

Food Stamp Participation among Adult-Only Households

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Abstract

Several recent changes in the Food Stamp Program have been directed toward households without children. Some, including new work requirements for able-bodied adults without dependents (ABAWDs), were intended to promote self-sufficiency, while others, including easier application and recertification procedures, were intended to increase participation among under-served groups, such as the disabled and elderly. Despite their relevance to policymakers, only a few studies have examined adult-only households. We use administrative records from South Carolina and event-history methods to investigate how spells of food stamp participation for adult-only households vary with ABAWD provisions, recertification intervals, economic conditions and other characteristics. We find that households that were subject to ABAWD policies had shorter spells and lower rates of food stamp participation than other households. We also find that households were much more likely to leave the Food Stamp Program at recertification dates than at other dates. From an evaluative perspective, program administrators can feel encouraged by findings that show that the food stamp program is responsive to need, in that areas with higher unemployment rates had lower exit rates. Exit rates were lower for female and black-headed households, for those with less education and for never-married households, compared to married households.

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1. Introduction

Recent legislative and administrative changes in the Food Stamp Program have focused new attention to the participation of adult-only households. The most profound legislative change was the enactment of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996, which stiffened work requirements for able-bodied adults without dependents (ABAWDs) and limited those who failed to meet these requirements to three months of assistance in any three-year period. States also altered their administrative policies, such as the frequency at which they required households to recertify their eligibility for benefits. Several states also undertook new outreach efforts and streamlined their application procedures for vulnerable but under-served populations, like the disabled and elderly. The goal of these changes was to redirect assistance toward the truly needy by promoting self-sufficiency among people who could work and by reducing barriers to participation among those who could not.

Food stamp participation among adult-only households has not been extensively studied, perhaps because on a per-person basis the people in adult-only households make up a small share of the food stamp caseload—23 percent in 2005 (Barrett 2006). Adult-only households also tend to have better economic circumstances than other households. The poverty rate in 2005 was five percent for families without children but 14 percent for those with children.¹ Food security is also higher among adult-only households. In 2006, Nord et al. estimated that 92 percent of adult-only households were food secure compared to only 84 percent of households with children.

The relevant food stamp policies can also be difficult to analyze. The implementation of many policies and administration of the program are left to the states, leading to considerable

variation in the administrative landscape (Bartlett et al. 2004). Information on administrative procedures is hard to obtain and categorize, and when policies can be measured, they often lack useful, independent variation. For example, a binary indicator for the state-wide adoption of a policy cannot be distinguished from general controls for time effects for that state.

In this article we examine patterns of exit from the Food Stamp Program among adult-only households from 1996-2005 using administrative records from South Carolina. We are especially interested in how new work rules for ABAWDs and changes in the state's recertification policies contributed to changes in food stamp caseloads. We investigate these relationships using descriptive and multivariate event-history methods.

The administrative records from South Carolina's case management system are a large and precise data source that is representative of all households in the state that began a spell of food stamp receipt after the enactment of the PRWORA. The data are longitudinal, which allows us to examine dynamic behavior. Policies, such as ABAWD time limits or the length of recertification intervals, should affect exits at particular points in a spell. Thus, they are best studied using event-history data and techniques. The records indicate the exact dates when spells began and ended and are not subject to the recall, under-reporting, and non-response problems of survey data.

Although we only consider a single state, the state's policies applied to identifiable groups of people in different ways, which enables us to identify effects. Consider the ABAWD time limits. The PRWORA and later legislation allowed states to exempt ABAWDs from the limits under certain conditions. South Carolina applied most of its exemptions on a county-by-county basis, with the set of counties changing over time. In addition, because the time limits only applied to people under age 50, it is possible to use households in which all of the members were

¹ U.S. Census Bureau, "Detailed Poverty Tables—POV04: Families by Age of Householder, Number of Children, and Family Structure," <http://pubdb3.census.gov/macro/032006/pov/new04_100_01.htm>, accessed Feb. 12, 2008.

older than this as pseudo-controls to see if other features of the exempt counties were associated with changes in participation.

South Carolina also has a measurable set of recertification policies. Until October 2002, the state required food stamp recipients with variable incomes to recertify their eligibility every three months and recipients with fixed incomes to recertify every twelve months. In October 2002, the state extended the interval for households with variable incomes to six months, and in February 2005, it decreased the interval for households with fixed incomes, also to six months. Because recertification dates are tied to when a case begins, they can be distinguished from other calendar effects. Ribar et al. (2008) showed that the longer recertification intervals in South Carolina contributed to caseload growth among working households with children; in this study, we investigate these relationships for adult-only households.

Our analysis indicates that time limits and recertification frequency each contribute to the duration of food stamp spells. Adults who were potentially subject to the ABAWD time limits were more likely to leave the Food Stamp Program in the first few months of their spells than adults who were not subject to these limits. Also, adults were substantially more likely to leave the program in months in which they probably faced recertifications. The timing of people's exits lines up extraordinarily well with when the relevant policies should have had their effects, and the associations are robust to alternative comparisons, leaving little doubt regarding causality.

2. Food Stamp Program in South Carolina

The Food Stamp Program is a federal-state partnership that is intended to help low-income households obtain a more nutritious diet by increasing their food purchasing power. The federal government pays the full cost of benefits; the federal and state governments split the cost of administration, and the state governments administer the program. The South Carolina

Department of Social Services (SCDSS) administers that state's program. While eligibility is necessarily limited by income, assets, and other rules, South Carolina explicitly tries to reach as many eligible households as possible and to maintain participation in the program for as long as eligibility lasts. At the same time, the state has emphasized work among those who are able.

An especially innovative policy to reduce administrative barriers is the South Carolina Combined Application Project (SCCAP), which has operated since 1995. The SCCAP simplifies the application process for Supplemental Security Income and Social Security Disability Insurance recipients who have no earned income and who live alone (or purchase and prepare meals separately from others in a household). The SCCAP uses a short application form, which can be completed at a Social Security office, provides standardized benefits, and reduces the verification procedures. It has become a model for combined application projects in other states.

In 2001, South Carolina began allowing elderly households to maintain resources accumulated through their work-lives for emergency situations, such as medical care, extended care, and funeral expenses, and to receive food assistance as long as their income was below 130 percent of the poverty line. Building on its SCCAP experience, the state implemented an Elderly Simplified Application Project (ESAP) in 2004 that allowed people age 60 and over living on fixed incomes to apply for food stamps on a shorter form with less income documentation.

The state's policies for non-elderly, able-bodied adults have at times been harsher. Before the PRWORA, South Carolina required most of these adults to register for work upon entry into the Food Stamp Program and thereafter to participate in employment and training activities. People who failed to comply faced suspensions of their benefits. The PRWORA strengthened these requirements by limiting childless, able-bodied, non-elderly adults to three months of benefits in a three-year period unless they worked at least 20 hours a week or

participated in an approved work program.

The PRWORA gave states the discretion to waive the time limits in areas with weak employment conditions. South Carolina quickly exercised this option, waiving the limits in 24 counties. The Balanced Budget Act of 1997 further allowed states to exempt up to 15 percent of their ABAWD cases from time limits, and the state subsequently received exemptions for several counties under this rule. Although South Carolina waived and exempted ABAWDs from the time limits, it maintained its other work requirements. Thus, adults continued to be “sanctioned off” the program, even in exempt counties.

The areas that were waived or exempt varied over time, with just over half of the state’s counties being affected in any given year until October 2002. Since then, exemptions have been extended to all 46 counties in the state, first through carry-over allotments under the 15-percent rule and later through a federal waiver. South Carolina also made the other work components of its Food Stamp Program voluntary, starting in October 2002.

One policy that affects households with and without children is the frequency of recertification. Technically, food stamp eligibility is determined monthly. However, it would be unduly burdensome to have every household fill out an application and supply the accompanying documentation each month. Instead, states “certify” households for eligibility for a given period during which the reporting requirements are reduced. At the end of this period, households must go through a more formal procedure to “recertify” their eligibility. Until October 2002, South Carolina required food stamp recipients with variable sources of income, such as earnings, to recertify their eligibility quarterly by mail and annually through face-to-face interviews. Clients with fixed sources of income received longer certifications of one year, while clients with no income and other highly unstable circumstances were only certified for one to two months. In

October 2002, the state lengthened the certification periods for households with variable incomes from three months to six months but kept the interval for households with fixed incomes at 12 months. Then in February 2005, the state cut the interval for households with fixed incomes to six months. As Kabbani and Wilde (2005) point out, frequent recertifications reduce the number of payment and eligibility errors but also increase the administrative burden on families.

When the PRWORA was enacted, some 146,000 households were receiving food stamps each month in South Carolina. About 31,000 were households in which all of the members were age 50 or older, and about 24,000 were adult-only households with at least one member under age 50. About 10,000 younger adult-only households were receiving benefits under “special” circumstances, which typically meant that the households had disability income. The remaining younger adult-only households were “regular” cases that potentially included ABAWDs.

Figure 1 shows the trends in the components of South Carolina’s food stamp caseload. The figure shows that the numbers of older adult-only cases and younger, special adult-only cases have each generally grown from 1996 to 2005 to about 52,000 (67 percent growth) and 17,000 (60 percent growth), respectively. In contrast, the number of younger, regular adult-only cases and the food stamp caseload as a whole have been more volatile. The number of younger, regular adult-only food stamp households fell by 43 percent from 1996 to 2000, while the number of food stamp households with children fell by 21 percent. Since 2000, the caseload has skyrocketed, with younger, regular adult-only cases increasing by more than 300 percent and cases with children increasing by nearly 80 percent to 35,000 and 127,000, respectively.

The trends in the overall caseload follow the trends in the unemployment rate, which fell through 2000 but then increased. However, the caseload trends are also consistent with policy changes. These include the imposition of ABAWD time limits after the PRWORA and the

subsequent relaxation after 2002. They also include longer recertification intervals after 2002.

3. Previous Research

Food stamp participation among adult-only households has received less attention from researchers than participation among households with children. Nevertheless, the available evidence indicates that the program behavior of adult-only households is different. Bartlett et al. (2004), Farrell et al. (2003), and McKernan and Ratcliffe (2003) estimated household-level models of food stamp participation that included dummy indicators for ABAWD households. They all found that ABAWD households were less likely than other households to participate.

As with the present study, Gleason et al. (1998) estimated hazard models of exits from the Food Stamp Program. They estimated these models separately for households in which all of the members were either elderly or disabled, households with ABAWDs, and households with children. Gleason et al. found that the exit behavior of ABAWDs was especially sensitive to changes in local economic conditions. Kornfeld (2002) analyzed state-level caseloads and also found that non-elderly adult-only households were sensitive to economic changes. Currie and Grogger (2001) estimated cross-section models of program participation for different groups of households. In contrast to Gleason et al. and Kornfeld, they found that adult-only households were less responsive to this variable than households with children.

Two recent studies have looked specifically at issues associated with elderly recipients. Studying Health Retirement Survey data, Haider et al. (2003) found that eligibility for food stamps increased with age but that take-up rates decreased. Cody (2004) reported results from several county-wide demonstrations of innovations to increase participation among the elderly, including simplified application procedures, assistance completing applications, and the provision of commodities instead of a food stamp benefit. For most of these innovations,

participation increased significantly more in the demonstration counties than in the comparison counties. For instance, the simplified application procedure increased participation among the elderly by 19 percentage points after 21 months.

Several studies have examined ABAWD policies. Stavrianos and Nixon (1998) investigated food stamp eligibility, participation and employment among ABAWDs using pre-PRWORA data. They predicted that a large proportion of ABAWDs would lose their food stamp eligibility and that few would have strong enough work skills to become economically self-sufficient. A subsequent analysis by Czajka et al. (2001) confirmed that many ABAWDs were dropped from the Food Stamp Program because of time limits and that many also confronted employment barriers.

Wilde et al. (2000) and Ziliak et al. (2003) examined food stamp participation, using state-level data and including controls for the percentages of ABAWDs that were exempt from work requirements. Both studies found that exemptions were positively associated with food stamp use, which indicates that the ABAWD rules reduced participation. However, in a study that is especially relevant for ours, Richardson et al. (2003) surveyed ABAWDs who had left the Food Stamp Program in South Carolina and found that exemption status was not correlated with subsequent employment or re-entry into the program. A shortcoming of the study, however, was that most of its “ABAWD leavers” were youths who had recently moved out on their own. A state-level analysis by Danielson and Klerman (2006) also reported little association between ABAWD work rules and food stamp participation.

Recertification policies have also been examined. Currie and Grogger (2001) included measures of the average frequency of recertifications in their models but did not find strong associations between these policies and food stamp receipt for adult-only households. In

contrast, Kornfeld's (2002) analysis indicated that non-elderly adult-only households did respond to changes in recertification intervals. Kabbani and Wilde (2003) examined Food Stamp Quality Control data and estimated that participation rates were as much as 2.4 percent lower in states with monthly to quarterly recertification requirements than in states with longer intervals.

Staveley et al. (2002) looked at the timing of food stamp exits, using administrative data from Maryland. They found that exit times spiked at likely recertification dates. A study by Ribar et al. (2008) revealed similar results for South Carolina households with children and concluded that the increase in the state's recertification intervals led to a substantial rise in its food stamp caseloads.

4. Analysis Data

The primary data for our investigation come from electronic case management records maintained by the SCDSS, covering the period from October 1996 until December 2005. The specific outcomes that we analyze are spells of program participation by adult-only households, with the households possibly experiencing repeated spells.

The case records include complete, right-censored, and left-censored spells. Right-censored spells are those for which the end date is missing. In this study, spells that were ongoing on December 31, 2005 are right-censored. We also censor spells at the point where information on any of the explanatory measures is missing. Hazard procedures are used to address the loss of information associated with right-censoring. Spells that were ongoing as of October 1, 1996 are left-censored. We drop these program spells from our analysis.

Food stamp benefits in South Carolina are paid once a month, and the state almost always closes cases on the last day of the month. Because of these data features, we measure and model the duration of participation spells in discrete monthly units. The spells themselves should refer

to continuous months of benefit receipt. However, the administrative records contain some short breaks. In processing the data for each household, we smooth the information by combining spells of program participation that are separated by a month or less (that is, by ignoring short breaks). This kind of smoothing is commonly applied in event history studies of caseloads and is intended to eliminate artificial transitions associated with administrative “churning.” This treatment is also consistent with state policies that consider program receipt spells that resume within one month of a previous spell to be continuations of the earlier spells.

For each month of participation, the records indicate the benefits that the household received as well as the economic information that entered the benefit calculation, including the gross reported earned and unearned income amounts. We use the benefit and income variables in our multivariate analyses, adjusting all dollar amounts to 2005 levels using the Consumer Price Index for Urban Consumers. The records also indicate whether the household was receiving benefits under “regular” or “special” circumstances. Most special cases were receiving disability income or contained members who were all age 60 or older. The “special” designation, along with information on the age composition of the household, helps to identify potential ABAWD cases. Special cases were also generally exempt from other work rules.

For each household, the assistance program records designate a person responsible for the household’s financial decisions and in a position to provide caseworkers with information about its members. We extract data from the assistance program records on this person’s gender, age, and race/ethnicity. To describe educational attainment, we construct two mutually exclusive indicators for whether the person completed high school but did not go on to college or whether the person completed at least some college; the excluded category consists of those who did not complete high school. We also construct continuous variables of the years of elementary and

secondary education and of the years of post-secondary education. Our analyses include indicators for whether the primary informant (PI) is currently or formerly married; the omitted category is never married. The data also indicate the number of people in the household and whether all of the household members are age 60 or older.

We use information on the household's county of residence to link the administrative records to monthly measures of the county unemployment rate as an indicator of economic opportunities. As a policy measure, we also include a time-varying indicator for whether ABAWDs in the county were exempt from the PRWORA time limits.

The universe for our analysis is the set of adult-only households in South Carolina who began a spell of food stamp receipt between October 1996 and December 2005. There are more than 200,000 households in the administrative data system that fit the definition of the universe, which are far too many to analyze. To reduce the size of the analysis file, we randomly select one out of every 11 households that ever appear in the records. Our analysis sample excludes a small number of additional observations with (a) inconsistent spell information, (b) missing information, (c) PIs who change over time, and (d) PIs who are younger than 18 or older than 90 years of age at the start of their spells. These exclusions result in the loss of about 10 percent of the sample. The final extract contains information for 20,469 households with 28,380 food stamp participation spells, covering 416,689 months of benefit receipt.

In our empirical analyses, we separately examine 16,707 spells that began as regular cases with at least one household member under the age of 50, 3,424 spells that began as special cases with at least one household member under the age of 50, and 8,249 spells that began with all household members age 50 and older. Table 1 lists the means of the variables in our sample separately for the households with different types of members.

5. Descriptive Analysis of Spell Data

Figure 2 displays nonparametric Kaplan-Meier estimates of the hazard functions for spells of food stamp participation for selected cohorts of adult-only households from South Carolina. From the top row to the bottom, separate estimates are calculated for households that began food stamp spells before 2001, households that began spells in the second half of 2002, and households that began spells in 2005. These cohorts cover the three periods of recertification rules. In the left column, estimates are calculated for households that began their spells with earnings and were likely subject to the variable-income recertification rules, and in the right column, estimates are calculated for households that began spells with only unearned income and were likely subject to the fixed-income rules.

The most striking features of the hazard functions are the sharp spikes at three-, six-, or twelve-month intervals, which coincide with the dates when the households would have been required to recertify their eligibility. The estimates indicate that households are several times more likely to leave the Food Stamp Program in recertification months than at other times.

On the left side of the figure, the exit probabilities for households with earnings jump at quarterly intervals prior to 2001, which matches the initial recertification policy for households with variable incomes. The quarterly spikes in the hazard functions disappear in the second half of 2002, leaving only semi-annual spikes, which again mirrors the relevant recertification policy. This semi-annual pattern for households with earnings continues into 2005.

The hazard functions on the right side of Figure 2 are from households that initially had only unearned income. Prior to 2005, the exit probabilities for these households had annual spikes. However, in 2005, semi-annual spikes appear in the hazards. The pattern for these hazard functions corresponds precisely to the recertification rules for fixed-income households.

Figure 2 indicates that the timing of exits was associated with recertification dates and that exit behavior changed when recertification policies were changed. These changes had implications for spell lengths and participation levels. Survival function estimates (not shown) reveal that the median spell length for adult-only households that entered the Food Stamp Program with earnings increased from about five months in the period when quarterly recertifications were in place to 10 months when semi-annual recertifications were in place. Similarly, the median spell for households with only unearned income decreased from a length of nearly two years when recertifications were conducted annually to one year after recertification intervals were reduced.

Figure 3 displays hazard functions that are calculated separately for younger regular, younger special, and older adult-only households who were living in counties with and without ABAWD exemptions. We limit these analyses to spells that began before 2002, the year that exemptions were applied state-wide. The comparisons across different types of households are motivated by a concern that geographic differences in exit behavior might not only reflect differences in the treatment of ABAWDs but also differences in the economic circumstances that led to the ABAWD exemptions. Older households and special cases should not be affected by ABAWD policies, so differences by county exemption status for these groups provide evidence of confounding influences.

The top panel in Figure 3 indicates that younger, regular adult-only households in non-exempt counties were more likely to leave the Food Stamp Program during the first few months of their spells than similar households in exempt counties. For younger households that managed to stay on the food stamp program for more than four or five months, there were only modest differences in subsequent exit behavior. The bottom two panels in Figure 3 indicate that

there were few appreciable differences in exit behavior by exemption status for younger special-case households and for older households during their spells. Thus, the estimates show that living in a non-exempt county hastened exits from the Food Stamp Program mainly among younger, regular adult-only households and mainly during the initial months of their spells. The specific combination of results is strong evidence that ABAWD policies affected participation.

Survival estimates (not shown) indicate that the changes in participation associated with the ABAWD time limits may be substantial. In counties with the time limits before 2002, the median spell length for younger, regular adult-only households was three to four months. In counties without the time limits, the median spell length was two months longer.

6. Multivariate Analysis

Estimates of spell duration patterns are often sensitive to confounding influences from other variables, so it is important that we re-examine the food stamp hazard functions using multivariate techniques that control for observed and unobserved characteristics of the households. For these analyses, we estimate discrete-time logistic hazard models of exits from the Food Stamp Program. The hazard, $h(t)$, at duration t for a given household is modeled as

$$h(t) = \frac{\exp(A' T(t) + B' X(t) + \eta)}{1 + \exp(A' T(t) + B' X(t) + \eta)} \quad (1)$$

where $T(t)$ represents a vector of duration variables, including the recertification date indicators; $X(t)$ is a vector of other observed and possibly time-varying explanatory variables, and η is an unobserved random variable that is constant within and across spells for the household.

The presence of unobserved heterogeneity in the hazard function is a substantial complication. Failure to account for such heterogeneity can lead to biased estimates of the coefficients and to spurious indications of negative duration dependence. Following Heckman

and Singer (1984), we assume that the unobserved heterogeneity term, η , follows a discrete distribution with two points of support.² With this assumption, the discrete-time hazard can be modeled using random-effects (finite mixture) logit software.

Each of our hazard models includes a flexible set of controls for spell duration effects. The models include individual dummy variables for each of the first 24 months of a spell, dummy variables for the next four quarters (third year) of a spell, dummy variables for the next two six-month periods (fourth year), and a dummy variable for the next (fifth) year. The omitted category represents durations beyond five years.

To capture effects associated with living in a county with exemptions from the ABAWD time limits, the models also interact all of the duration variables with the ABAWD exemption indicator. Thus, wholly separate duration dependence patterns are estimated for households living and not living in ABAWD-exempt counties, much like the contrasts drawn in Figure 3.

The models also incorporate controls for potential recertification months—quarterly and annual spell-month indicators for months before October 2002, semi-annual and annual spell-month indicators for months between October 2002 and January 2005, and another set of semi-annual and annual indicators for months after January 2005. The models also interact all of these periodic measures with a dummy variable indicating whether the household began the most recent year of its spell with earnings. These interactions are intended to capture differences in recertification requirements for households with and without variable incomes.³

In addition to the controls based on duration lengths, the models also include dummy variables for each fiscal year (FY 1997 is the omitted category). The time trend measures are

² We experimented with additional points of support, but these models failed to converge.

³ The periodic indicators for recertification intervals would not be identified if we included an exhaustive set of duration controls. In our models, the periodic indicators are identified because of the restrictions in the duration controls beyond the second year of a spell.

included to account for state-wide policy changes, such as the elimination of mandatory work requirements in 2002 and the introduction of the ESAP in 2004. Policies were often changed at the start of fiscal years rather than calendar years. The measures also account for state-wide economic, demographic, and attitudinal shifts over time.

Table 2 reports selected coefficient estimates from discrete-time logistic hazard models estimated separately for younger adult-only regular households, younger adult-only special households, and older adult-only households. For brevity, the table omits the coefficients for the general duration variables, the interactions of the ABAWD exemption indicator with the duration variables after the first year (interactions for the first year are displayed), and the finite mixture controls for unobserved heterogeneity. Complete results are available upon request.

Results for the younger adult-only regular households are listed in the first column of the table. As expected, the coefficient estimates indicate that recipients with larger benefits were less likely to leave the Food Stamp Program, while those with larger earnings were more likely to leave the program. Women and blacks in younger, adult-only households were less likely to exit. Exit rates increased with age through the 20s and decreased with age through the 30s and 40s. Exit rates also increased with the amount of post-secondary schooling. Adults in younger regular households were more likely to exit if they were currently or formerly married than if they were never married. Exit rates were negatively associated with household size and with the local unemployment rate.

Further down in the table we can examine the policy controls. Younger adults in regular benefit households were significantly more likely to leave the Food Stamp Program at expected recertification dates than in other months—at quarterly intervals before October 2002 and at semi-annual intervals thereafter. During the period between October 2002 and January 2005,

these households also had higher exit rates at annual intervals. Interactions with the earnings status variable indicate that households with earnings were much more likely to leave at the “short” recertification dates and much less likely to leave at the “long” (annual) dates. These patterns correspond to the fixed- versus variable-income policies for recertifications and reinforce the findings from Figure 2.

The coefficients for the interactions of the ABAWD exemption dummy and the duration controls for younger regular households are significant and negative for the first five months of a spell, indicating that households were less likely to leave the Food Stamp Program if they did not face the ABAWD time limits. The coefficient on the interaction in the fourth month is the largest; the coefficient on the interaction in the second month is also very large. Significant negative coefficients are also estimated for the seventh, eighth, 10th, and 12th months, while a significant positive coefficient appears for the 11th month. Coefficients for the interactions beyond the 12th month are not shown; however, of these, only the coefficient for the 14th month is significant. As with Figure 3, the results indicate that the differences in exit patterns from the applicability of the ABAWD time limits are more pronounced earlier in a spell than later.

The last coefficients in Table 2 are those for the fiscal year dummy variables. These estimates reveal that after accounting for other household, economic, and policy characteristics, exit rates for younger regular households were highest in the year immediately following the enactment of the PRWORA and lowest in FY 2005. The estimates indicate that there was substantial residual variation over time in exit rates.

The estimation results for younger special-case adult-only households are markedly different. For one thing, the exit behavior of special-case households was less sensitive to benefit changes but more sensitive to income changes than that of regular-case households. The

sensitivity to earned income is expected, as “special” treatment is usually conditioned on not receiving earnings. Gender, age, and household size also appear to have weaker associations with exit behavior for special-case households than for regular households.

The contrast between special and regular households is especially sharp in the policy variables. Special-case households were not especially likely to leave the Food Stamp Program in short recertification months unless they had earnings. However, they were much more likely to leave the program in long recertification months—annually before 2005 and semi-annually after that.

Only two coefficients for interactions of the ABAWD exemption indicator and duration months were statistically significant (first and 11th months) for special-case households, and both of these coefficients were strongly positive. The results are consistent with random differences in exit patterns; indeed, the ABAWD exemption interactions are only marginally jointly significant (p -value = 0.075). In any case, the results provide no strong evidence of special-case households being more likely to stay on the Food Stamp Program if they live in exempt counties.

The general time trend patterns are also different for special-case households. Unlike the pattern for regular households, special-case households were more likely to exit the Food Stamp Program after FY 1997 after other conditions were taken into account.

The last column in Table 2 lists results for older adult-only households. The estimates indicate that older adult-only households were more likely to exit the Food Stamp Program when their earned and unearned incomes went up. Receiving benefits under special circumstances was negatively associated with exits. As the model also includes an indicator for all members of the household being over age 60, the special circumstances variable is most probably capturing disability status. Special-case households with all members over age 60 are less likely to end a

food stamp spell than regular households but more likely to end a spell than disabled, special-case households. Exit rates among older adult-only households were lower for women and blacks and higher for married couples. Exit rates decreased with age through age 70 but increased thereafter. Exit rates also mostly increased with educational attainment and with improving economic conditions.

Older adult-only households increased their exits at short-term recertification dates and even more so at long-term dates. As with younger regular and special households, older adult-only households with earnings were especially likely to leave at short-term recertification dates. The results show that all three groups were sensitive to recertification policies.

Like the younger special-case households and unlike the younger regular households, there were few detectable differences in exit behavior between older adults living in counties that were and were not exempt from the ABAWD time limits. Older adults living in exempt counties were less likely to exit the Food Stamp Program in the third month of their spells than those living in non-exempt counties. Aside from this, there were no significant differences by exemption status for older households, and likelihood ratio tests indicated that the ABAWD interactions were jointly insignificant. Similarly, there were no statistically significant residual time trends for older adults.

Sensitivity analyses. The models in Table 2 all include monthly benefits and reported incomes. In the administrative system, these amounts are recorded at the beginning of the month, so they are not determined simultaneously with the household's exit decision. Nevertheless, the amounts are potentially endogenous. By including the measures in Table 2, we err on the side of over-controlling for household economic characteristics. We re-estimated the models, dropping the benefit and income measures, but there were few changes in our results.

The models in Table 2 include selective periodic controls for recertification dates—quarterly and annual indicators before February 2002 and semi-annual and annual indicators thereafter. It is possible to respecify the model to include quarterly, semi-annual, and annual indicators before and after February 2002 along with interactions with earnings status. When we did this we discovered that the extra periodic indicators were jointly significant for younger adult-only households but not for older adult-only households. However, adding these variables did not alter our other findings.

Lastly, the models include finite-mixture controls for unobserved heterogeneity. We re-estimated the models, dropping these controls, but saw no substantive changes in the results. Complete results for all of these alternative specifications are available upon request.

Simulations. The descriptive and multivariate analyses each reveal that the ABAWD and recertification policy measures were strongly associated with the timing of people's exits from the Food Stamp Program. In many cases, the estimated associations with the hazard rates are large. For example, the estimated hazard rates for a young regular adult-only household in the second and fourth months of a food stamp spell in a non-exempt county were each more than twice as high as the hazard rates for a similar household living in an exempt county. The hazard rate for a young regular adult-only household with earnings was more than five times higher in a quarterly recertification month than in a non-recertification month.

Despite these large associations, the practical significance is unclear. For one thing, many of the hazard probabilities are small, so even a quintupling produces a modest absolute value. Also, hazard probabilities are conditional (by definition), and their effects cumulate. Changes in early-duration hazards can easily diminish the effects of late-duration hazards. Lastly, the controls that we use to measure the ABAWD and recertification policies involve

numerous interactions of variables, which complicate interpretations.

To illustrate the implications of the hazard results, we use the coefficients from Table 2 and the analysis data to conduct a series of partial caseload simulations. The simulations are partial because we only consider spells that began after October 1996, so we only examine the “new” caseload. They are also partial because we have modeled only one of the relevant processes that make up the caseload—the exit process. We have not modeled program entry or re-entry behavior. In the simulations, we take the initial entry recorded in the data as given. For each household that then begins an initial spell of food stamp receipt, we simulate its exit behavior. After a simulated exit, we use the observed average monthly re-entry rates to simulate possible movements back onto food stamps. Upon a simulated re-entry, we once again simulate exit behavior, and so on. Our procedure effectively treats the entry and re-entry rates as given and only considers the caseload implications of exit behavior. Results for the analysis are reported in Table 3.

We begin the analysis by calculating the relevant average monthly caseloads from fiscal years 1997 to 2005 using the actual spell data. Estimates of the caseload based on the spell data are different from the general levels depicted in Figure 1. Differences arise because the analysis data drops on-going spells, drops and censors other observations, and defines households in terms of their initial characteristics. By FY 1999, the estimated caseload from the event-history sample for young regular adult-only households is very similar to the total caseload for this group. This is because these younger regular households tend to have brief spells. In contrast, the event-history caseloads numbers for younger special adult-only households and older households are substantially below the levels from Figure 1.

The next rows in Table 3 report results from a baseline simulation in which all of the

explanatory variables in the event history sample, including the policy measures, are kept at their observed values. The baseline simulation accurately reproduces the actual caseload statistics from the top of the table, with most of the simulated numbers being within a few percentage points of the actual figures.

The next rows report results from a simulation in which we set the ABAWD exemption indicators for all counties in all years to one. This simulates what would have happened to the adult-only caseload in South Carolina if no one had been subject to the ABAWD time limits from FY 1997-2002 (recall that the entire state was exempt after October 2002). The results indicate that the younger regular adult-only caseload—the households with potential ABAWDs—would have been 9-11 percent higher from FY 1998-2002 as well as slightly higher afterwards. Put another way, the ABAWD time limits that were in effect appear to have reduced the relevant caseload in South Carolina by about 10 percent. The simulations indicate that the time limits had little association with the younger special adult-only caseload and the older caseload.

An alternative way to look at the ABAWD policies is to consider what would have happened if South Carolina had not obtained exemptions and waivers. The next rows in Table 3 list results from simulations in which the exemption indicators are all set to zero. In this scenario, the numbers of younger regular adult-only cases fall in all years. A comparison of these results to those in the rows above indicates that the ABAWD time limits reduced caseloads by 10-20 percent in the places where they were in effect. Once again, there is no indication that the time limits and exemption status were associated with the younger special or older caseloads.

The next rows in Table 3 list results from simulations that extend South Carolina's initial quarterly recertification intervals for variable incomes and annual intervals for fixed incomes

past FY 2002 to the end of the analysis period. Because there are no changes before FY 2003, we suppress those simulations. The simulations indicate that the shorter intervals for variable-income households (households with earnings) would have reduced participation slightly among younger regular households. At first glance, the small size of the change is a little surprising. However, recall that less than a quarter of the younger regular households received earnings. Younger regular households also had higher rates of exit in the initial months and initial recertification period of their spells. The simulations indicate that maintaining the initial recertification policy would have reduced the older caseload and increased the younger special caseload marginally.

The next simulations in Table 3 set the county unemployment rates after September 2000 at their September 2000 values. Unemployment in South Carolina and elsewhere began to climb in late 2000, and fixing the rates simulates what would have happened if the economy had not slowed. The results from Table 3 indicate that caseloads would have been somewhat smaller.⁴

The last set of simulations in Table 3 freeze the general time trend effects after FY 2001. The time trend controls capture state-wide changes in policies and other characteristics. For younger regular and special adult-only households, the trend effects reached a turning point in FY 2001, with hazard rates after that year being lower. The lower hazard rates are consistent with more lenient income reporting policies and later with the elimination of mandatory work policies. The simulations indicate that residual time trend effects contributed to a substantial rise in the younger adult-only caseload after FY 2001.

7. Conclusion

Adult-only households have been at the center of several important changes in food

stamp policy. In this study, we examine food stamp participation for these households using post-PRWORA administrative data from South Carolina. We conduct descriptive analyses of food stamp spells and estimate multivariate models of policy, economic, and demographic factors that contribute to food stamp exits. The analyses distinguish among households with and without potential ABAWD members.

The use of event-history methods allows us to examine how two duration-dependent policies—time limits for ABAWDs and recertification requirements for the broader caseload—are associated with the timing of food stamp exits and ultimately with caseloads. Cross-section and longitudinal differences in the applicability of these policies helps us to identify associations.

Among households with potential ABAWD members, we find those who were subject to the time limits were much more likely to leave the Food Stamp Program in the first few months of their spells than those who were not subject to the limits. There are few differences in exit behavior after the first few months. In addition, we find almost no differences in exit behavior among households with older adults or adults who are likely to be receiving disability income. When we examine the caseload implications of these results, we find that the time limits reduce the ABAWD caseload by up to 20 percent.

Exits from South Carolina's Food Stamp Program are also strongly associated with the timing of recertification. Exits are much more likely to occur in recertification months than in other months. South Carolina lengthened the recertification intervals for some households in October 2002 and shortened the interval for other households in February 2005. These intervals also differed depending on a household's source of income. The differences over time and across groups in recertification policies are plainly evident in the event-history data. Our

⁴ The models and simulations include controls for earnings and time trends. When these controls are removed, the estimated effects of the unemployment rates become more important.

analyses indicate that the longer recertification intervals led to longer participation spells and contributed to a modest increase in the food stamp caseload.

In addition to the results for specific policy measures, the empirical analyses generate findings for other economic and demographic variables. For instance, the analyses show that local unemployment rates were negatively associated with food stamp exit rates and positively associated with caseload levels. Similarly, lower levels of household income were associated with lower exit rates. Never-married households were less likely than married-couple households to leave the Food Stamp Program. Female- and black-headed households also tended to have low exit rates.

While the analyses produce a number of strong and useful findings, it is important to keep some of the limitations in mind. A big limitation is that we were only able to examine households who participated at some point in the Food Stamp Program. We do not examine households who may have been eligible for food stamps but never elected to participate. Another limitation is that the analyses only consider participation outcomes and do not directly examine the underlying eligibility and compliance behaviors. For instance, the analyses do not tell us whether the high rates of food stamp exit at recertification intervals reflect the detection of ineligible households or discouragement among eligible households.

With the growing diversity in food stamp policies across states, it may also be difficult to extrapolate the results from South Carolina to other states. The state had stringent work policies prior to 2002 that may have led to shorter spells and lower caseloads even in the absence of the ABAWD time limits. The effects of the ABAWD time limits in other states might have been stronger. At the same time, South Carolina had some especially accommodating policies for disabled and elderly adults that may not have been replicated elsewhere. Further, our results

show that policies interact. For instance, ABAWD work-rule effects early in a spell can reduce parts of the caseload before it reaches a recertification date, blunting the overall impact of the recertification policy. Future research may need to proceed on a state-by-state basis.

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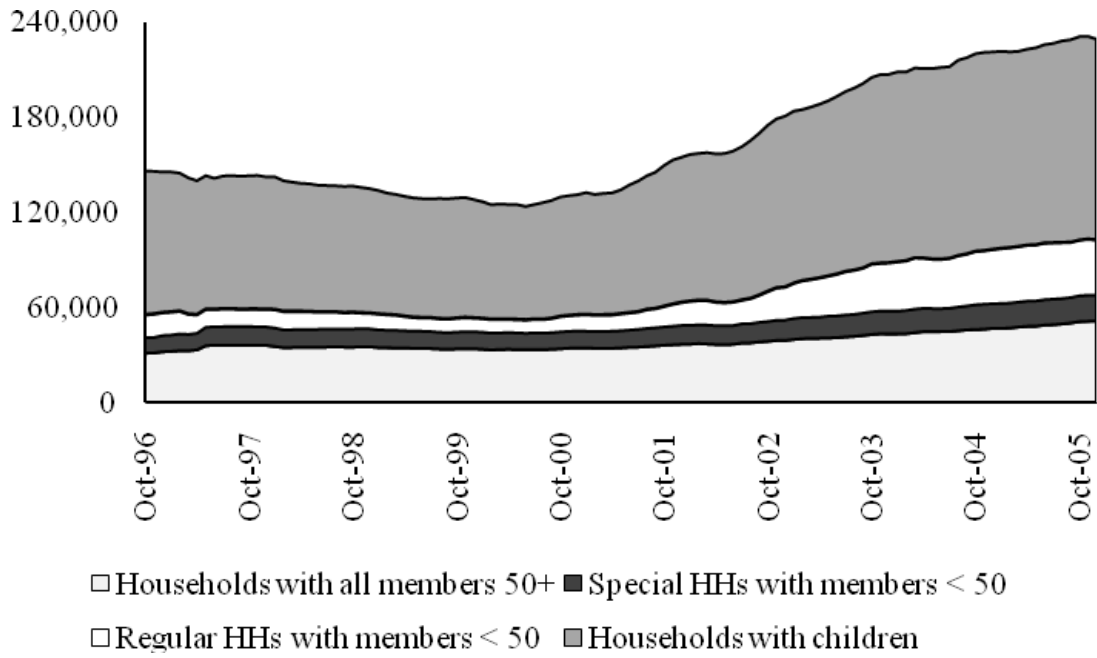
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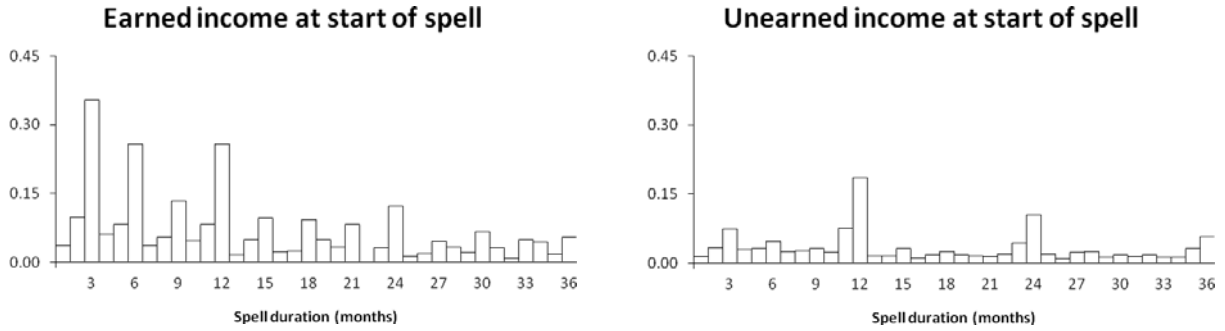
Figure 1. Households Receiving Food Stamps Each Month in South Carolina



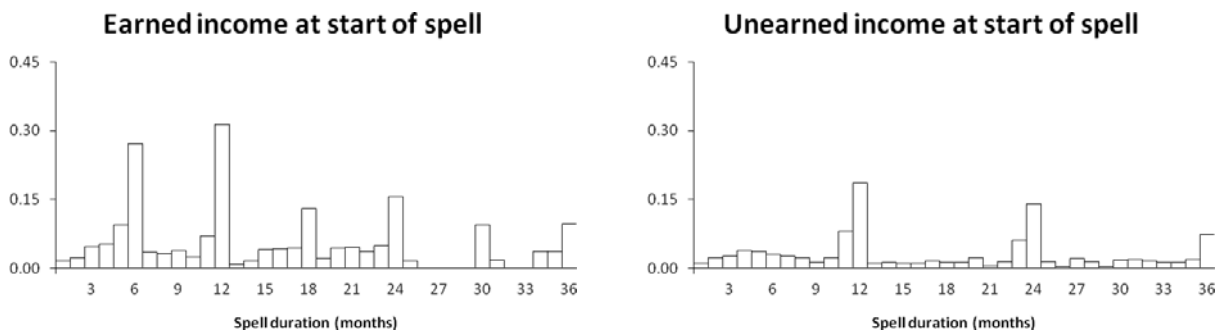
Note: Authors' calculations using administrative data from the South Carolina Department of Social Services.

Figure 2. Nonparametric Hazards of Food Stamp Program Exits for Adult-Only Households with Different Initial Incomes

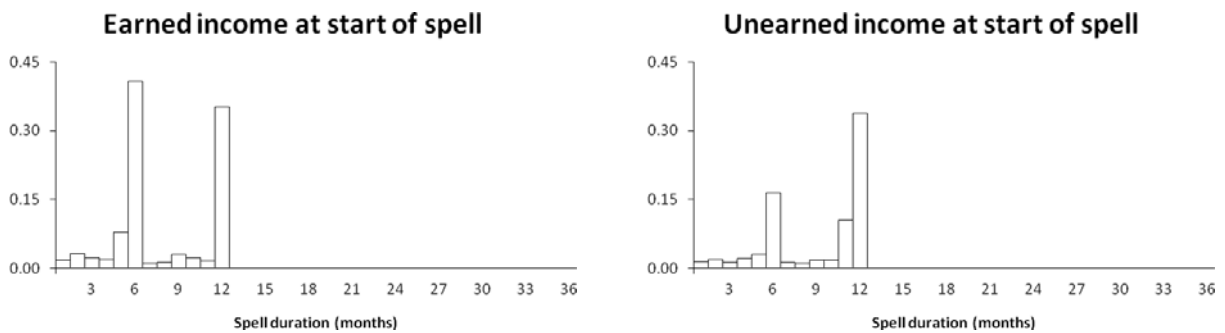
Spell began before 2001



Spell began in second half of 2002

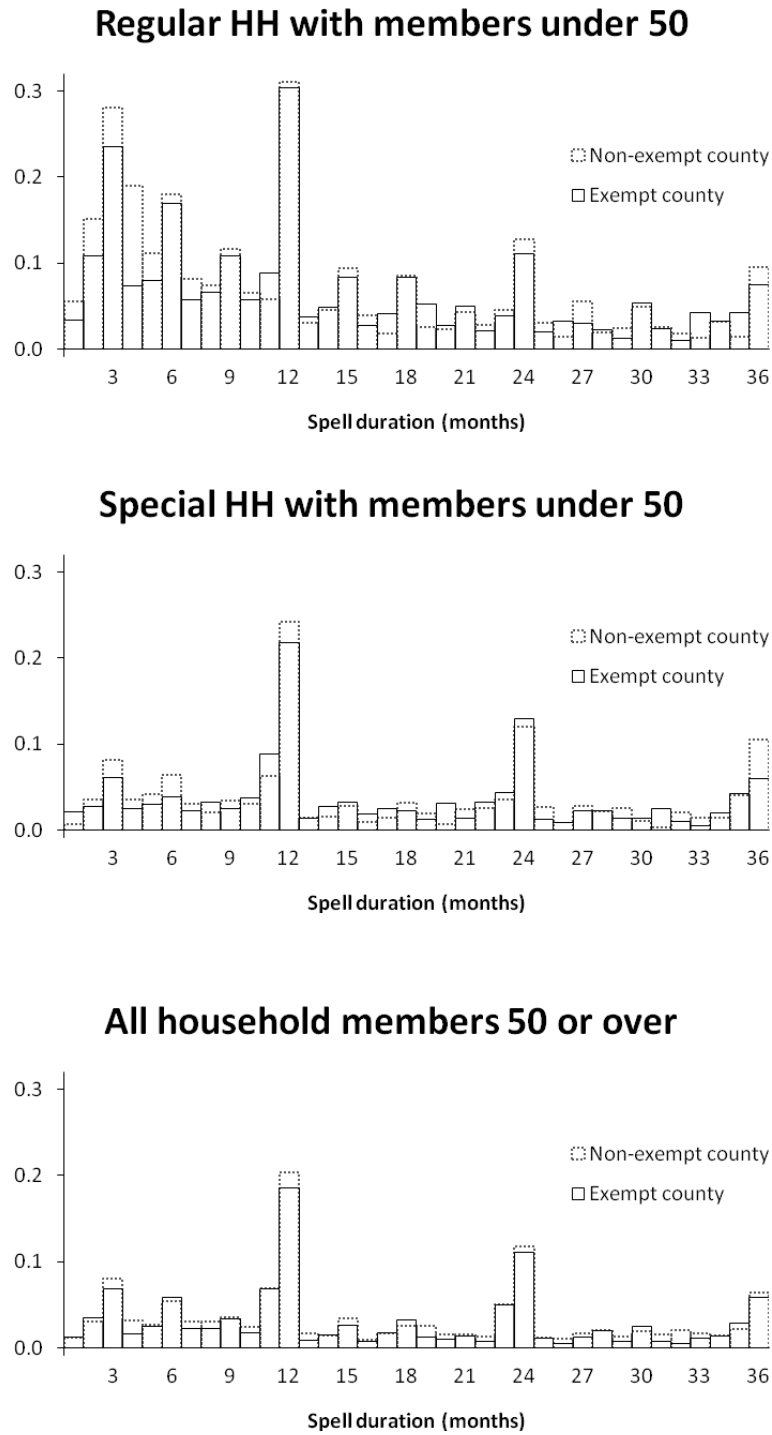


Spell began in 2005



Note: Figures are Kaplan-Meier hazards calculated using administrative data from the South Carolina Department of Social Services.

Figure 3. Nonparametric Hazards of Food Stamp Program Exits for Adult-only Households Living in Counties with and without ABAWD Exemptions



Note: Figures are Kaplan-Meier hazards calculated using administrative data from the South Carolina Department of Social Services for Food Stamp Program spells that began before 2002.

Table 1. Means of Analysis Variables

	Regular households with members under age 50	Special households with members under age 50	Households with no members under age 50
Selected characteristics at start of spell			
Female	0.51	0.56	0.61
African American	0.63	0.53	0.56
Other race/ethnicity (non-white)	0.01	0.01	0.01
Age	34.75	40.87	60.20
Years of schooling	11.24	10.45	9.66
Currently married	0.09	0.18	0.14
Formerly married	0.32	0.43	0.69
All household members age 60 or older	-.-	-.-	0.39
Household size	1.13	1.45	1.12
No income	0.63	0.03	0.30
Any earnings	0.26	0.09	0.11
Special case	-.-	-.-	0.58
Number of spells	16,707	3,424	8,249
Selected characteristics of spell months			
Monthly food stamp benefits	151.08	78.68	72.65
Monthly earnings	128.70	17.31	23.19
Monthly unearned income	91.68	617.40	508.95
Any income	0.43	0.97	0.83
Any earnings	0.22	0.04	0.05
Unemployment rate	6.91	6.27	6.46
Exempt from ABAWD restrictions	0.80	0.70	0.73
Number of spell months	174,697	69,628	172,364

Note: Estimates computed using administrative data from the South Carolina Department of Social Services.

Table 2. Selected Coefficients from Discrete-time Hazard Models of Food Stamp Exits

	Regular households with members under age 50	Special households with members under age 50	Households with no members under age 50
<u>Personal and household characteristics</u>			
Monthly food stamp benefits (/100)	-0.0613 * (0.0369)	0.0049 (0.0522)	-0.0582 (0.0484)
Monthly reported earnings (/100)	0.0553 *** (0.0070)	0.1592 *** (0.0185)	0.0988 *** (0.0118)
Monthly reported unearned income (/100)	0.0119 (0.0080)	0.0682 *** (0.0144)	0.0574 *** (0.0107)
No income at start of spell	0.0400 (0.0310)	0.5183 *** (0.1372)	0.3724 *** (0.0505)
Any earnings at start of certification period	-0.3887 *** (0.0420)	-0.0126 (0.1307)	0.0188 (0.0809)
Special case at start of certification period			-0.5798 *** (0.0582)
Female	-0.3736 *** (0.0245)	-0.0659 (0.0510)	-0.3049 *** (0.0367)
African American	-0.2116 *** (0.0238)	-0.1741 *** (0.0510)	-0.1973 *** (0.0353)
Other race/ethnicity (non-white)	0.1685 (0.1488)	0.1955 (0.2876)	0.0881 (0.1587)
Age spline 18-21 years	-0.0372 (0.0271)	-0.0179 (0.1060)	
Age spline 22-30 years	0.0159 *** (0.0058)	-0.0211 (0.0169)	
Age spline 31-40 years	-0.0260 *** (0.0044)	0.0031 (0.0110)	
Age spline 41-50 years	-0.0282 *** (0.0046)	-0.0066 (0.0093)	
Age spline 51-60 years	0.0263 (0.0164)	0.0330 ** (0.0141)	-0.0295 *** (0.0077)
Age spline 61-70 years	0.2579 (0.5244)	-0.0286 (0.0245)	-0.0453 *** (0.0081)
Age spline 71 years and more	0.0000	0.0632 * (0.0358)	0.0246 *** (0.0064)
Years of elementary and secondary schooling spline	0.0099 (0.0087)	0.0514 *** (0.0132)	0.0211 *** (0.0079)
Years of post-secondary schooling spline	0.0883 *** (0.0216)	0.0690 (0.0663)	0.0737 (0.0452)
Completed high school or GED	0.0203 (0.0318)	0.0653 (0.0659)	0.0874 * (0.0493)

Completed college	-0.0011 (0.1366)	-0.0646 (0.3032)	-0.1065 (0.2578)
Currently married	0.3010 *** (0.0411)	0.3643 *** (0.0769)	0.3610 *** (0.0706)
Formerly married	0.1150 *** (0.0271)	-0.1227 ** (0.0586)	0.0222 (0.0472)
All household members age 60 or older			0.1848 *** (0.0659)
Household size	-0.2594 *** (0.0459)	0.0282 (0.0653)	-0.0927 (0.0653)
County unemployment rate	-0.0153 *** (0.0052)	-0.0342 *** (0.0120)	-0.0201 ** (0.0084)
<u>Recertification months</u>			
Quarterly (before Oct. 2002)	0.7081 *** (0.0603)	0.1260 (0.1328)	0.4212 *** (0.0829)
Semi-annual (Oct. 2002–Jan. 2005)	0.2572 *** (0.0902)	-0.0124 (0.2334)	0.1392 (0.1245)
Semi-annual (after Jan. 2005)	1.8278 *** (0.0882)	1.2424 *** (0.2296)	1.0837 *** (0.1338)
Annual (before Oct. 2002)	-0.0863 (0.1630)	0.6575 *** (0.2129)	0.7432 *** (0.1316)
Annual (Oct. 2002–Jan. 2005)	0.7687 *** (0.1741)	1.1268 *** (0.2862)	1.0999 *** (0.1609)
Annual (after Jan. 2005)	-0.3286 * (0.1719)	0.1922 (0.2837)	0.3564 ** (0.1715)
Earnings at start of cert. period x quarterly (before Oct. 2002)	0.9828 *** (0.0575)	1.5189 *** (0.1932)	1.4801 *** (0.1197)
Earnings at start of cert. period x semi-annual (Oct. '02–Jan. '05)	1.9428 *** (0.0940)	1.5441 *** (0.3933)	1.4795 *** (0.1851)
Earnings at start of cert. period x semi-annual (after Jan. 2005)	0.8490 *** (0.1017)	1.0610 *** (0.3866)	1.1161 *** (0.2188)
Earnings at start of cert. period x annual (before Oct. 2002)	-1.0482 *** (0.1344)	-1.3336 *** (0.3598)	-1.4037 *** (0.2340)
Earnings at start of cert. period x annual (Oct. 2002–Jan. 2005)	-1.7115 *** (0.1343)	-2.0463 *** (0.5973)	-1.3090 *** (0.2391)
Earnings at start of cert. period x annual (after Jan. 2005)	-0.4257 *** (0.1462)	-0.6563 (0.5737)	-1.6050 *** (0.3174)
<u>Interactions of county ABAWD exemption with</u>			
1 st spell month	-0.3230 *** (0.0915)	0.9301 ** (0.3946)	0.1200 (0.2065)
2 nd spell month	-0.6305 *** (0.0618)	-0.1688 (0.2111)	-0.0070 (0.1448)
3 rd spell month	-0.3853 *** (0.0577)	-0.2665 (0.1746)	-0.2502 ** (0.1128)
4 th spell month	-0.9652 ***	-0.0004	-0.1418

	(0.0721)	(0.2269)	(0.1570)
5 th spell month	-0.3041 ***	-0.1861	0.0615
	(0.0888)	(0.2162)	(0.1641)
6 th spell month	0.0062	-0.2767	0.1918
	(0.0812)	(0.2150)	(0.1391)
7 th spell month	-0.2075 *	0.0772	-0.2511
	(0.1135)	(0.2781)	(0.1703)
8 th spell month	-0.3153 **	0.0788	-0.0602
	(0.1251)	(0.3026)	(0.1807)
9 th spell month	-0.1780	-0.2756	-0.0876
	(0.1137)	(0.2803)	(0.1747)
10 th spell month	-0.3563 **	0.0536	-0.3371
	(0.1493)	(0.2801)	(0.2100)
11 th spell month	0.2954 **	0.3966 *	-0.0266
	(0.1446)	(0.2042)	(0.1280)
12 th spell month	-0.2007 **	-0.1426	-0.0081
	(0.0896)	(0.1340)	(0.0997)
<u>General time trend controls</u>			
Fiscal year 1998	-0.1404 **	0.2935 *	-0.1368
	(0.0558)	(0.1638)	(0.1083)
Fiscal year 1999	-0.0128	0.6675 ***	0.1529
	(0.0563)	(0.1592)	(0.1052)
Fiscal year 2000	-0.0401	0.5960 ***	0.1601
	(0.0568)	(0.1612)	(0.1056)
Fiscal year 2001	-0.1055 *	0.6278 ***	0.1332
	(0.0545)	(0.1582)	(0.1033)
Fiscal year 2002	-0.3223 ***	0.5491 ***	0.0905
	(0.0539)	(0.1603)	(0.1019)
Fiscal year 2003	-0.6324 ***	0.1103	-0.0349
	(0.0601)	(0.1679)	(0.1092)
Fiscal year 2004	-0.5805 ***	0.4338 ***	0.0150
	(0.0579)	(0.1631)	(0.1062)
Fiscal year 2005	-0.8367 ***	0.1213	-0.0718
	(0.0597)	(0.1693)	(0.1083)
Fiscal year 2006	-0.4985 ***	0.4602 **	0.0720
	(0.0716)	(0.1956)	(0.1221)
log likelihood	-40,708.18	-8,803.04	-20,930.06
Number of spells	16,707	3,424	8,249
Number of monthly observations	174,697	69,628	172,364

Note: Coefficients from discrete-time logistic hazard models estimated using administrative data from the South Carolina Department of Social Services. The models also include duration controls, complete interactions of the duration controls with an indicator for ABAWD exemption status, and finite mixture controls with two points of support for unobserved heterogeneity. Asymptotic standard errors appear in parentheses.

* Significant at .10 level.

** Significant at .05 level.

*** Significant at .01 level.

Table 3. Simulation Results

Analysis/ Fiscal year	Regular households with members under age 50		Special households with members under age 50		Households with no members under age 50	
	Estimated caseload (000s)	Difference from baseline simulation	Estimated caseload (000s)	Difference from baseline simulation	Estimated caseload (000s)	Difference from baseline simulation
Observed caseload from spells that began after October 1996						
1997	5.4	-2%	2.5	0%	5.5	0%
1998	8.7	-2%	5.0	0%	10.8	1%
1999	8.9	-3%	5.3	0%	11.8	1%
2000	8.7	-6%	5.8	-2%	13.0	0%
2001	11.0	-4%	6.2	-6%	15.2	-1%
2002	15.2	-4%	7.1	-4%	18.0	-1%
2003	24.1	-2%	8.7	-4%	22.1	-1%
2004	32.0	-2%	9.7	-5%	25.7	-1%
2005	36.9	-4%	10.6	-5%	28.4	-2%
Baseline simulation						
1997	5.5		2.5		5.5	
1998	8.9		5.0		10.7	
1999	9.2		5.3		11.7	
2000	9.3		5.9		13.0	
2001	11.4		6.6		15.3	
2002	15.8		7.4		18.1	
2003	24.6		9.1		22.3	
2004	32.5		10.2		25.9	
2005	38.3		11.2		29.1	
Universal exemptions (no ABAWD time limits)						
1997	5.8	5%	2.5	0%	5.5	0%
1998	9.8	10%	5.1	2%	10.8	1%
1999	10.2	11%	5.3	0%	11.8	1%
2000	10.2	10%	6.0	2%	13.1	1%
2001	12.6	11%	6.6	0%	15.4	1%
2002	17.3	9%	7.4	0%	18.2	1%
2003	25.6	4%	9.1	0%	22.4	0%
2004	33.2	2%	10.2	0%	26.0	0%
2005	38.8	1%	11.1	-1%	29.2	0%

No ABAWD exemptions						
1997	5.2	-5%	2.5	0%	5.5	0%
1998	8.2	-8%	5.0	0%	10.6	-1%
1999	8.4	-9%	5.3	0%	11.6	-1%
2000	8.4	-10%	6.0	2%	12.9	-1%
2001	10.4	-9%	6.6	0%	15.2	-1%
2002	14.6	-8%	7.5	1%	18.0	-1%
2003	22.3	-9%	9.1	0%	22.1	-1%
2004	29.0	-11%	10.2	0%	25.7	-1%
2005	34.3	-10%	11.2	0%	28.7	-1%
Initial recertification policy maintained						
2003	23.8	-3%	9.1	0%	22.0	-1%
2004	31.2	-4%	10.3	1%	25.3	-2%
2005	38.1	-1%	11.5	3%	28.5	-2%
No change in the unemployment rate after September 2009 (no recession)						
2001	11.4	0%	6.5	-2%	15.3	0%
2002	15.7	-1%	7.3	-1%	17.9	-1%
2003	24.2	-2%	8.9	-2%	22.0	-1%
2004	31.8	-2%	9.8	-4%	25.4	-2%
2005	37.4	-2%	10.7	-4%	28.3	-3%
No time trend effects after FY 2001						
2002	14.9	-6%	7.3	-1%	18.0	-1%
2003	21.2	-14%	8.4	-8%	21.7	-3%
2004	26.2	-19%	9.1	-11%	24.8	-4%
2005	28.0	-27%	9.5	-15%	27.4	-6%

Note: The caseloads are simulated by applying the hazard model coefficients to monthly administrative data from the South Carolina Department of Social Services. The calculations use the actual initial entry behavior and average monthly re-entry rates from the administrative data. Therefore, the differences from the base simulations only reflect changes in exit rates; initial entry and re-entry behavior are effectively held constant.