factors may be picking up the effects of the changing economy that are not represented by the economic measures included in the model. For example, the qualitative interviews revealed that local economic indicators are potentially more important than those aggregated to the state level in terms of explaining observed program participation dynamics.

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APPENDIX A

ADDITIONAL TABLES AND SENSITIVITY ANALYSES

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TABLE A.1

DECOMPOSITION OF INCREASE IN PARTICIPANT COUNT, HOUSEHOLDS WITH
NO NONCITIZENS, 2000 TO 2006

	2000	2006	Change, 2000 to 2006 ^a	Resulting Increase in Participant Count (Percent)
Participants (millions)	15.43	23.39	52	
Eligibles (millions)	27.93	33.78	21	46
Participation rate (percent)	55.23	69.23	14	54

Source: FSP operations data, FSPQC data, and March CPS data for the years shown.

^a Change in participants and households is percentage difference, change in participation rate is percentage point difference.

TABLE A.2

CLASSIFICATION OF STATES ACCORDING TO CHANGE IN PARTICIPANT COUNT AND REASON FOR INCREASE IN PARTICIPANT COUNT, 2000 TO 2003

Participant Count Increased						
Participant Count Decreased	Due to Increase in Number Eligible			Due to Increase in Participation Rate		
	Participation Rate Decreased	Proportion Due to Increase in Eligibles Much Larger (60 to 100 percent)	Proportion Due to Increase in Eligibles Slightly Larger (50 to 60 percent)	Number Eligible Decreased	Proportion Due to Increase in Participation Rate Much Larger (60 to 100 percent)	Proportion due to Increase in Participation Rate Slightly Larger (50 to 60 percent)
California	Alabama	Alaska	Delaware	Idaho	Arizona	Ohio
District of Columbia	Connecticut	Arkansas	Massachusetts		Georgia	
Hawaii	Florida	Colorado	Utah		Louisiana	
Rhode Island	Illinois	Maine			Mississippi	
Vermont	Indiana	Missouri			North Dakota	
	Iowa	Nebraska			Oklahoma	
	Kansas	Nevada			Tennessee	
	Kentucky	North Carolina				
	Maryland	Oregon				
	Michigan	South Carolina				
	Minnesota	Texas				
	Montana	Wisconsin				
	New Hampshire					
	New Jersey					
	New Mexico					
	New York					
	Pennsylvania					
	South Dakota					
	Virginia					
	Washington					
	West Virginia					
	Wyoming					

TABLE A.3

CLASSIFICATION OF STATES ACCORDING TO CHANGE IN PARTICIPANT COUNT
AND REASON FOR INCREASE IN PARTICIPANT COUNT, 2003 TO 2006

Participant Count Decreased	Participant Count Increased					
	Due to Increase in Number Eligible			Due to Increase in Participation Rate		
	Participation Rate Decreased	Proportion Due to Increase in Eligibles Much Larger (60 to 100 percent)	Proportion Due to Increase in Eligibles Slightly Larger (50 to 60 percent)	Number Eligible Decreased	Proportion Due to Increase in Participation Rate Much Larger (60 to 100 percent)	Proportion Due to Increase in Participation Rate Slightly Larger (50 to 60 percent)
Hawaii	Arizona	Alaska	California	Alabama	Colorado	Missouri
Minnesota	Mississippi	Georgia	Idaho	Arkansas	Delaware	Oregon
Wyoming	North Dakota	Kansas	New Jersey	Connecticut	Indiana	
	Oklahoma	Ohio	Tennessee	District of Columbia	Iowa	
		Utah		Florida	Kentucky	
				Illinois	Massachusetts	
				Louisiana	Michigan	
				Maine	Nebraska	
				Maryland	New York	
				Montana		
				Nevada		
				New Hampshire		
				New Mexico		
				North Carolina		
				Pennsylvania		
				Rhode Island		
				South Carolina		
				South Dakota		
				Texas		
				Vermont		
				Virginia		
				Washington		
				West Virginia		
				Wisconsin		

TABLE A.4

STANDARD ERRORS OF ESTIMATES OF THE DETERMINANTS OF THE STATE
FSP PARTICIPANT COUNT (MAIN MODEL)

Explanatory Variables	Dependent Variable		
	Participation Rate ^a	Eligibles ^b	Per Capita Participant Count ^c
unemprate	0.011	0.008	0.009
lfprate	0.011	0.008	0.009
perc20th	0.012	0.010	0.010
minwage	0.008	0.006	0.007
vehicle	0.016	0.013	0.013
catel	0.016	0.012	0.014
transben	0.018	0.014	0.015
ebt	0.015		0.015
cap	0.018		0.018
outreach	0.092		0.092
nutreduc	0.008		0.008
schipelig	0.000		0.000
earnsimp	0.013		0.013
wearnsimp	0.013		0.013

Note: All models include year effects and state fixed effects and are based on data for 51 states from 2000 to 2006.

^a Participation rate is calculated as $\ln(\text{Participants}/\text{Eligibles})$.

^b Eligibles are calculated as $\ln(\text{Eligibles}/\text{Population})$.

^c Per capita participant count is calculated as $\ln(\text{Participants}/\text{Population})$. These standard errors are derived by using the standard error estimates from the eligibles and participation rate equations, as well as the cross-equation covariance estimates.

TABLE A.5

STANDARD ERRORS OF ESTIMATES OF THE DETERMINANTS OF THE STATE FSP PARTICIPANT COUNT (ECONOMIC LAG MODEL)

Explanatory Variables	Dependent Variable		
	Participation Rate ^a	Eligibles ^b	Per Capita Participant Count ^c
unemprate	0.013	0.011	0.011
lfprate	0.013	0.010	0.010
perc20th	0.012	0.010	0.010
minwage	0.008	0.006	0.007
vehicle	0.016	0.013	0.013
catel	0.016	0.012	0.013
transben	0.017	0.013	0.014
ebt	0.014		0.014
cap	0.017		0.017
outreach	0.088		0.088
nutreduc	0.008		0.008
schipelig	0.000		0.000
earnsimp	0.012		0.012
wearnsimp	0.012		0.012
unemprate1	0.013	0.011	0.011
lfprate1	0.011	0.009	0.009
perc20th1	0.012	0.010	0.010
minwage1	0.011	0.009	0.009

Note: All models include year effects and state fixed effects and are based on data for 51 states from 2000 to 2006.

A suffix of "1" on the variable name indicates a one-year lag of the economic variable.

^a Participation rate is calculated as $\ln(\text{Participants}/\text{Eligibles})$.

^b Eligibles are calculated as $\ln(\text{Eligibles}/\text{Population})$.

^c Per capita participant count is calculated as $\ln(\text{Participants}/\text{Population})$. These standard errors are derived by using the standard error estimates from the eligibles and participation rate equations, as well as the cross-equation covariance estimates.

TABLE A.6

STANDARD ERRORS OF ESTIMATES OF THE DETERMINANTS OF THE STATE FSP PARTICIPANT COUNT (POLICY LAG MODEL)

Explanatory Variables	Dependent Variable		
	Participation Rate ^a	Eligibles ^b	Per Capita Participant Count ^c
unemprate	0.011	0.008	0.009
lfprate	0.011	0.008	0.009
perc20th	0.012	0.010	0.010
minwage	0.008	0.006	0.007
vehicle	0.017	0.013	0.014
catel	0.018	0.013	0.016
transben	0.021	0.016	0.017
ebt	0.018		0.018
cap	0.022		0.022
outreach	0.103		0.103
nutreduc	0.011		0.011
schipelig	0.000		0.000
earnsimp	0.014		0.014
wearnsimp	0.015		0.015
vehicle1	0.019	0.014	0.016
catel1	0.017	0.013	0.014
transben1	0.023	0.017	0.019
ebt1	0.015		0.015
cap1	0.023		0.023
outreach1	0.100		0.100
nutreduc1	0.013		0.013
schipelig1	0.000		0.000
earnsimp1	0.014		0.014
wearnsimp1	0.016		0.016

Note: All models include year effects and state fixed effects and are based on data for 51 states from 2000 to 2006.

A suffix of "1" on the variable name indicates a one-year lag of the policy indicator.

^a Participation rate is calculated as $\ln(\text{Participants}/\text{Eligibles})$.

^b Eligibles are calculated as $\ln(\text{Eligibles}/\text{Population})$.

^c Per capita participant count is calculated as $\ln(\text{Participants}/\text{Population})$. These standard errors are derived by using the standard error estimates from the eligibles and participation rate equations, as well as the cross-equation covariance estimates.

TABLE A.7

STANDARD ERRORS OF ESTIMATES OF THE DETERMINANTS OF THE STATE FSP PARTICIPANT COUNT (INTERACTIONS MODEL)

Explanatory Variables	Dependent Variable		
	Participation Rate ^a	Eligibles ^b	Per Capita Participant Count ^c
unemprate	0.020	0.010	0.018
lfprate	0.011	0.009	0.009
perc20th	0.012	0.010	0.010
minwage	0.008	0.006	0.007
vehicle	0.075	0.055	0.063
catel	0.067	0.048	0.057
transben	0.090	0.068	0.075
ebt	0.062		0.062
cap	0.069		0.069
outreach	0.234		0.234
nutreduc	0.044		0.044
schipelig	0.000		0.000
earnsimp	0.067		0.067
wearnsimp	0.067		0.067
ue_vehicle	0.014	0.010	0.012
ue_catel	0.012	0.009	0.010
ue_transben	0.017	0.013	0.014
ue_cap	0.013		0.013
ue_ebt	0.013		0.013
ue_outreach	0.040		0.040
ue_nutreduc	0.008		0.008
ue_earnsimp	0.012		0.013
ue_wearnsimp	0.013		0.013

Note: All models include year effects and state fixed effects and are based on data for 51 states from 2000 to 2006.

Variable names preceded by "ue_" represent interactions between the unemployment rate and policy variables.

^a Participation rate is calculated as $\ln(\text{Participants}/\text{Eligibles})$.

^b Eligibles are calculated as $\ln(\text{Eligibles}/\text{Population})$.

^c Per capita participant count is calculated as $\ln(\text{Participants}/\text{Population})$. These standard errors are derived by using the standard error estimates from the eligibles and participation rate equations, as well as the cross-equation covariance estimates.

TABLE A.8

OLS ESTIMATES OF THE DETERMINANTS OF THE
STATE FSP PARTICIPANT COUNT (ONE-EQUATION MODEL)

Explanatory Variables	Per Capita Participant Count
unemprate	0.039 ***
lfprate	-0.020**
minwage	-0.016**
perc20th	-0.010
ebt	0.020
vehicle	0.002
cap	0.004
catel	0.060***
earnsimp	0.038***
wearnsimp	0.004
outreach	0.083
transben	0.004
nutreduc	-0.061***
schipelig	-0.001*

- * Significantly different from zero at the 0.10 level, two-tailed test.
 ** Significantly different from zero at the 0.05 level, two-tailed test.
 *** Significantly different from zero at the 0.01 level, two-tailed test.

Note: All models include year effects and state fixed effects and are based on data for 51 states from 2000 to 2006.

TABLE A.9

PREDICTED GROWTH RATES IN THE PARTICIPANT COUNT, ELIGIBLES COUNT, AND PARTICIPATION RATE (2003 TO 2006) EXPLAINED BY INDEPENDENT VARIABLES: SUR MODEL (MAIN MODEL)

	2003 Actual Number	2006 Actual Number	2006 Predicted Number	2006 Predicted Number with Economic Factors Held Constant at 2003 Value	2006 Predicted Number with Policy Factors Held Constant at 2003 Value				
					Policies That Expand Eligibility ^a	Policies That Ease Access ^b	Policies That Promote Outreach ^c	Policies That Ease Reporting ^d	Policies That Limit Access ^e
Participants			0.174	0.226	0.172	0.173	0.178	0.162	0.171
Eligibles			0.003	0.086	0.002	0.003	0.003	0.003	0.003
Participation rate			0.171	0.139	0.170	0.170	0.175	0.159	0.168

^a vehicle, catel, and transben
^b cap and ebt
^c outreach, nutreduc, and schip
^d earnsimp
^e wearnsimp

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APPENDIX B

STATE-BY-STATE INTERVIEW FINDINGS

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We used five criteria to identify states for telephone interviews and selected 11 states whose characteristics met at least one, and up to three, of the criteria:

1. ***States with large and small changes in the per capita participant count.*** We ranked states according to the change from 2000 to 2005 in the participant count as a share of state population and selected states with some of the smallest and largest changes in the per capita participant count.
2. ***States with an increase in the participant count, where decomposition analysis reveals that other states do not share the reason for that increase.*** For most states, the increase in the participant count was solely or mostly attributable to the increase in the number of eligibles from 2000 to 2003 and an increasing participation rate from 2003 to 2005. For this criterion, we selected states where either the decomposition analysis identified the same reason in both time periods or the pattern was the opposite of what most states experienced.
3. ***States with large discrepancies between the actual participant count change and that predicted by using a regression model, or with other unexpected results from the multivariate analysis.*** First, we identified states where the change predicted by our model did not match the actual change in the data as closely as it did in most of the other states. Second, we selected states where predicted and actual changes in the participant count were closely aligned to identify two types of surprising results:
 - The economic and policy factors both predicted a decrease, but the model's unobservable factors led to a predicted increase in the participant count similar to the change that actually occurred.³⁶
 - The participant count increased despite a prediction of nearly no change due to economic factors and a decrease due to policy factors.
4. ***States that are typical in terms of decomposition analysis (opposite of criterion 2), participation changes, and the change in participation predicted by a regression model (opposite of criterion 3).*** We selected some states that are not characterized by unusual results so that, in combination with what we learn from the states selected by using the first three criteria, we are able to obtain a more comprehensive perspective on the situations that many states are likely to face. In the context of the empirical model, “typical” means that we expect the FSP participant count to respond countercyclically to the unemployment rate and to have a positive association with the introduction of and improvement in policies designed to ease access, expand eligibility, ease reporting, and promote outreach.

³⁶ The “unobservable” factors contributing to the model prediction were state and time fixed effects. We based predictions on the coefficients of economic and policy factors as well as the coefficients of state and time indicators.

5. ***Regional diversity.*** We focused on the first four criteria when selecting states but made efforts to ensure geographic balance among the states so that a single region would not disproportionately represent respondents' perspectives.

In this appendix, we summarize the characteristics of and findings from interviews with each state. Sample interview questions appear at the end of the appendix.

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Arkansas--Background Information

EXHIBIT 1 SELECTION CRITERIA FOR STATE INTERVIEWS IN ARKANSAS

Criterion			State meets criterion?
<i>Criterion--States with large and small changes in the per capita participant count</i>			YES
2000–2005 caseload change as percent of state population	National rank for this state		
2.06	4		
<i>Criterion 2--States with an increase in the number of participants, where decomposition analysis reveals that other states do not share the reason for increase</i>			NO
Cause of 2000–2003 caseload change	Cause of 2003–2005 caseload change	Pattern typical of other states?	
Number of eligibles	Participation rate	Yes	
<i>Criterion 3--States with (1) large discrepancies between the actual participation changes and those predicted by using a statistical model and (2) other surprising results</i>			NO
Large mismatch between actual and predicted participants?	Model predicted caseload decline due to economic and policy factors, but unobservable factors predicted an increase?	Model predicted no change due to economy and decrease due to policies, but caseload actually increased?	
No	No	No	
<i>Criterion 4--States that are not characterized by unusual analysis results (those that do not meet at least one of the second and third criteria)</i>			YES
Meets criterion 2?		Meets criterion 3?	
No		No	

EXHIBIT 2 VALUES ON ECONOMIC AND POLICY VARIABLES USED FOR STATISTICAL MODEL IN ARKANSAS

	2003 Value	Value Changed Between 2003 and 2006
Economy Variables		
Unemployment rate	5.8	X
State minimum wage	5.15	
20th percentile of state wage distribution	7.5	X
50th percentile of state wage distribution	11.5	X
Policy Variables		
EBT	X	
Biometrics		
Vehicle	X	
Combined Application Program (CAP)		
Categorical eligibility	X	
Simplified reporting for earners	X	
Simplified reporting for nonearners	X	
State waiver from all changes		X
Status reporting		
Change reporting for earners		
Change reporting for nonearners		
Transitional benefits	0	
SCHIP	200	
Outreach spending ¹	0	X
Food Stamp Nutrition Education ¹	0.89	X
Food stamp administrative costs ^{1,2}	15.22	X

¹ Costs are measured per capita (per person in the state) to facilitate cross-state comparisons.

² Administrative costs, net of spending on outreach and nutrition education.

Arkansas--Interview Findings

Summary: Supporting our understanding of the caseload decomposition, both the Arkansas Department of Human Services (DHS) and the CBO attributed the increasing number of people eligible for the FSP between 2000 and 2003 to the struggling economy and attributed the rising participation rate in later years to increased access. Respondents' focus on policy changes aimed at increasing access also supports the statistical model findings, although respondents did not mention the effect of the economy (measured by the state's unemployment rate, minimum wage, and distributional characteristics of wages) as a major factor influencing participation decisions.

Policy Changes: The DHS respondent attributed many clients' lengthened food stamp spells between 2003 and 2005 to simplified reporting, which might have increased the participation rate. In addition, she reported that the 2002 Farm Bill aligned resource determination for disabled households to that for elderly households, thereby expanding the number of eligible people. Respondents cited several initiatives that may have encouraged participation. DHS began waiving the face-to-face interview requirement for recertification, accepting FSP applications by mail, and allowing electronic verification of income. The CBO reported that the community perceived that the requirement for face-to-face interviews at application and recertification had been relaxed or waived, spurring more eligible people to apply.

Outreach Efforts: Arkansas undertook some direct outreach efforts (e.g., radio advertisements), but neither DHS nor CBO respondents considered the efforts sufficiently significant to influence caseloads.

Modernized or Streamlined Application and Eligibility Systems: Between 2003 and 2005, several initiatives encouraged the submission of applications by people qualified for a variety of assistance programs. Describing what may have been a one-time push, the CBO respondent said that the state matched Medicaid and SCHIP client databases with FSP records and encouraged likely eligibles to participate in both programs. Before introduction of the streamlining initiative, Arkansas had a 30 percent gap in the caseload overlap between the two groups. People applying for Medicaid or SCHIP often had not been applying for the FSP but, under the new system, could apply for both at the same time. DHS underlined the importance of Arkansas's statewide integrated eligibility system, ANSWER, which the state implemented in 2003. ANSWER permitted clients to apply simultaneously for several programs; simultaneous application was previously impossible. The new system featured a single, shorter application, helped the caseworker determine eligibility, and reduced case processing time.

Economy: During an economic downturn between 2000 and 2003, Arkansas residents experienced job losses and new jobs typically offered lower pay than former jobs, according to the DHS respondent. During this period, FNS waived nearly two-thirds of the state's counties from the ABAWD time limits due to high unemployment.

Demographic Changes: Toward the end of 2005, evacuees from Hurricane Katrina came to Arkansas. While our caseload counts do not include disaster clients, DHS and the CBO said that many evacuees chose to become Arkansas residents and would have then entered the regular FSP program. Thus, state respondents said, migration may have contributed to the increase in the 2006 FSP caseload.

Connecticut--Background Information

EXHIBIT 1 SELECTION CRITERIA FOR STATE INTERVIEWS IN CONNECTICUT

Criterion			State meets criterion?
<i>Criterion 1--States with large and small changes in the per capita participant count</i>			YES
2000–2005 caseload change as percent of state population	National rank for this state		
0.34	46		
<i>Criterion 2--States with an increase in the number of participants, where decomposition analysis reveals that other states do not share the reason for increase</i>			NO
Cause of 2000–2003 caseload change	Cause of 2003–2005 caseload change	Pattern typical of other states?	
Number of eligibles	Participation rate	Yes	
<i>Criterion 3--States with (1) large discrepancies between the actual participation changes and those predicted by using a statistical model and (2) other surprising results</i>			NO
Large mismatch between actual and predicted participants?	Model predicted caseload decline due to economic and policy factors, but unobservable factors predicted an increase?	Model predicted no change due to economy and decrease due to policies, but caseload actually increased?	
No	No	No	
<i>Criterion 4--States that are not characterized by unusual analysis results (those that do not meet at least one of the second and third criteria)</i>			YES
Meets criterion 2?		Meets criterion 3?	
No		No	

EXHIBIT 2 VALUES ON ECONOMIC AND POLICY VARIABLES USED FOR STATISTICAL MODEL IN CONNECTICUT

	2003 Value	Value Changed Between 2003 and 2006
Economy Variables		
Unemployment rate	5.5	X
State minimum wage	6.7	X
20th percentile of state wage distribution	10	X
50th percentile of state wage distribution	18.52	X
Policy Variables		
EBT	X	
Biometrics		
Vehicle		
Combined Application Program (CAP)		
Categorical eligibility	X	
Simplified reporting for earners	X	
Simplified reporting for nonearners	X	
State waiver from all changes	X	
Status reporting		
Change reporting for earners	X	X
Change reporting for nonearners	X	
Transitional benefits	0	
SCHIP	300	
Outreach spending ¹	0.08	X
Food Stamp Nutrition Education ¹	1.31	X
Food stamp administrative costs ^{1,2}	11.21	X

¹ Costs are measured per capita (per person in the state) to facilitate cross-state comparisons.

² Administrative costs, net of spending on outreach and nutrition education.

Connecticut--Interview Findings

Summary: Supporting our finding that an increased number of eligible clients caused caseload growth between 2000 and 2003, both respondents reported a weak state economy that affected household budgets and motivated state office closures. They did not identify any state or community actions that would have increased the participation rate during that period. Respondents also provided information that supports our decomposition result that an increase in the participation rate drove caseload increases in 2003 to 2005, noting that expanded outreach and improved state services increased participation during this period.

Policy Changes: The DSS respondent thought that simplified reporting helped Connecticut retain beneficiaries for longer spells. DSS reported that, during the study period, Connecticut did not implement many policy changes that might have increased the caseload. Connecticut instituted a vehicle exemption policy in 2006 or 2007 (CBO and DSS staff did not agree on the date), later than did many other states, after aligning TANF and FSP vehicle rules in the early 2000s. Connecticut recently began granting more hardship waivers for face-to-face interviews (date unclear), and DSS believed that the grant of waivers increased the participation rate.

Outreach Efforts: Enhanced outreach and a web-based screener contributed to higher participation rates between 2003 and 2005. The DSS respondent reported that one outreach contractor used a “more hands-on personal approach” (e.g., Hispanic outreach, bingo games about the FSP in senior centers) and thought that such an approach proved effective. The CBO respondent reported that her organization posted a web-based pre-screening tool in 2003–2004 so that people could check their eligibility online and then, if eligible, visit a DSS office to submit an application.

Modernized or Streamlined Application and Eligibility Systems: Due to its legacy computer system, Connecticut has not yet been able to implement transitional FSP benefits for TANF leavers even though the state legislature has authorized the benefits.

Economy: Respondents had a pessimistic view of the strength of Connecticut’s economy during the study period. In the early 2000s, Connecticut suffered a budget crisis. The DSS closed some offices and laid off employees responsible for intake and other client services. In view of union rules, employees who kept their jobs were transferred into other jobs (for example, eligibility worker) for which they lacked training, thereby slowing clients’ receipt of services, according to the CBO respondent. The state budget crisis was the main driver of the layoffs, and respondents agreed that the economic changes that led to the budget crisis meant that more people needed FSP benefits, although fewer DSS employees were able to provide assistance. However, the CBO respondent reported that the economy stabilized by 2003 or 2004 and that DSS began to hire more workers. Speaking about the direct effect of the economy on clients’ budgets, the DSS respondent did not think that the state’s minimum wage increase (from \$5.18 in 1999 to \$7.10 in 2005) affected FSP eligibility. She did not consider the increases significant because many employers of FSP-eligible residents were likely already paying wages that exceeded the state minimum.

Idaho--Background Information

EXHIBIT 1 SELECTION CRITERIA FOR STATE INTERVIEWS IN IDAHO

Criterion			State meets criterion?
<i>Criterion 1--States with large and small changes in the per capita participant count</i>			NO
2000–2005 caseload change as percent of state population		National rank for this state	
1.14		28	
<i>Criterion 2--States with an increase in the number of participants, where decomposition analysis reveals that other states do not share the reason for increase</i>			YES
Cause of 2000–2003 caseload change	Cause of 2003–2005 caseload change	Pattern typical of other states?	
Participation rate	Participation rate	No	
<i>Criterion 3--States with (1) large discrepancies between the actual participation changes and those predicted by using a statistical mode and (2) other surprising results</i>			YES
Large mismatch between actual and predicted participants?	Model predicted caseload decline due to economic and policy factors, but unobservable factors predicted an increase?	Model predicted no change due to economy and decrease due to policies, but caseload actually increased?	
Yes	Yes	No	
<i>Criterion 4--States that are not characterized by unusual analysis results (those that do not meet at least one of the second and third criteria)</i>			NO
Meets criterion 2?		Meets criterion 3?	
Yes		Yes	

EXHIBIT 2 VALUES ON ECONOMIC AND POLICY VARIABLES USED FOR STATISTICAL MODEL IN IDAHO

	2003 Value	Value Changed Between 2003 and 2006
Economy Variables		
Unemployment rate	5.2	X
State minimum wage	5.15	
20th percentile of state wage distribution	7.25	X
50th percentile of state wage distribution	11.25	X
Policy Variables		
EBT	X	
Biometrics		
Vehicle		
Combined Application Program (CAP)		
Categorical eligibility	X	
Simplified reporting for earners		X
Simplified reporting for nonearners		X
State waiver from all changes		
Status reporting	X	X
Change reporting for earners		X
Change reporting for nonearners		
Transitional benefits	0	
SCHIP	150	X
Outreach spending ¹	0	X
Food Stamp Nutrition Education ¹	0.92	X
Food stamp administrative costs ^{1,2}	10.92	X

¹ Costs are measured per capita (per person in the state) to facilitate cross-state comparisons.

² Administrative costs, net of spending on outreach and nutrition education.

Idaho--Interview Findings

Summary: The multivariate model predicted that Idaho's improving economy would decrease the state's caseload and that policy changes would not offset the decrease, but, in fact, the state experienced an increased caseload. Our analysis indicated that Idaho's higher participation rate caused the rising caseload in both 2000 to 2003 and 2003 to 2005. Respondents told us that Idaho offers few outreach programs. The lack of outreach and (toward the end of the study period) layoffs and plant closings are consistent with our 2003-2006 data, which indicate that an increase in the number of eligibles led to caseload increases.

Policy Changes: The CBO we called also described Idaho's eligibility policies as restrictive in comparison to other states. Between 2000 and 2005, few policies that expand benefits were visible to the advocacy community. Respondents agreed that the vehicle exemption policy affected eligibility, but the change took effect in 2007. Idaho's Department of Health and Welfare (DHW) reported that the state adopted simplified reporting policies in 2003, making it easier for beneficiaries to stay on the caseload by reducing the reporting burden.

Outreach Efforts: DHW reported that, in 2002 or 2003, the legislature passed laws forbidding outreach. The legislature quietly revoked the laws in the following year, but even DHW did not know about the laws' repeal until years later, thereby allowing the perception of impermissible outreach to persist.

Economy: Layoffs led to an increase in the number of eligible clients. Both state and CBO staff focused on recent downturns. However, state respondents reported that many Idaho residents lost their jobs between 2002 and 2004 while the CBO respondent stated that layoffs began in earnest in 2005. Although their accounts of timing differed, respondents agreed that declining economic conditions may have increased the participation rate in the later years of the study period.

Demographic Changes: Respondents also agreed that, for as long as 10 years, Idaho's population has been increasing significantly as a result of the migration of laborers (particularly from California) seeking work in Idaho, especially in the construction industry. However, respondents were unsure whether and how new residents differed in terms of characteristics relevant to participation rates. The state respondent reported that members of the Church of Latter Day Saints represent a rapidly growing population segment but that the church tends to "take care of their own" such that members do not apply for public benefits.

Kentucky--Background Information

EXHIBIT 1 SELECTION CRITERIA FOR STATE INTERVIEWS IN KENTUCKY

Criterion			State meets criterion?
<i>Criterion 1--States with large and small changes in the per capita participant count</i>			YES
2000–2005 caseload change as percent of state population		National rank for this state	
1.63		14	
<i>Criterion 2--States with an increase in the number of participants, where decomposition analysis reveals that other states do not share the reason for increase</i>			NO
Cause of 2000–2003 caseload change	Cause of 2003–2005 caseload change	Pattern typical of other states?	
Number of eligibles	Participation rate	Yes	
<i>Criterion 3--States with (1) large discrepancies between the actual participation changes and those predicted by using a statistical model and (2) other surprising results</i>			YES
Large mismatch between actual and predicted participants?	Model predicted caseload decline due to economic and policy factors, but unobservable factors predicted an increase?	Model predicted no change due to economy and decrease due to policies, but caseload actually increased?	
No	Yes	No	
<i>Criterion 4--States that are not characterized by unusual analysis results (those that do not meet at least one of the second and third criteria)</i>			YES
Meets criterion 2?		Meets criterion 3?	
No		Yes	

EXHIBIT 2 VALUES ON ECONOMIC AND POLICY VARIABLES USED FOR STATISTICAL MODEL IN KENTUCKY

	2003 Value	Value Changed Between 2003 and 2006
Economy Variables		
Unemployment rate	6.3	X
State minimum wage	5.15	
20th percentile of state wage distribution	8	X
50th percentile of state wage distribution	12	X
Policy Variables		
EBT	X	
Biometrics		
Vehicle	X	
Combined Application Program (CAP)		
Categorical eligibility	X	
Simplified reporting for earners	X	
Simplified reporting for nonearners		X
State waiver from all changes	X	
Status reporting		
Change reporting for earners		
Change reporting for nonearners		
Transitional benefits	0	
SCHIP	200	
Outreach spending ¹	0	X
Food Stamp Nutrition Education ¹	0.25	X
Food stamp administrative costs ^{1,2}	13.87	X

¹ Costs are measured per capita (per person in the state) to facilitate cross-state comparisons.

² Administrative costs, net of spending on outreach and nutrition education.

Kentucky--Interview Findings

Summary: We predicted that an improving state economy would have led to a decreased caseload and that policy changes in Kentucky would not counteract the decrease; nevertheless, the state experienced a relatively large caseload increase. Initial explanations by Department for Community Based Services (DCBS) and CBO respondents differed somewhat and ran contrary to our predictions. The state respondent focused on policy and demographic changes that expanded the number of eligibles while the community respondent highlighted a poor economy (particularly in Kentucky's rural areas). Both respondents, however, believed that the state increased the participation rate through outreach and expanded access.

Policy Changes: DCBS named several Farm Bill options exercised by the state in 2003, which DCBS believed increased the number of eligibles. Specifically, Kentucky aligned its TANF, Medicaid, and FSP eligibility and resource reporting policies, resulting in expanded eligibility rules for the FSP. DCBS also said that the vehicle exclusion policy made additional households eligible for the FSP and that simplified reporting may have lengthened spells but did not bring in new participants.

Outreach Efforts: DCBS's long-standing outreach efforts intensified during the study period. In 1999, DCBS undertook KCHIP outreach for working families, targeting the working class through third parties such as community partners and small employers. While such outreach activities took place before the study period, DCBS noted that efforts not necessarily tied directly to the FSP, such as the one for KCHIP, heighten awareness of the benefits available to families. Since September 2000, the state has provided comprehensive family services. When a family comes in for any reason, a member of the FSP staff is part of the team that addresses household needs. Both DCBS and the CBO mentioned that local providers reached out to low-income households through the Food Stamp Nutrition Education program, perhaps increasing the participation rate. DCBS improved Food Stamp Nutrition Education in 2003 and 2004 by contracting with food service providers to reach more eligible households. DCBS said that nutrition education providers targeted outreach to FSP participants, although their services might have reached other low-income households in the process.

Modernized or Streamlined Application and Eligibility Systems: Expanded access mechanisms may have resulted in increased participation rates during the economic downturn, including steps to make the application process more client-friendly. DCBS told us that Kentucky established an integrated eligibility system in the 1990s, much earlier than other states. The eligibility system alerts caseworkers when a client who is applying for TANF or Medicaid is also eligible for the FSP. In addition, the FSP application has been available on the Internet since August 2002, allowing applicants to print and fill out an application for submission by mail. The CBO respondent told us that offices introduced more flexible hours and noted that new rules mean clients do not have to return multiple times to submit verification (the respondent did not know when this practice took effect).

Economy: The CBO respondent reported that low-income Kentuckians did not benefit from the improving economy during the study period.

Demographic Changes: Refugees from other countries (Catholic Charities has designated some Kentucky communities for refugee relocation) and from Hurricane Katrina might have increased the eligible population.

Mississippi--Background Information

EXHIBIT 1 SELECTION CRITERIA FOR STATE INTERVIEWS IN MISSISSIPPI

Criterion			State meets criterion?
<i>Criterion 1--States with large and small changes in the per capita participant count</i>			NO
2000–2005 caseload change as percent of state population		National rank for this state	
1.22		26	
<i>Criterion 2--States with an increase in the number of participants, where decomposition analysis reveals that other states do not share the reason for increase</i>			YES
Cause of 2000–2003 caseload change	Cause of 2003–2005 caseload change	Pattern typical of other states?	
Participation rate	Number of eligibles	No	
<i>Criterion 3--States with (1) large discrepancies between the actual participation changes and those predicted by using a statistical model and (2) other surprising results</i>			YES
Large mismatch between actual and predicted participants?	Model predicted caseload decline due to economic and policy factors, but unobservable factors predicted an increase?	Model predicted no change due to economy and decrease due to policies, but caseload actually increased?	
Yes	No	No	
<i>Criterion 4--States that are not characterized by unusual analysis results (those that do not meet at least one of the second and third criteria)</i>			NO
Meets criterion 2?		Meets criterion 3?	
Yes		Yes	

EXHIBIT 2 VALUES ON ECONOMIC AND POLICY VARIABLES USED FOR STATISTICAL MODEL IN MISSISSIPPI

	2003 Value	Value Changed Between 2003 and 2006
Economy Variables		
Unemployment rate	6.4	X
State minimum wage	0	
20th percentile of state wage distribution	9	X
50th percentile of state wage distribution	13.85	X
Policy Variables		
EBT	X	
Biometrics		
Vehicle		X
Combined Application Program (CAP)		X
Categorical eligibility		X
Simplified reporting for earners		X
Simplified reporting for nonearners		X
State waiver from all changes		X
Status reporting		
Change reporting for earners		
Change reporting for nonearners		
Transitional benefits	0	
SCHIP	200	
Outreach spending ¹	0	
Food Stamp Nutrition Education ¹	1.55	X
Food stamp administrative costs ^{1,2}	17.17	X

¹ Costs are measured per capita (per person in the state) to facilitate cross-state comparisons.

² Administrative costs, net of spending on outreach and nutrition education.

Mississippi--Interview Findings

Summary: In most states, an increase in the number of eligible people increased the caseload from 2000 to 2003, and a higher participation rate increased the caseload from 2003 to 2005; Mississippi, however, experienced the opposite trend--a higher participation rate followed by an increase in the number of eligibles. Additionally, Mississippi's predicted caseload increase from the multivariate model differed markedly from the state's actual caseload increase. Supporting our first finding, Mississippi's DHS and CBO respondents believed that increased participation rates could explain the caseload increase in 2000 to 2003. A number of policy changes made applying for benefits easier, and many (but not all) of the changes occurred during this period. DHS reported a struggling economy in the mid-2000s but was not precise about the timing or depth of economic problems. The information provided by respondents does not explain why the caseload growth was lower than we predicted; indeed, respondents reported factors that would have increased caseloads.

Policy Changes: The state implemented several eligibility initiatives between 2000 and 2003. It implemented a Supplemental Security Income Combined Application Program (CAP) in 2002, and DHS said that the introduction of the policy explains an increase in participants in 2002 and 2003. The state also introduced EBT cards in 2002, and DHS reported that the reduced stigma of the FSP program that accompanied EBT cards could explain some of the participation rate increase. Also during the early 2000s, Mississippi had already reduced its public assistance rolls to meet TANF targets, and DHS told us that the reduction led to a relaxed approach to work requirements during the early 2000s. This development caused a statewide spike in the TANF rolls, according to DHS. Given that the same office administers TANF and FSP benefits, the TANF caseload spike might have contributed to an increase in the participation rate. Conversely, the CBO respondent speculated that the state's participation rate may have declined in 2000 to 2003 among some clients after the Food Stamp Employment and Training program became mandatory because part-time workers had difficulty attending the sessions. Obtaining and maintaining benefits became easier for clients in 2004. First, the state streamlined its benefit application, significantly shortening the average interview length. Second, the state implemented the simplified reporting policy for earners was easier to understand and no longer required the client to submit monthly earnings updates.

Outreach Efforts: The CBO respondent reported that a state program of FSP outreach in communities affected by a plant closing may have boosted the caseload in those communities.

Economy: Mississippi experienced an economic decline in the mid-2000s and received a statewide exemption in 2005 (then extended for two more years) to the ABAWD time limit policy. The waiver did not take effect until the end of the study period, although several Mississippi counties had enacted a similar waiver before the statewide waiver took effect, and economic conditions in the state were difficult enough to support the state's application for a waiver. The CBO respondent said that, before implementation of the waivers, the state experienced difficulty in maintaining its FSP participation rate.

Demographic Changes: In 2005, the state experienced an influx of refugees displaced by hurricanes, and a large number of residents were also affected by the storms. Although these disaster beneficiaries are not counted in participation rates, many refugees chose to stay in Mississippi, and many families continued to participate after the termination of disaster benefits.

New Jersey--Background Information

EXHIBIT 1 SELECTION CRITERIA FOR STATE INTERVIEWS IN NEW JERSEY

Criterion			State meets criterion?
<i>Criterion 1--States with large and small changes in the per capita participant count</i>			YES
2000–2005 caseload change as percent of state population		National rank for this state	
0.36		43	
<i>Criterion 2--States with an increase in the number of participants, where decomposition analysis reveals that other states do not share the reason for increase</i>			NO
Cause of 2000–2003 caseload change	Cause of 2003–2005 caseload change	Pattern typical of other states?	
Number of eligibles	Participation rate	Yes	
<i>Criterion 3--States with (1) large discrepancies between the actual participation changes and those predicted by using a statistical model and (2) other surprising results</i>			YES
Large mismatch between actual and predicted participants?	Model predicted caseload decline due to economic and policy factors, but unobservable factors predicted an increase?	Model predicted no change due to economy and decrease due to policies, but caseload actually increased?	
No	Yes	No	
<i>Criterion 4--States that are not characterized by unusual analysis results (those that do not meet at least one of the second and third criteria)</i>			YES
Meets criterion 2?		Meets criterion 3?	
No		Yes	

EXHIBIT 2 VALUES ON ECONOMIC AND POLICY VARIABLES USED FOR STATISTICAL MODEL IN NEW JERSEY

	2003 Value	Value Changed Between 2003 and 2006
Economy Variables		
Unemployment rate	5.9	X
State minimum wage	5.15	X
20th percentile of state wage distribution	11	X
50th percentile of state wage distributions	19	X
Policy Variables		
EBT	X	
Biometrics		
Vehicle		
Combined Application Program (CAP)		
Categorical eligibility	X	X
Simplified reporting for earners	X	
Simplified reporting for nonearners	X	
State waiver from all changes	X	
Status reporting	X	
Change reporting for earners		
Change reporting for nonearners		
Transitional benefits	0	
SCHIP	350	
Outreach spending ¹	0	X
Food Stamp Nutrition Education ¹	0.45	X
Food stamp administrative costs ^{1,2}	19.28	X

¹ Costs are measured per capita (per person in the state) to facilitate cross-state comparisons.

² Administrative costs, net of spending on outreach and nutrition education.

New Jersey--Interview Findings

Summary: Our decomposition found that a higher number of eligibles increased caseloads in 2000 to 2003, consistent with impressions by the CBO respondent that economic declines would have increased caseloads. Outreach initiatives occurred in and after 2003, supporting our theory that a higher participation rate increased the caseload between 2003 and 2005, although respondents disagreed about whether outreach efforts bolstered participation rates. Respondents mentioned only two policy changes that were in effect during the study period: simplified reporting and EBT cards.

Policy Changes: The CBO respondent believed that introducing EBT cards boosted the participation rate. She also highlighted some recent changes (elimination of all vehicles from the asset test and introduction of the waiver to eliminate face-to-face interviews at recertification) and some changes advocated by CBOs (longer certification periods and transitional benefits for TANF leavers), but none of the changes that she thought would increase the caseload was in effect during the study period. Focusing on FSP policies, the DHS respondent believed that the adoption of simplified reporting (2002 for earners and 2003 for nonearners) boosted the participation rate by lengthening the duration of FSP benefit receipt. However, she attributed most of the change in the participation rate to increased outreach and marketing as detailed below.

Outreach Efforts: New Jersey's DHS focused on decreasing its error rate in the early 2000s but shifted its focus to outreach and participation by 2003 when the state received federal funds for FSP outreach. Of this money, the state earmarked \$1 million for counties' programmatic improvements and outreach. Counties instituted some creative approaches, including mobile offices (in a van). In 2004, DHS received a federal grant to develop an online application and screening tool. Called NJHelps, the tool initially screened applicants for 6 programs and has since been updated with the capability to calculate eligibility and benefits for 31 assistance programs. After developing the tool, the state advertised it, and the DHS respondent credited the advertisements with increasing the number of applications for the program. The CBO respondent had heard the radio advertisements (though she reported that they aired after 2005) but did not believe that clients used the online tool after hearing about it. Similarly, the CBO respondent mentioned that the state did some outreach for the FSP in the mid-2000s, but the CBO did not think it would cause higher participation. However, the DHS respondent noted that shifting from bus to radio advertisements (when marketing NJHelps) boosted applications in one county to 1,000 per week, up from a few hundred per week.

Modernized or Streamlined Application and Eligibility Systems: The CBO respondent noted that implementing policy changes poses a challenge for the state because of the difficulty of changing the programming in its aging legacy system.

Economy: The CBO respondent believed that the increase in the number of participants from 2000 to 2005 was mainly attributable to economic problems. She described New Jersey as a state with high costs, including those for food, and suggested that FSP clients began facing tighter budgets in New Jersey before other U.S. residents, perhaps pushing more eligible people to participate in the FSP. The DHS respondent did not comment on the state of New Jersey's economy.

North Carolina--Background Information

EXHIBIT 1 SELECTION CRITERIA FOR STATE INTERVIEWS IN NORTH CAROLINA

Criterion			State meets criterion?
<i>Criterion 1--States with large and small changes in the per capita participant count</i>			YES
2000–2005 caseload change as percent of state population		National rank for this state	
1.71		10	
<i>Criterion 2--States with an increase in the number of participants, where decomposition analysis reveals that other states do not share the reason for increase</i>			NO
Cause of 2000–2003 caseload change	Cause of 2003–2005 caseload change	Pattern typical of other states?	
Number of eligibles	Participation rate	Yes	
<i>Criterion 3--States with (1) large discrepancies between the actual participation changes and those predicted by using a statistical model and (2) other surprising results</i>			NO
Large mismatch between actual and predicted participants?	Model predicted caseload decline due to economic and policy factors, but unobservable factors predicted an increase?	Model predicted no change due to economy and decrease due to policies, but caseload actually increased?	
No	No	No	
<i>Criterion 4--States that are not characterized by unusual analysis results (those that do not meet at least one of the second and third criteria)</i>			YES
Meets criterion 2?		Meets criterion 3?	
No		No	

EXHIBIT 2 VALUES ON ECONOMIC AND POLICY VARIABLES USED FOR STATISTICAL MODEL IN NORTH CAROLINA

	2003 Value	Value Changed Between 2003 and 2006
Economy Variables		
Unemployment rate	6.5	X
State minimum wage	5.15	X
20th percentile of state wage distribution	8	X
50th percentile of state wage distribution	13	X
Policy Variables		
EBT	X	
Biometrics		
Vehicle	X	
Combined Application Program (CAP)		X
Categorical eligibility	X	
Simplified reporting for earners		X
Simplified reporting for nonearners		X
State waiver from all changes		
Status reporting		
Change reporting for earners	X	
Change reporting for nonearners		
Transitional benefits	0	X
SCHIP	200	
Outreach spending ¹	0	X
Food Stamp Nutrition Education ¹	1.28	X
Food stamp administrative costs ^{1,2}	11.93	X

¹ Costs are measured per capita (per person in the state) to facilitate cross-state comparisons.

² Administrative costs, net of spending on outreach and nutrition education.

North Carolina--Interview Findings

Summary: We expected that policy changes would increase eligibility and encourage access, preventing caseloads from declining as they otherwise would have in response to economic improvements; respondents supported our expectation. They also supported our decomposition results. The CBO respondent cited an economic decline that could have explained the increase in participation between 2000 and 2003. Both the state and CBO respondents agreed that policy changes and outreach efforts between 2003 and 2005 may have increased participation rates, but some of the factors cited by the respondents did not exist until 2005.

Policy Changes: Reported policy changes that might have increased participation rates include the vehicle exclusion policy (CBO), simplified reporting (state and CBO), and eligibility for legal immigrants in 2002 (state). A revamped 2005 application was shorter and more user-friendly and, according to the state respondent, appears to have encouraged participation. In addition, the CBO respondent noted that, at about the same time, the state began offering combined applications for assistance programs and making application information more available online. The Division of Social Services (DSS) has no data about how the revamped application affected participation but, when they were testing it, clients reported that it was simpler and easier to complete. Before the simplification, the application was a 25-page document. Within it was a booklet with questions on one side and space for documentation on the other side, permitting the worker to verify identity and statements about the household. This was cumbersome for clients, many of whom tried to complete sections marked for agency use only. The state removed all the verification questions, reducing the application to 10 pages; the application now includes information on reporting requirements, voter registration, and other information that does not require a response.

Outreach Efforts: Expanded outreach may have encouraged applications. Both counties and the state engaged in outreach, but the timing and intensity of outreach initiatives varied. Some important outreach efforts did not begin until 2005. Because North Carolina is a county-administered state, DSS does not track or maintain information about how individual counties engage in outreach. It did, however, name some innovative outreach policies (e.g., partnerships with local doctors' offices or movie theaters) implemented by individual counties but could not determine the degree to which counties engaged in innovative outreach efforts. Food banks, working with about 800 local organizations, began encouraging people to apply for the FSP in 2005. The CBO respondent reported that these efforts increased participation rates and confirmed the magnitude of food banks' outreach.

Economy: The CBO respondent reported that North Carolina experienced an economic downturn in the early 2000s that would have expanded the number of eligible clients. The furniture and textile industries west of Raleigh lost some major manufacturers, and some areas in the southern part of the state experienced economic problems between 2002 and 2004. Many companies were moving their production offshore. If employees were laid off, they received outreach materials about resources available to them, and some of the materials dealt with Food Stamps. Many of the people losing their jobs were older workers.

Oklahoma--Background Information

EXHIBIT 1 SELECTION CRITERIA FOR STATE INTERVIEWS IN OKLAHOMA

Criterion			State meets criterion?
<i>Criterion 1--States with large and small changes in the per capita participant count</i>			NO
2000–2005 caseload change as percent of state population		National rank for this state	
0.79		36	
<i>Criterion 2--States with an increase in the number of participants, where decomposition analysis reveals that other states do not share the reason for increase</i>			YES
Cause of 2000–2003 caseload change	Cause of 2003–2005 caseload change	Pattern typical of other states?	
Participation rate	Number of eligibles	No	
<i>Criterion 3--States with (1) large discrepancies between the actual participation changes and those predicted by using a statistical model and (2) other surprising results</i>			YES
Large mismatch between actual and predicted participants?	Model predicted caseload decline due to economic and policy factors, but unobservable factors predicted an increase?	Model predicted no change due to economy and decrease due to policies, but caseload actually increased?	
No	Yes	No	
<i>Criterion 4--States that are not characterized by unusual analysis results (those that do not meet at least one of the second and third criteria)</i>			NO
Meets criterion 2?		Meets criterion 3?	
Yes		Yes	

EXHIBIT 2 VALUES ON ECONOMIC AND POLICY VARIABLES USED FOR STATISTICAL MODEL IN OKLAHOMA

	2003 Value	Value Changed Between 2003 and 2006
Economy Variables		
Unemployment rate	5.6	X
State minimum wage	5.15	
20th percentile of state wage distribution	7	X
50 percentile of state wage distribution	10.51	X
Policy Variables		
EBT	X	
Biometrics		
Vehicle	X	
Combined Application Program (CAP)		
Categorical eligibility	X	
Simplified reporting for earners	X	
Simplified reporting for nonearners		X
State waiver from all changes		
Status reporting		
Change reporting for earners	X	
Change reporting for nonearners		
Transitional benefits	0	X
SCHIP	185	
Outreach spending ¹	0	
Food Stamp Nutrition Education ¹	1.30	X
Food stamp administrative costs ^{1,2}	17.47	X

¹ Costs are measured per capita (per person in the state) to facilitate cross-state comparisons.

² Administrative costs, net of spending on outreach and nutrition education.

Oklahoma--Interview Findings

Summary: We predicted that economic factors would cause a caseload decline that would not be offset by policy changes intended to expand participation. In fact, Oklahoma experienced an overall increase in its caseload. Apart from supplying details about the quality of outreach methods, participants provided few explanations for the caseload increase. However, respondents supported our decomposition results, stating that important outreach initiatives began before 2003 and that economic changes between 2003 and 2005 may have increased eligibility.

Policy Changes: In 2002, the state adopted a more flexible vehicle exclusion policy for the calculation of household assets. DHS noted that simplified reporting, beginning after passage of the 2002 Farm Bill, lengthened certification periods and could have led to higher participation rates. The CBO respondent reported that the FSP application, formerly 20 pages, was shortened and made available online during the study period. DHS reported one change within the same period that would have expanded eligibility rather than increasing the participation rate: the state aligned the FSP vehicle policy with the TANF policy and eliminated the one-vehicle and fair market-value rules.

Outreach Efforts: Also in the early 2000s, DHS's agency culture shifted. County offices (which administer the FSP) were renamed Human Service Centers and redesigned to be more attractive and family-friendly. DHS representatives began educating the community about these changes and deliberately described the FSP as supplemental nutritional assistance to lessen stigma. As part of its outreach, DHS provided CBOs with pamphlets about how and where to apply for the FSP; the CBO respondent reported that the pamphlets were a helpful tool for clients. After passage of the 2002 Farm Bill, DHS also undertook outreach in the Hispanic community to inform families of new eligibility rules that might affect their households. A statewide campaign has focused on raising awareness among staff and clients that working households earning the minimum wage may be eligible for FSP benefits (see State Services below). The CBO respondent reported that Oklahoma won an award last year for a high number of participants relative to the size of its low-income population; such an achievement would not have been possible without the groundwork laid more than five years ago.

State Services: The changes at DHS took place within (and, DHS suggested, despite) what the DHS respondent called "a conservative political environment" in the state government, characterized by opposition to people receiving long-term benefits. Leadership for this cultural change came from the new director of Social Services (DSS was renamed DHS), who began in the early 2000s and brainstormed and led the agency's outreach efforts, making the FSP program more accessible to working people.

Economy: Oklahoma experienced some employment shifts starting in about 2003. The CBO respondent reported that high-paying jobs left the state (for example, Wrangler and GM) and were replaced by lower-paying service sector jobs. As an example, people formerly earning \$20 per hour began earning \$7 per hour and may have become eligible for benefits. In Oklahoma, roughly one-third of the state's 77 counties are exempt each year from the ABAWD time limits due to high unemployment. DHS suggested that the exemptions, beginning in 2004, could partially explain the increased number of eligibles that the decomposition identified from 2003 to 2005.

South Carolina--Background Information

EXHIBIT 1 SELECTION CRITERIA FOR STATE INTERVIEWS IN SOUTH CAROLINA

Criterion			State meets criterion?
<i>Criterion 1--States with large and small changes in the per capita participant count</i>			YES
2000–2005 caseload change as percent of state population		National rank for this state	
1.78		8	
<i>Criterion 2--States with an increase in the number of participants, where decomposition analysis reveals that other states do not share the reason for increase</i>			YES
Cause of 2000–2003 caseload change	Cause of 2003–2005 caseload change	Pattern typical of other states?	
Number of eligibles	Number of eligibles	No	
<i>Criterion 3--States with (1) large discrepancies between the actual participation changes and those predicted by using a statistical model and (2) other surprising results</i>			YES
Large mismatch between actual and predicted participants?	Model predicted caseload decline due to economic and policy factors, but unobservable factors predicted an increase?	Model predicted no change due to economy and decrease due to policies, but caseload actually increased?	
No	No	Yes	
<i>Criterion 4--States that are not characterized by unusual analysis results (those that do not meet at least one of the second and third criteria)</i>			NO
Meets criterion 2?		Meets criterion 3?	
Yes		Yes	

EXHIBIT 2 VALUES ON ECONOMIC AND POLICY VARIABLES USED FOR STATISTICAL MODEL IN SOUTH CAROLINA

	2003 Value	Value Changed Between 2003 and 2006
Economy Variables		
Unemployment rate	6.7	X
State minimum wage	0	
20th percentile of state wage distribution	8.58	X
50th percentile of state wage distribution	12.5	X
Policy Variables		
EBT	X	
Biometrics		
Vehicle	X	
Combined Application Program (CAP)		X
Categorical eligibility	X	
Simplified reporting for earners	X	
Simplified reporting for nonearners		X
State waiver from all changes		
Status reporting	X	X
Change reporting for earners		
Change reporting for nonearners	X	
Transitional benefits	0	
SCHIP	185	
Outreach spending ¹	0.18	X
Food Stamp Nutrition Education ¹	0.55	X
Food stamp administrative costs ^{1,2}	10.99	X

¹ Costs are measured per capita (per person in the state) to facilitate cross-state comparisons.

² Administrative costs, net of spending on outreach and nutrition education.

