

# **Food Insecurity and SNAP Use Among Immigrant Families With Children During the Economic Downturn**

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## **Abstract**

Immigrant workers are overrepresented in industries that have been the hardest hit in the recent economic downturn, such as the service and construction industries. As a result, many immigrant families have experienced increased economic insecurity. Federal policies restrict immigrants' eligibility for safety net programs, like the Supplemental Nutrition Assistance Program (SNAP). Some States have filled this gap by providing SNAP-like benefits to immigrants who are otherwise ineligible.

We analyze immigrant families' SNAP participation and food insecurity, using the Food Security Supplement of the Current Population Survey, 2003-10. Results show that immigrant families' food insecurity has risen significantly more than that of other families during the downturn. We find that immigrant families are more likely to participate in SNAP and receive higher benefits in states that expand eligibility. Being eligible for SNAP was associated with lower food insecurity among immigrant families in the sample; however, this result was not statistically significant.

**Keywords:** Supplemental Nutrition Assistance Program, SNAP, immigrant, food insecurity, children and food insecurity, food security

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## EXECUTIVE SUMMARY

Food security among children is a key indicator of well-being that has been linked to positive health outcomes and improved child development. The recent economic downturn, however, had negative effects on the food insecurity of U.S. households. Immigrants may have been particularly hard hit. Immigrants have experienced relatively high rates of unemployment and underemployment. Compounding this economic insecurity, many immigrants are not eligible for federal safety net programs, such as the Supplemental Nutrition Assistance Program (SNAP). Immigrants and their children have lower participation rates in SNAP and their children have higher rates of food insecurity.

Immigrant eligibility for the federal Supplemental Nutrition Assistance Program (SNAP)—the primary public assistance program to reduce food insecurity—has changed over time. Currently, the eligibility rules differ for adult and child immigrants. Adult immigrants who have lived legally in the United States for at least five years are potentially eligible for SNAP, while all legal immigrant children, regardless of how long they have lived in the United States, are potentially eligible. Unauthorized immigrants are not eligible for SNAP. Some states extend SNAP-like benefits to immigrants who are not otherwise federally eligible.

This study answers two research questions:

- How did immigrant households with children fare in terms of SNAP participation, SNAP benefit levels, and food insecurity during the recent economic downturn?
- Did state SNAP policies affect SNAP participation, benefit levels, and food insecurity of immigrant households with children during the downturn?

We analyze the basic Current Population Survey combined with the Food Security Supplement (CPS-FSS) to obtain data on the food security and SNAP participation of each household. The FSS is a module on food security that is administered to CPS households in selected months each year. We focus on the 2003-2010 to study trends among immigrant households following the implementation of the 2002 Farm Bill, after which federal eligibility requirements have remained consistent.

Our findings suggest that living in states that extend state SNAP-like benefits to immigrants who are not otherwise eligible (inclusive states) leads to higher SNAP participation among immigrant households with adults who have lived here fewer than five years (recent immigrants), the group that is affected by the SNAP expansions in those states. The SNAP state expansions also appear to lead to higher SNAP benefit levels among recent immigrants who receive SNAP, perhaps because in inclusive states more household members are eligible for SNAP benefits in immigrant families, compared to immigrant families in states that do not expand benefits. We found somewhat consistent, but statistically insignificant results regarding food insecurity. Though immigrants in the sample in inclusive states experienced higher levels of food insecurity and recent immigrants' food insecurity increased after the economic downturn, recent immigrants may have been partially shielded from this increase in inclusive states. These results, however, were not statistically significant.

## I. INTRODUCTION

The recent economic downturn had negative effects on the food insecurity of U.S. households, and there are reasons for concern that immigrants may have been particularly hard hit. Immigrants have experienced relatively high rates of unemployment and underemployment. Compounding this economic insecurity, many immigrants are not eligible for federal safety net programs, such as the Supplemental Nutrition Assistance Program (SNAP). Immigrants and their children have lower participation rates in SNAP and children of immigrants experience higher rates of food insecurity. This study uses the Food Security Supplement of the Current Population Survey to answer two research questions:

- How did immigrant households with children fare in terms of SNAP participation, SNAP benefit levels, and food insecurity during the recent economic downturn?
- Did state SNAP policies affect SNAP participation, benefit levels, and food insecurity of immigrant households with children during the downturn?

The remainder of this section highlights the need for research on SNAP participation among immigrant households with children, especially during the economic downturn. We provide an overview of the immigrant population and the effects of the economic downturn on this population, detail the current state of food security among immigrants and especially children of immigrants, and describe federal and state SNAP eligibility policies generally and specifically for immigrants. Section II describes the research methods used for this study, including the data sources and analyses employed. Section III presents our findings and discusses our checks of underlying assumptions to ensure the validity of our conclusions.

### A. The Immigrant Population

The immigrant population in the United States is large and diverse. In 2010, immigrants comprised approximately 13 percent (or 40 million people) of the total population in the United

States (Acosta and de la Cruz 2011). Immigrants face different SNAP eligibility rules depending on their legal status in the United States. There are four main status groups of immigrants:

1. Naturalized citizens are immigrants who have become citizens of the United States.
2. Legal permanent residents (LPRs) are immigrants who have been granted the legal right to live permanently in the United States. They are eligible to apply for citizenship after five years as LPRs.
3. Refugees and asylees are persons who fled persecution in their home countries and were granted refugee or asylum status in the United States.
4. Unauthorized immigrants are immigrants living in the United States who do not have the legal status to be here.

More than two-thirds of immigrants are here legally, including naturalized citizens (37 percent), legal permanent residents (31 percent), or other temporary residents (4 percent);<sup>1</sup> the remaining 28 percent are unauthorized immigrants (Passel and Cohn 2011)<sup>2</sup>. Immigrants live in every state in the United States, but are concentrated in five states. In 2010, more than one-third of all immigrants<sup>3</sup> in the United States lived in California, Florida, Illinois, New York, or Texas (Wilson and Singer 2011).

One in four children (16 million children) in the United States (Batalova and Terrazas 2010) has an immigrant parent. Many children of immigrants live in mixed-legal-status households, where their own legal standing in the United States differs from that of their parents. A large majority of children of immigrants (86 percent) were born in the United States, making them United States citizens (Terrazas and Batalova 2010). Approximately one-third of U.S. born children with

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<sup>1</sup> Legal temporary migrants are individuals who are authorized to live in the United States temporarily with a temporary visa, such as students and individuals with certain work permits.

<sup>2</sup> Most refugees and asylees convert to LPR status within a year.

<sup>3</sup> This includes all immigrants counted in the American Community Survey, and thus might under-represent the number of unauthorized immigrants.

immigrant parents have parents who are unauthorized immigrants (Passel and Cohn 2011). These children are eligible for SNAP, just as any U.S. citizen, while their parents are not.

## **B. Immigrants and the Economic Downturn**

Immigrants have been hard-hit by the recent economic downturn<sup>4</sup>, which could increase their need for means-tested programs such as SNAP. Because immigrant workers are more concentrated in construction, the service sector (like food preparation), and production than other industries and other worker groups (Passel 2005), immigrants have been disproportionately affected by the job losses in those sectors during the economic downturn.

## **C. Food Security**

Food insecurity affects adults and children, immigrants and nonimmigrants. The U.S. Department of Agriculture (USDA) defines food insecurity as a lack of consistent access “to enough food for an active, healthy life.” Food insecurity differs from hunger in that it is defined as limited access to food for a household (or among the children in a household). In contrast, hunger is “an individual-level physiological condition that may result from food insecurity” (USDA Economic Research Service 2009).

Food insecurity can be measured either for the household as a whole or for the children in the household (Nord 2009). Low food security among children reflects that adults in the household cannot afford to feed children balanced meals. Very low food security among children indicates that during the past year, adults could not afford to buy enough food for all the children in the household. According to the most recent data available, 8 million households with children (or 20 percent) were food insecure. In about half those households (3.9 million or 10 percent) children along with adults were food insecure (Coleman-Jensen et al. 2011).

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<sup>4</sup> We define the economic downturn as beginning in early 2008, when unemployment rates increased substantially and continuing through 2010, when unemployment rates remained near their highest levels of 10 percent.

**Children of immigrants experience greater food insecurity.** Children of immigrants are more likely to be food insecure than the children of native-born citizens (Capps et al. 2009). This could be due to policies that restrict SNAP eligibility for immigrants, in addition to the economic hardship often experienced by immigrant families. Immigrants often earn low wages in part because they are more likely to lack key human capital characteristics, such as English language skills or specific educational credentials (Grieco et al. 2012). Even after controlling for household income and other economic factors, however, some researchers found that children of immigrants still experience higher levels of food insecurity than do children of native-born Americans (Capps 2001), which may reflect, in part, immigrants' ineligibility for social safety net programs, such as SNAP.

**Food insecurity can harm children.** Research studies suggest that food insecurity can be harmful to children's health, development, and psychological well-being (Nord 2009). Both household and child food insecurity can reduce the likelihood that children are in good health (for example, see Chilton et al. 2009). Food insecurity is related to lower levels of on-track development among young children (Cook and Frank 2008). Some evidence suggests that food insecurity decreases the likelihood that children will attain a healthy weight (Gundersen and Kreider 2009).

**Federal food assistance programs provide benefits to food insecure households.** There are multiple federal food assistance programs; however, SNAP is by far the largest. In fiscal year 2011, the federal government spent \$75 billion on SNAP, compared to \$11 billion for the next largest program, the National School Lunch Program (NSLP). We focus on SNAP because other major food assistance programs, including NSLP, the School Breakfast Program and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) do not restrict eligibility by immigration status. Furthermore, SNAP, unlike NSLP and WIC, is not targeted to a narrow population.

SNAP is designed to provide low-income households with the means to purchase a nutritious diet. Benefits are loaded onto a debit card that participants can use at any grocery store to purchase

food. In 2011, 44.7 million people, living in 21.1 million households participated. The average household benefit was \$283.99 per month. Benefits are larger for those with lower incomes.

Nearly 41 percent of food-insecure households reported receiving SNAP, and a slightly higher percentage (42 percent) of households with very low food security reported participating in SNAP in 2010 (Coleman-Jensen et al. 2011). SNAP benefit eligibility varies by legal status, as described in the following section, and is more restrictive for immigrant non-citizens than for native-born citizens.

#### **D. SNAP Eligibility, Benefits, and Policies for Immigrants**

**Federal SNAP eligibility rules vary by citizenship status.** For the general population, SNAP eligibility is determined for a SNAP household, which is defined as a group of people who buy and prepare food together at home. Households must meet the income and asset limits. The household gross income limit is typically 130 percent of the poverty level, but may be higher for households that are categorically eligible<sup>5</sup>.

Naturalized immigrants (that is, immigrants who have become citizens) are treated the same as nonimmigrant citizens in the determination of eligibility for SNAP benefits. Unauthorized immigrants have never been eligible for SNAP benefits. Legally resident, non-citizen immigrants are subject to special SNAP rules, which have changed over time and differ for adult and child immigrants, as we describe in more detail below.

The SNAP benefit amount is determined by the number of household members who are eligible for SNAP. Thus, if children are eligible, but their immigrant parents are not, either because they are recent legal immigrants or they are unauthorized immigrants, the household would receive

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<sup>5</sup> Federal SNAP eligibility rules for citizens are based on resources and income tests. Some people—such as members of households where all household members receive Supplemental Security Income (SSI), in-kind Temporary Assistance to Needy Families (TANF), or General assistance—are categorically eligible for SNAP.



lower benefit amounts than a similar household with native-born adults or otherwise eligible immigrants.

**SNAP participation rates are increasing.** Among people in eligible households, over 70 percent participate in SNAP (Leftin et al. 2011). The most recent available data show that SNAP participation increased after the economic downturn of 2008. Among SNAP-eligible people, participation rose from 71 percent in fiscal year (FY) 2008 to 72 percent in FY 2009 (Table I.1) The overall number of SNAP participants increased 18 percent during this time period. The American Recovery and Reinvestment Act (ARRA) of 2009 may have contributed to the increase in SNAP participation because it expanded eligibility for unemployed nonelderly nondisabled individuals living with no dependents, and it increased the benefit levels for all households.

**Table I.1. SNAP Participation Rates Among Eligible Population**

	Participation Rate (%)	
	FY 2008	FY 2009
Individuals in All Households	70.6	72.2
Nonelderly adults (18-59 years)	69.3	70.8
Elderly (60 and older)	35.7	34.3
Noncitizens	50.2	55.6
Citizen Children Living with Noncitizen Adults	57.0	62.8
Children (0-17 years)	88.3	91.7

Source: Leftin, Eslami and Strayer, 2011, Table 3.

**SNAP participation rates are higher among citizens and children compared to non-citizen adults.** Even when non-citizen immigrants are eligible for SNAP, they are less likely to participate than are eligible citizens. Among all eligible individuals, 72 percent participate in SNAP, while among eligible noncitizens, 56 percent do (Table I.1). Though participation is higher among children than among adults, children who live with noncitizens have lower participation rates than children who live with citizens. Among all eligible children, 92 percent participate in SNAP, while among citizen children living with noncitizens 63 percent do.

These figures suggest that immigrant status is an important predictor of SNAP participation and parents' immigrant status is a powerful predictor of the participation of their children, regardless

of their children's immigration status. Eligible non-citizens might be less likely to participate for many reasons. They could have concerns about interacting with government officials if some of their household members are not legally authorized to live in the United States. They could be afraid that receiving SNAP would hamper their ability to naturalize at a later date. They could face language or cultural barriers to accessing benefits. They could be unaware that they are eligible because of the changes in the policies around immigrant eligibility. Or, in cases where fewer household members are eligible because of their immigration status, they could be less motivated to apply because of the lower household benefits amount.

**Three major policy changes affected immigrants' access to SNAP.** Welfare reform in 1996 (known as the Personal Responsibility and Work Opportunity Reconciliation Act, or PRWORA) eliminated SNAP eligibility for most legally-resident noncitizens, allowing only those with 40 quarters of work history, military connection, or those granted refugee or asylee status within the past five years to remain eligible (unauthorized immigrants were never eligible). The Agricultural Research, Extension and Education Reform Act of 1998 (AREERA) restored eligibility to three groups of immigrants – those under 18 who lived in the U.S. prior to PRWORA, those receiving disability benefits, and those who had turned 65 prior to the enactment of PRWORA. The Farm Security and Rural Investment Act of 2002 (known as the 2002 Farm Bill) reversed certain welfare reform restrictions (USDA Food and Nutrition Service 2011). In particular, over a period of several years, it expanded eligibility to noncitizens. This bill restored eligibility to all legally-resident immigrants receiving disability benefits (effective October 1, 2002), all legally-resident immigrants who lived legally in the United States for five years (effective April 1, 2003), and all legally-resident immigrants under age 18, regardless of date of arrival (effective October 1, 2003).

**State SNAP benefits can cover additional legal immigrants.** After the 2002 Farm Bill restoration of benefits went into effect, seven states (California, Connecticut, Maine, Minnesota, Nebraska, Washington, and Wisconsin) continued to operate state-funded food programs. The

inclusive states provide varying amounts of state-funded food assistance to select categories of noncitizen immigrants. In general, these state programs extend food benefits to recent adult immigrants in their first five years in qualified legal status who are otherwise ineligible for federal SNAP benefits (see the appendix, Table A.1 for more details). Henceforth, we refer to these states as inclusive states.

## **E. Research Questions**

This section has described the effect of the economic downturn on immigrants' employment, the higher rates of food insecurity among children of immigrants' compared to children of native-born citizens, and the lower rates of SNAP participation among children in immigrant households. This demonstrates the importance of understanding SNAP access for immigrant households. With these issues in mind, this paper addresses the following two research questions:

- How have immigrant households with children fared in terms of SNAP participation, SNAP benefits, and food insecurity during the economic downturn?

Based on the literature review above, we expect that immigrant households with children will increase their SNAP participation and receive more SNAP benefits during the economic downturn because of the downturn in employment in industries with large immigrant populations. We also anticipate an increase in food insecurity during the economic downturn because of the relatively greater economic insecurity that the immigrant population is facing during the downturn.

- Did state SNAP policies on immigrant eligibility affect SNAP participation, benefit levels, and food insecurity of immigrant households with children during the downturn?

We expect that households headed by recent immigrants (that is immigrants who have been here fewer than 5 years) will have greater access to SNAP and higher benefit levels in inclusive states because they extended benefits to these otherwise ineligible adult immigrants. And, as a result, we anticipate that recent-immigrant households will not experience as great an increase in food

insecurity in these states during the economic downturn. The next section describes the data sources and measures used to address these questions and the results of our analysis.

## II. DATA AND METHODS

We analyzed data from the Current Population Survey (CPS). In this section, we describe the sample we constructed from the CPS data; the construction of our outcome, explanatory and control variables; the sample weighting scheme; data limitations; and the analysis methods we use to address the research questions.

### A. CPS Data

The CPS, a monthly survey of over 50,000 households, has a primary purpose to measure the unemployment rate. Supplements are added in most months to collect additional data on specialized topics, including demographic characteristics and participation in social welfare programs. These supplements are typically repeated in the same month each year. The core CPS data also include key information about immigration status, including immigrants' country of birth, their year of arrival, and citizenship status. These features of the data allow us to track trends in immigrant subpopulations.

We combine the basic CPS with the Food Security Supplement (FSS) to obtain data on the food security and SNAP participation of each household. The FSS is a module on food security that is administered to CPS households in selected months each year. From 1995 to 2001, households completed the FSS in April in odd years and August or September in even years. Starting in 2001, the FSS was administered to households in December each year.

We limit our attention to 2003-2010 to study trends among immigrant households following the implementation of the Farm Bill, when federal eligibility requirements have remained consistent. An additional benefit of focusing on this period is that the food security outcome is always measured in December. Because food security and SNAP participation are seasonal, this ensures measurement is consistent over time.

The analytical sample, which we use in the figures and tables in the main body of the report, includes low-income immigrant households with children. We construct the sample using the

following parameters. We restrict the sample to households in which the householder or spouse/partner of the householder lives with his or her children. We further restrict the sample to households whose household income is less than 185 percent of the poverty line<sup>6</sup>. We extend the low-income measure to 185 percent of poverty, even though the income limit for SNAP is 130 percent, because the CPS income measure is collected at the beginning of the households' current four month long participation in the CPS sample. Thus it could change over time, and we wanted to include households that are likely to be eligible for SNAP during the observation period.

## B. Outcome Variables

We examine three main outcome variables in our analysis: SNAP participation, SNAP benefit amount, and food security

**SNAP Participation.** We use data from the FSS to determine SNAP participation. We consider households as participating in SNAP if they identified themselves as receiving SNAP benefits in the 30 days before the survey.

**Per Person SNAP Benefit Level.** The benefit level is calculated as the dollar amount of SNAP benefits that the household receives each month divided by the number of people in the household. In our main analyses of this variable, we restrict the sample to households that reported receiving SNAP in the previous month. We used the household benefit level in the month prior to the survey in order to match the SNAP participation and food insecurity measure, as described below.

**Food Insecurity.** Food insecurity was measured by a dichotomous variable that indicated if a household had low or very low food security. Food security was calculated in the last 30 days. We focus on 30 day food security instead of the more commonly used measure of food security in the

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<sup>6</sup> CPS households participate for two four-month stretches separated by eight months out of the sample. The household income is measured at the beginning of each four-month period of participation. Thus, for one quarter of the sample, income is measured in the same month as the FSS; for one quarter, it is measured in the month prior; one quarter, two months prior; and one quarter, three months prior.

past year for two reasons. First, the approach allows us to minimize the risk of recall error. Survey respondents are much more likely to provide accurate information about food security in the last thirty days than in the last year. Second, we focus on the 30 day measure because it allows us to have a more accurate correspondence between food security and receipt of SNAP benefits, which we categorize based on receipt in the last month.

Beginning in 2005, six items measuring the less severe range of food insecurity were added to the food security measure. Table II.1 lists the full 18 items used to measure food security in the most recent time period. In order to construct a time-consistent measure, we limit the food security measure to those items that are available across the entire period (as indicated in Table II.1) A score of 1 or more on this scale indicated food insecurity for this analysis (Nord 2002).

**Table II.1. Components of the Time-Consistent Food Security Measure**

Component of the Standard Food Security Measure	Included in the Time-Consistent Measure?
1. Worried that food would run out before money to buy more.	No
2. The food bought just didn't last and didn't have money to get more.	No
3. We couldn't afford to eat balanced meals.	No
4. Did you ever cut the size of or skip meals because not enough \$ for food?	Yes
5. How often did this happen (# months or days)?	Yes
6. Did you ever eat less than you felt you should because there wasn't enough money for food?	Yes
7. Were you ever hungry but didn't eat because there wasn't enough money for food?	Yes
8. Did you lose weight because there wasn't enough money for food?	Yes
9. Did you (adults) ever not eat for a whole day because there wasn't enough money for food?	Yes
10. How often did this happen (# months or days)?	Yes
11. Relied on only a few kinds of low-cost food to feed children because running out of \$ for food.	No
12. We couldn't feed the children a balanced meal because couldn't afford it.	No
13. The children not eating enough because we just couldn't afford enough food.	No
14. Did you ever cut the size of any child's meal because there wasn't enough money for food?	Yes
15. Were any children hungry but you just couldn't afford more food?	Yes
16. Did any child ever skip a meal because there wasn't enough money for food?	Yes
17. How often did this happen (# months or days)?	Yes
18. Did any child not eat for a whole day because there wasn't enough money for food?	Yes

## C. Explanatory Variables

We focus on three key explanatory variables in our research questions: the economic downturn, being part of an immigrant household, and living in a state with inclusive immigrant policies for SNAP eligibility.

Economic downturn. We included a dichotomous variable for the time period from 2008 to 2010 to indicate the time period since the economic downturn. According to the Bureau of Labor Statistics, the unemployment rate began rising precipitously early in 2008 and remained at about 10 percent through 2010. Because the CPS-FSS is administered in December of each year, the 2008 CPS-FSS clearly falls within the economic downturn.

Immigrant Households. As described earlier, all households in the sample include children and have incomes below 185 percent of poverty. We further categorize households based on the immigrant status of the householder and spouse/partner of the householder. We define immigrant households as those in which at least one of the householder or spouse/partner is foreign-born. From the immigrant household sample; however, we drop those households where the immigrant householder and the immigrant spouse/partner (if one is present) are from high refugee-sending countries. (In other words, we retain immigrant households in which either the householder or spouse/partner is an immigrant not from a high refugee-sending country) These households are excluded from the sample because U.S. policy treats refugees differently than all other immigrants<sup>7</sup>.

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<sup>7</sup> 0.8 percent of the sample was excluded for being from a high refugee-sending countries. The countries that were identified as high refugee sending countries, based on data from the Department of Homeland Security, include Bhutan, Burma, Burundi, Central African Republic, Congo Democratic Republic, Cuba, Eritrea, Haiti, Iraq, and Somalia.



We further differentiate immigrant households based on citizenship status and length of stay in the United States of the householder or spouse/partner of the householder<sup>8</sup>. We created three mutually exclusive immigrant household categories, based on the SNAP eligibility status of the “least eligible” adult in the household (among the householder or spouse/partner of householder). *Recent immigrant households* are defined as an immigrant household that include a householder or spouse/partner who is not a citizen and has lived in the United States for fewer than 5 years. A *long-term immigrant household* includes households that are not classified as recent immigrant households and include a householder or spouse who is not a citizen and has lived in the United States for at least 5 years. *Naturalized citizen immigrant households* includes immigrant households that are not classified as recent or long-term immigrant households, but include a householder or spouse who is an immigrant and a citizen.

Inclusive States. An important dimension of our analysis is to classify households by their state of residence. Based on the discussion in section I, we identify each household as being under an inclusive or restrictive SNAP eligibility regime. Households in states that expanded SNAP eligibility to immigrants who were otherwise ineligible under federal law are categorized as being in inclusive states. These states include California, Connecticut, Maine, Minnesota, Nebraska, Washington, and Wisconsin. Since 2003, when the Farm Bill was passed, inclusive states’ extension of SNAP benefits apply to recent immigrants, as federal law provides SNAP benefits to long-term immigrants and naturalized citizens. Households that reside in all other states are considered as living in a restrictive state.

Table II.2 shows the sample sizes in each year for each household type.

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<sup>8</sup> The CPS-FSS does not collect information about immigrants’ legal status, thus we do not consider legal status in our immigrant categorizations. We perform sensitivity analyses to address this issue, which we describe in greater detail in the analysis section of the report.

**TABLE II.2. Number of Households (unweighted) in Each Year, By Immigrant Household Type.**

Year	Recent Immigrants	Long-term Immigrants	Naturalized Citizen Immigrants	US-Born
2003	309	646	417	4263
2004	219	768	382	4286
2005	264	695	335	3943
2006	135	751	349	3706
2007	179	572	273	2937
2008	148	763	415	3813
2009	233	770	489	4121
2010	136	915	525	4002
Total	1623	5,880	3,185	31,071

Source: Analysis of the CPS-FSS, 2003-2010

Note: Includes households with incomes less than 185 percent of poverty, the main analytical sample

## D. Control Variables

We use CPS-FSS core data to calculate several control variables to ensure that the trends over time are not due to changes in demographic characteristics. Our models include characteristics of the householder: age (in years), race, and education (in years). We include age-squared to control for the potential non-linear relationship between age and the outcomes. And we include categorical indicators of family structure: married\cohabiting couple, single female householder, or single male householder. We control for household characteristics, including household size, homeownership status, and urban area because these demographic characteristics affect SNAP eligibility and participation and vary by immigration status. As we describe in more detail in the results section, in some models, we include a measure of household income and employment. The employment measure indicates whether any adult in the household is employed full-time. The income measure was the ratio of household income to the poverty line for the household. Table A.2 in the appendix displays the average value for each control variable in each year, by immigrant status.

## E. Sample Weights

Our analysis of trends over time relies on producing sample estimates that are nationally representative. To that end, we use the household-level supplement weights throughout the report to ensure that the estimates represent those of the national population. However, in 2007,

households in some CPS-rotation groups (groups are rotated in and out of the sample over time) were not asked some of the 30-day food security questions. To ensure that the estimates are consistent over time, we reweighted the sample in 2007 when the rotation groups were missing food security data. The reweighting process consists of multiplying the household weight by the sum of the household weights in the full sample divided by the sum of the household weights in the restricted sample that have valid data on food security.

## **F. Data Limitations**

While the CPS-FSS is well-suited to uncover trends among immigrant households with children by state and over time, it is nonetheless subject to some limitations. These limitations can be overlooked when they are consistent by state and over time. However, when they vary by the mechanism of interest, they potentially have implications for our conclusions.

One limitation is that SNAP benefits are self-reported and are underreported. Our main analyses, however, compare SNAP participation rates and benefit levels across immigrant subgroups. These relative rates should be accurate provided that the subpopulations underreport SNAP at similar rates.

The second limitation is that these data, like virtually all publicly available survey data, do not have information on the legal status of immigrants. Ideally, we would like to have information on whether each person is authorized to be in the U.S. because some of the key provisions of SNAP eligibility laws focus on this population in particular. The inability to identify immigrants' authorization status could affect the results if unauthorized immigrants are particularly likely to live in states with inclusive or restrictive SNAP policies. We address this concern by performing sensitivity analyses that remove immigrants who are highly likely to be unauthorized from the sample. If the results are the same including or excluding these groups, we assume that any concentration of immigrants by unauthorized status is not substantially biasing the results of our primary analysis. We describe these sensitivity tests in greater detail in the last section of the paper.

## G. Empirical Approach

To address the first research question of how immigrant households are faring in the economic downturn, we begin with simple trend lines in each of the three outcomes: SNAP participation, SNAP per person benefit levels (conditional on SNAP participation), and food insecurity. Then we turn to regression analysis, to account for demographic differences between households in different immigrant statuses during the economic downturn. We display the results of linear probability models, based on OLS regression. We control for region and year fixed effects and cluster the standard errors at the state level.

To address our second research question of whether state SNAP policies affected recent immigrants' SNAP participation, benefit level, and food insecurity, we restricted our sample to recent and long-term non-naturalized immigrants and used difference-in-difference analysis. The difference-in-difference analysis is of the following form:

$$(1) Y_{is} = \alpha + \gamma INCL_s + \delta RECENT_{is} + \beta INCL * RECENT_{is} + \Phi X_{is} + \eta_r + u_t + \varepsilon_{is}$$

where  $i$  is a low-income household in which either the householder or spouse is a non-citizen immigrant in state  $s$ ,  $INCL_s$  is an indicator for whether the state has inclusive (as opposed to restrictive) SNAP policies,  $RECENT_{is}$  indicates households with recent non-citizen immigrants (less than 5 years in the US),  $INCL * RECENT_{is}$  is an interaction term, and  $X_{is}$  is a vector of control variables including household characteristics (size, income, and house-ownership) and householder's demographic characteristics (age, sex, race, education, and marital status).  $\eta_r$  and  $u_t$  are region and time fixed effects, respectively, and  $\varepsilon_{is}$  is the error term. To further address the second research question of whether the effect of SNAP policies is stronger during the economic downturn, we extend equation (1) to include a dummy for the economic downturn years (post 2008) and its

interaction with *INCL \* RECENT*. The models are estimated using ordinary least squares with standard errors clustered at the state level.<sup>9,10</sup>

The parameter of interest is  $\beta$  which captures the effect of being a recent immigrant in an inclusive state, controlling for all the covariates in the model. A positive coefficient on outcomes such as SNAP use and benefit amount would indicate that recent immigrants in states with inclusive benefit policies are more likely to take advantage of SNAP (relative to long-term immigrants) than they are in restrictive states, providing suggestive evidence that these policies benefit low-income recent immigrants. Similarly, a negative coefficient on the interaction term for food insecurity would indicate a state policy that is effective at improving food security. The fundamental identifying assumption of this difference-in-difference approach is that recent and long-term immigrants are similar in inclusive and restrictive states, after accounting for the variables in the model. While this assumption is fundamentally untestable, we discuss and provide supporting evidence for the validity of this assumption along with robustness checks in section III.

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<sup>9</sup> Logistic regressions for dichotomous outcomes (available upon request) yield similar results.

<sup>10</sup> Since the model includes a state-level indicator for inclusive policies, state fixed effects are omitted.

### III RESULTS

In this section, we begin by presenting trends over the past decade in SNAP use, per person SNAP benefit levels (conditional on SNAP participation), and food insecurity by household immigrant status. We then address the first research question by describing changes in immigrants' SNAP participation, benefit level, and food insecurity following the economic downturn, controlling for demographic characteristics of the householder and household. Finally, we turn to our difference-in-difference-in-difference results to address the second research question of whether recent-immigrant households with children who live in inclusive states have fared better during the economic downturn than those who live in restrictive states.

#### A. Trends in SNAP Participation, Benefit Amount, and Food Insecurity

Figure III.1 presents the percent of households by immigrant type who participated in SNAP in the past 30-days. The figures include only households with incomes under 185 percent of the poverty level. Overall, households headed by immigrant adults were less likely than those headed by native-born adults to use SNAP throughout the decade. Among immigrant households, those headed by naturalized immigrant citizens were the most likely to use SNAP in each year, until 2009. Recent immigrants who have not yet naturalized were the least likely to use SNAP throughout much of the decade. As described earlier, these figures do not account for the under reporting of SNAP use in the CPS-FSS; however, we present them to demonstrate the relative rates of SNAP use by immigrant household type. All figures are weighted to be nationally representative.

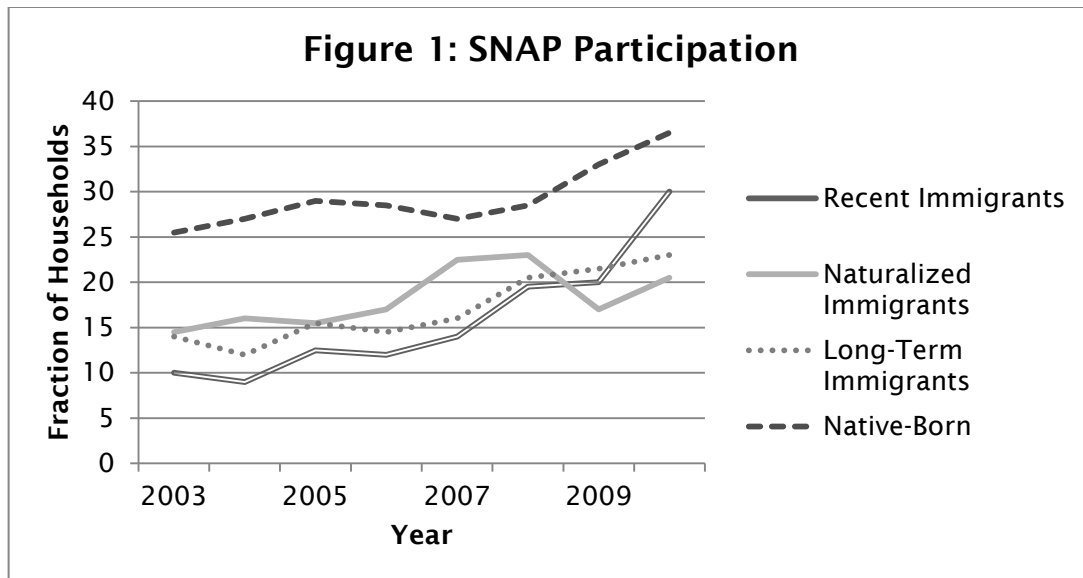


Figure III.2 displays the per person SNAP benefit level, conditional on SNAP participation. The patterns are similar to the SNAP participation rates shown in the previous figure. Households headed by native-born adults had higher per person benefit levels than households headed by immigrant adults. Among immigrant households, naturalized citizens had the highest per person benefit level in all years, while recent immigrants have the lowest per person benefit level for much of the decade until 2008. Across immigrant households, there was an increase in the SNAP per person benefit level beginning in 2008, when the economic downturn began. SNAP benefits were calculated by dividing the total household SNAP benefit amount by the total number of people in the household. The lower per person SNAP benefits in immigrant households, relative to native born households, likely reflect the mixed status of many immigrant households. Immigrant households may include members who are not eligible because they are unauthorized or they do not meet the federal requirement of 5-year legal residency; thereby, reducing the SNAP benefits for which the household is eligible.

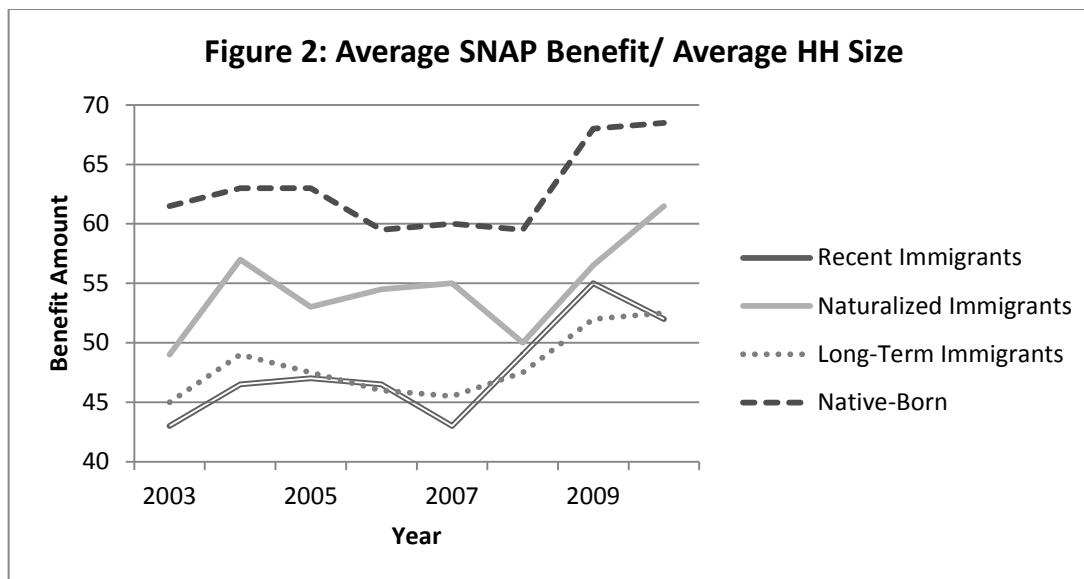
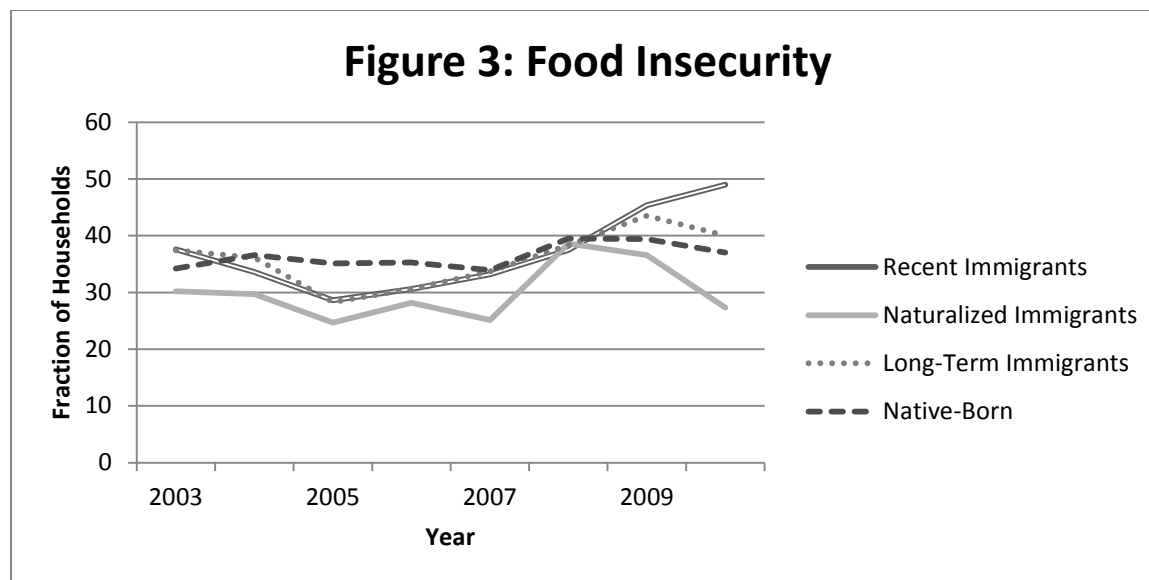


Figure III.3 displays trends in food insecurity. This graph is restricted to households with incomes under 185% of poverty. The trends in food insecurity changed over the decade. Since 2008, long-term and recent immigrants experienced higher food insecurity than did native-born households. Naturalized immigrant households had the lowest food insecurity across this period. (In all, not just low-income, households in this time period, non-naturalized immigrants were more likely to be food insecure, relative to the population as a whole. Eighteen percent of the whole population in the 2003-2010 time period was food insecure, compared to 23% of recent immigrants, 25% of long-term immigrants, and 15% of naturalized immigrants.)

Summarizing the three trend figures, we find that throughout the decade, for the most part, immigrant households were less likely to participate in SNAP relative to native-born households and received lower SNAP benefits if they did participate in SNAP. Among non-naturalized immigrant households, food insecurity levels rose much more than did native born households since the economic downturn. However, households headed by naturalized immigrants have had relatively low levels of food insecurity. These graphs do not account for the standard errors around the



estimates or differences in demographic characteristics of households by immigrant status, which might be related to SNAP participation. In the next section, we turn to regression analyses to determine what happened to immigrants' SNAP participation and food insecurity during the economic downturn, once demographic characteristics are accounted for.



## B. How did immigrants fare during the economic downturn?

In this section, we address the first research question by using regression analysis to determine whether, after controlling for differences in demographic characteristics, immigrant households' SNAP participation, SNAP benefit levels among participants, and food insecurity were statistically significantly different from native-born households. We use OLS regression for the three outcomes, including the two dichotomous outcomes, SNAP participation and food insecurity to facilitate the interpretation of the coefficients.

Two analyses are presented. We first restrict the CPS-FSS data to the years of the economic downturn, 2008-2010, to examine how immigrant households fared in the economic downturn. Then, we examine changes from before to during/after the economic downturn by expanding the

sample to include 2003-2010 and including a variable for during/after the downturn and interaction terms of immigrant status and the economic downturn period dummy variable. This allows us to assess how immigrant households fared compared to native-born household during the economic downturn, taking into account their relative outcomes prior to the economic downturn. In these models, we do not include controls for household income and employment because they are the main mediating variable through which the economic downturn would have an effect on households' SNAP participation and food insecurity.

We found that, during the economic downturn, immigrant households were statistically significantly less likely to participate in SNAP and received lower benefit levels, compared to native-born household, as shown by the coefficients for the three immigrant status groups (Table III.1). We found long-term and naturalized citizen immigrants were less likely to be food insecure during the economic downturn, relative to native-born citizens.

Our analysis of change from 2003-2010, however, suggests that SNAP participation increased more among recent immigrant households, relative to native-born households, and SNAP benefit amounts increased more among recent and long-term immigrant households, relative to native-born households (Table III.2). At the same time, immigrant households' food insecurity rose more after the economic downturn, relative to native-born households as shown by the positive, significant interaction term between immigrant status groups and the economic downturn dummy variable. In other words, immigrant households entered the economic downturn with lower levels of food insecurity, but these levels increased more among immigrant households during the economic downturn. (However, even with this increase, long-term and naturalized immigrants' levels of food insecurity remained lower than native-born citizens, during the downturn, as shown in Table III.1.)

To test whether the skewed distribution of SNAP benefits might have distorted regression analyses of that variable, we repeated those regressions with the log of SNAP benefits as the dependent variable. We found the results did not change, as shown in Tables A.3 in the appendix.

### **C. During the economic downturn, did recent-immigrant households with children have higher SNAP participation rates, higher SNAP benefits, and lower levels of food insecurity in inclusive states?**

In this section, we address the second research question by using regression analysis to determine whether recent-immigrant households' in inclusive states fared better, in terms of SNAP participation, benefit levels, and food insecurity, during the economic downturn, compared to recent-immigrant households in restrictive states. We focus on recent immigrant households because after the Farm Bill was implemented in 2003, state expansions of SNAP benefits affected recent adult immigrants who lived legally in the United States for fewer than five years. These recent immigrants remained ineligible for federally funded SNAP, but were eligible for SNAP in the inclusive states. We use long-term, non-naturalized, immigrant households as our comparison group for the regressions because these households are likely to be most similar to recent-immigrant households along many dimensions, except their length of stay in the United States. In these models, we include controls for household income and employment to account for as many differences as possible between the long-term and recent immigrants, and to focus the analysis on the effects of state policy. However, for consistency with Tables III.1 and III.2, we also provide the same analyses results without these controls in the Tables A.4 in the appendix. The results are similar, regardless of whether these controls are included.

As we did in the previous section, we use OLS regression for the three outcomes, including the two dichotomous outcomes, SNAP participation and food insecurity, to facilitate the ease of interpretation of the coefficients. (In Tables A.5 in the appendix, we also present the results using logistic regression for the two dichotomous variables. The results do not change.)

The first analysis restricts the sample to the economic downturn time period, 2008-2010. We use difference-in-difference analysis to determine whether recent immigrants in inclusive states fared better than recent immigrants in restrictive states, relative to long-term immigrants (Table III.3). The

second analysis includes the 2003-2010 time period and uses a difference-in-difference-in-difference analysis to determine whether, following the economic downturn, recent immigrants fared better in inclusive states, relative to long-term immigrants, accounting for their relative levels of SNAP participation, benefits, and food insecurity prior to the economic downturn (Table III.4).

Table III.3 shows that during the economic downturn recent immigrants in restrictive states were less likely to participate in SNAP, relative to long-term immigrants (see coefficient on immigrant status, column 1). This was not true in inclusive states, however. The coefficient on the interaction term almost exactly offsets that on “recent immigrants,” indicating that in inclusive states, recent immigrants and otherwise similar long-term immigrants were equally likely to participate.

Recent immigrants in restrictive states received lower SNAP benefit levels, compared to long-term immigrants (see coefficient on recent immigrant, column 2), during the economic downturn. Living in an inclusive state increased recent immigrants’ SNAP benefit levels to levels similar to long-term immigrants (see interaction term, column 2).

Regardless of the type of state in which they lived, recent immigrants in the sample experienced higher levels of food insecurity relative to long-term immigrants; however, these differences were not statistically significant (recent immigrant coefficient, column three). The same pattern persisted in inclusive states, as shown by the coefficient on the interaction term, which is close to 0 and insignificant. Additionally, immigrants in inclusive states experienced significantly higher levels of food insecurity, relative to immigrants in restrictive states, regardless of their length of stay in the United States (see coefficient on inclusive state, column 3).

The results presented in Table III.4 are similar to Table III.3 for SNAP participation. This analysis includes the years 2003-2010 and includes the three-way interaction of immigrant status, inclusive states, and the economic downturn time period. Recent immigrants in restrictive states were less likely to participate in SNAP, relative to long-term immigrants (see coefficient on recent

immigrants, column 1), and recent immigrants were more likely to participate in SNAP in inclusive states (see interaction term B, column 1). During the economic downturn, both long-term and recent immigrants were more likely to participate in SNAP (coefficient on economic downturn, column 1). There was an increase in SNAP participation among recent immigrants in the sample, relative to long-term immigrants, in inclusive states during the economic downturn (interaction term C, column 1); however, this finding was not statistically significant.

We see some similar results to Table III.3 for SNAP benefit levels. Recent immigrants in restrictive states received lower SNAP benefits than did long-term immigrants (see coefficient on immigrant status, column 2). In restrictive states, SNAP benefit levels increased significantly, following the economic downturn among recent and long-term immigrants (coefficient on economic downturn, column 2). However, in inclusive states, recent immigrants' benefit levels, relative to long-term immigrants, increased significantly more (interaction term C, column 2).

In spite of the increases in SNAP receipt and benefits following the economic downturn for recent immigrants, the association between food insecurity and state policy was statistically insignificant. Similar to the results shown in Table III.3, food insecurity was significantly higher in the inclusive states. Additionally, Table III.4 shows that food insecurity increased after the economic downturn (see coefficient for interaction A, column 3). In the sample, this was particularly true for recent immigrants, though this coefficient is not significant. However, recent immigrants in inclusive states experienced less of an increase in food insecurity, relative to those in restrictive states, but this estimate was not statistically significant (interaction term C, column 3).

## D. Checks of underlying assumptions

The conclusion that state policies affected SNAP participation and benefit levels relies on the assumption that there were no unobservable differences between recent and long-term immigrants related to SNAP use or food insecurity in the inclusive and restrictive states. Our difference-in-difference analysis is an attempt to address this assumption because it compares the relative rates of SNAP participation and benefit among recent and long-term immigrants in inclusive and restrictive states. Provided that any differences between recent and long-term immigrants on unobserved characteristics are consistent across restrictive and inclusive states, then the significant results suggest that state policies caused the differences in SNAP participation rates.

Other differences could exist, however, that drive the results. We devised multiple strategies to test these differences. Next we describe a range of scenarios that could affect the results, and the strategies we employed to test these scenarios. We describe the results of these tests below, all tables are presented in the Appendix.

It is possible that unauthorized immigrants cluster in either restrictive or inclusive states. Because we do not have information about authorization status, we cannot exclude unauthorized immigrants from our analysis. If unauthorized immigrants are particularly likely to be recent immigrants and they cluster in restrictive states, this would push down the rates of SNAP participation in those states because unauthorized immigrants are ineligible for SNAP. We tested this assumption by excluding Mexican and Central American immigrants, who make up 72 percent of unauthorized immigrants, from our analyses. We found the same pattern of results for the effects of inclusive SNAP state policies on SNAP participation and benefit amount, as described above. In some cases, however, these effects were not statistically significant, likely because of the reduced sample size (see Tables A.6)

It is possible that immigrants in restrictive states become citizens more quickly than in inclusive states in order to access SNAP benefit. These immigrants would drop out of the sample because citizens are excluded from the analysis. This could affect the composition of the recent immigrant group in restrictive states, relative to inclusive states. This is an unlikely scenario because unless one is married to a citizen, one is not eligible to naturalize until living in the United States legally for at least five years. Thus, most naturalized citizens would be eligible for SNAP prior to naturalizing. However, we tested this assumption by including naturalized citizens in our analysis. Again, we found a similar pattern of results to our main results above (see Tables A.7).

It is possible that recent immigrants who experience greater economic insecurity move to inclusive states that provide SNAP benefits. If this were the case, we would expect food insecurity in inclusive states among recent immigrants to be particularly high, driving up SNAP participation in these states, which we did find in our difference-in-difference models. To further test this assumption we included annual food insecurity as a control in our models of SNAP participation and SNAP benefit amounts. This control did not change the results (see Tables A.8).

## **E. Conclusions**

Our findings suggest that living in an inclusive state leads to higher SNAP participation among recent immigrant households, the group that is affected by the SNAP expansions in inclusive states. The SNAP state expansions also appear to lead to higher SNAP benefit levels among recent immigrants who receive SNAP, perhaps because in inclusive states more household members in immigrant families are eligible for SNAP benefits than in restrictive states. We found somewhat consistent, but statistically insignificant results regarding food insecurity. Though immigrants in the sample in inclusive states experienced higher levels of food insecurity and recent immigrants' food insecurity increased after the economic downturn, recent immigrants may have been partially

shielded from this increase in inclusive states. These results, however, were not statistically significant.



## **TABLES**

**Table III.1. SNAP Participation, SNAP Benefit Amount, and Food Insecurity During the Economic Downturn (2008-2010), Controlling for Householder and Household Characteristics, OLS Regression Results**

	SNAP Participation	SNAP Benefit Amount	Low or Very Low Food Security
<b>Immigrant Status</b>			
Recent Immigrants	-0.109***	-24.113***	0.007
Long-term Immigrants	-0.110***	-22.584***	-0.034**
Naturalized Immigrants	-0.039***	-10.842***	-0.022**
<b>Householder Characteristics</b>			
Age in Years	0.009***	0.300	0.022***
Age Squared	-0.000***	-0.007***	-0.000***
Black	0.079***	14.781***	0.052***
Hispanic	0.008	-0.898	0.035***
Asian/Pacific Islander	-0.027*	-7.809**	-0.075***
Other Race	0.101***	19.277***	0.096***
Years of Education	-0.016***	-2.802***	-0.012***
<b>Household Characteristics</b>			
Single Female	0.034***	8.498***	0.018
Single Male	-0.078***	-17.827***	-0.042***
Married, Cohabiting	-0.126***	-26.226***	-0.076***
Household Size	0.046***	16.177***	0.016***
Owns Home	-0.146***	-27.786***	-0.093***
Urban Area	-0.028***	-4.998***	0.029***
<b>Other Controls</b>			
2009	0.021***	8.514***	0.007
2010	0.052***	13.769***	-0.004
Constant	0.269***	64.067***	0.030

Source: Current Population Survey Food Security Supplement, 2008–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. (N=4,394)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**Table III.2. SNAP Participation, SNAP Benefit Amount, and Food Insecurity, By Macro-Economic Conditions, Controlling for Householder and Household Characteristics (2003-2010), OLS Regression Results**

	SNAP Participation	SNAP Benefit Amount	Low or Very Low Food Security
<b>Immigrant Status</b>			
Recent Immigrants	-0.156***	-33.545***	-0.061***
Long-term Immigrants	-0.116***	-27.098***	-0.059***
Naturalized Immigrants	-0.043***	-9.386***	-0.046***
<b>Difference-in-Difference Terms</b>			
Economic Downturn	0.038***	10.540***	0.034***
Economic Downturn * Recent Immigrants	0.042***	9.275***	0.068***
Economic Downturn * Long-term Immigrants	0.009	6.328***	0.030***
Economic Downturn * Naturalized Immigrants	0.002	-1.433	0.028**
<b>Householder Characteristics</b>			
Age in Years	0.008***	0.059	0.020***
Age Squared	-0.000***	-0.004***	-0.000***
Black	0.083***	14.355***	0.063***
Hispanic	0.010	-0.332	0.029***
Asian/Pacific Islander	-0.003	-1.850	-0.073***
Other Race	0.094***	17.192***	0.102***
Years of Education	-0.016***	-2.422***	-0.013***
<b>Household Characteristics</b>			
Single Female	0.061***	14.225***	0.032***
Single Male	-0.041***	-9.097***	-0.018**
Married\Cohabiting	-0.085***	-16.608***	-0.052***
Size	0.040***	14.812***	0.015***
Owens Home	-0.146***	-27.229***	-0.102***
Urban Area	-0.034***	-5.090***	0.016**
<b>Other Controls</b>			
Constant	0.227***	51.666***	0.044**

Source: Current Population Survey Food Security Supplement, 2003–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. (N=10,688)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**Table III.3. SNAP Participation, SNAP Benefit Amount, and Food Security Gaps During the Economic Downturn (2008-2010), By State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results**

	SNAP Participation	SNAP Benefit Amount per Person	Low or Very Low Food Security
<b>Immigrant Status</b>			
Recent Immigrants	-0.046**	-15.604***	0.028
<b>Difference-in-Difference Terms</b>			
Inclusive State	0.004	0.646	0.032*
Recent Immigrants * Inclusive State	0.050*	16.995**	-0.004
<b>Householder Characteristics</b>			
Age in Years	0.001	0.556	0.012***
Age Squared	0.000	-0.010	-0.000***
Black	0.004	-2.004	0.073*
Hispanic	-0.009	-10.537	0.070**
Asian/Pacific Islander	-0.058***	-13.101***	-0.077**
Other Race	-0.022	11.210	0.094
Years of Education	-0.003*	-0.386	-0.004***
<b>Household Characteristics</b>			
Single Female	0.062*	12.642	-0.086**
Single Male	-0.079***	-16.958***	-0.135***
Married, Cohabiting	-0.017	-4.498	-0.090**
Size	0.062***	18.536***	0.035***
Owens Home	-0.036***	-6.270**	-0.031**
Urban Area	0.004	-5.702	0.035
Income	-0.091***	-25.082***	-0.057***
Employed	-0.075***	-14.278***	-0.069***
<b>Other Controls</b>			
2009	0.010	5.586	0.030*
2010	0.025	9.364	0.015
Constant	0.263**	54.753**	0.169**

Source: Current Population Survey Food Security Supplement, 2008–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and that do not contain only refugee immigrants. Households with only naturalized immigrants are not included. (N=2,965)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**Table III.4. SNAP Participation, SNAP Benefit Amount, and Food Insecurity, By Macro-Economic Conditions (2003-2010) and State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results**

	SNAP Participation	SNAP Benefit Amount per Person	Low or Very Low Food Security
<b>Immigrant Status</b>			
Recent Immigrants	-0.057***	-10.270***	-0.010
<b>Difference-in-Difference Terms</b>			
Economic Downturn	0.039***	14.348***	0.058***
Inclusive State	-0.013	-3.725	0.031**
A) Economic Downturn * Recent Immigrants	0.006	-6.304	0.041
B) Recent Immigrants * Inclusive State	0.033*	4.889	0.011
C) Economic Downturn * Inclusive State * Recent Immigrants	0.026	14.585**	-0.024
<b>Householder Characteristics</b>			
Age in Years	0.002	0.818	0.012***
Age Squared	0.000	-0.012	-0.000***
Black	0.019	1.213	0.087***
Hispanic	0.000	-6.802	0.077***
Asian/Pacific Islander	-0.029*	-8.756***	-0.063***
Other Race	-0.025	10.949	0.256***
Years of Education	-0.003**	-0.348	-0.005***
<b>Household Characteristics</b>			
Single Female	0.042	9.507	-0.042**
Single Male	-0.074***	-13.223***	-0.093***
Married, Cohabiting	-0.018	-2.419	-0.041*
Size	0.051***	14.830***	0.037***
Owns Home	-0.039***	-7.328***	-0.049***
Urban Area	0.004	-2.126	0.022
Income	-0.081***	-20.603***	-0.064***
Employed	-0.112***	-22.186***	-0.072***
<b>Other Controls</b>			
Constant	0.250***	38.609**	0.128***

Source: Current Population Survey Food Security Supplement, 2003–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. Households with only naturalized immigrants are not included. (N=7,503)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

## APPENDIX

**Table A.1. Food Assistance Program Eligibility Rules for Immigrants in Inclusive States**

State	Date of Implementation	Eligible Immigrants	Other Program Requirements
California	September 1, 1997	<ul style="list-style-type: none"> <li>• Qualified Immigrants</li> <li>• Lawful temporary residents</li> <li>• Victims of trafficking</li> <li>• U visa/interim relief applicants</li> <li>• U visa holders</li> </ul>	
Connecticut Maine	April 1, 1998 September 1, 1998	<ul style="list-style-type: none"> <li>• Legal noncitizens</li> </ul>	Who are (1) elderly (2) disabled (3) victims of domestic violence OR (4) experiencing a hardship AND (5) otherwise meet eligibility criteria  Individuals who receive food supplement assistance or have a pending application as of January 1, 2012 are “grandfathered” under this rule Those receiving TANF may also be eligible Must not be receiving assistance from the Minnesota Family Investment Program (MFIP) Must take steps toward citizenship
Minnesota	September 1, 1997	<ul style="list-style-type: none"> <li>• Lawfully residing immigrants</li> <li>• Qualified noncitizens</li> </ul>	Must participate in the Food Stamp Employment and Training Program, if required in the area
Nebraska <sup>a</sup> Washington	August 1, 1997 November 1, 1999	<ul style="list-style-type: none"> <li>• Qualified immigrants</li> <li>• PRUCOLs<sup>b</sup></li> <li>• Lawfully present immigrants</li> </ul>	
Wisconsin <sup>a</sup>	August 1, 1998		

Sources: National Immigration Law Center, 2002. “Guide to Immigrant Eligibility for Federal Program.” 4th edition, updated July 2011. State food assistance program websites.

<sup>a</sup>Wisconsin and Nebraska ended their state-funded SNAP programs in July 2011.

<sup>b</sup> **PRUCOL = permanently residing in the U.S. under color of law.** This is not an immigration status, but a benefit eligibility category. The term, which generally means that the Department of Homeland Security is aware of a person’s presence but has no plans to deport or remove him or her, has been interpreted differently depending on the benefit program and jurisdiction.

**TABLE A.2. AVERAGE WEIGHTED VALUE OF CONTROL VARIABLES, BY PARENTAL IMMIGRANT GROUP**

Year	Variable	Recent Immigrant Parents	Long-term Immigrant Parents	Citizen Immigrant Parents	US-Born Parents	
2003	Male	0.57	0.48	0.47	0.37	
	Age	34	38	41	37	
	Household Size	4.3	4.7	4.5	3.9	
	Owns Home	0.26	0.42	0.54	0.46	
	Urban	0.91	0.93	0.90	0.71	
	Married	0.80	0.71	0.61	0.46	
	Education (years)	10.5	9.3	11.6	12.2	
	HH Income/Poverty	1.81	2.09	2.37	1.99	
	Unemployment Rate	6.02	6.39	6.19	5.65	
	Race-White	0.82	0.84	0.68	0.69	
	Race-Black	0.05	0.06	0.13	0.28	
	Race-API	0.09	0.08	0.17	0.01	
	Race-other	0.04	0.03	0.01	0.03	
	Hispanic	0.73	0.82	0.57	0.11	
	30-day SNAP Participation	0.10	0.13	0.14	0.25	
	30-day SNAP Amount	192	219	203	236	
	Food Insecurity	0.08	0.10	0.10	0.13	
	2004	Male	0.50	0.53	0.47	0.34
		Age	35	37	41	37
		Household Size	4.3	4.7	4.4	4.0
Owns Home		0.22	0.40	0.56	0.47	
Urban		0.94	0.95	0.92	0.71	
Married		0.76	0.75	0.62	0.45	
Education (years)		10.9	9.7	11.8	12.2	
HH Income/Poverty		1.98	2.22	2.36	2.01	
Unemployment Rate		5.23	5.32	5.19	5.30	
Race-White		0.70	0.84	0.65	0.68	
Race-Black		0.13	0.06	0.14	0.28	
Race-API		0.14	0.08	0.19	0.01	
Race-other		0.04	0.02	0.01	0.03	
Hispanic		0.63	0.81	0.47	0.12	
30-day SNAP Participation		0.08	0.12	0.16	0.27	
30-day SNAP Amount		180	221	223	245	
Food Insecurity		0.10	0.09	0.09	0.14	
2005		Male	0.53	0.49	0.40	0.33
		Age	35	37	41	37
		Household Size	4.5	4.7	4.3	4.0
	Owns Home	0.27	0.43	0.56	0.46	
	Urban	0.93	0.93	0.93	0.75	
	Married	0.80	0.74	0.62	0.43	
	Education (years)	10.6	9.9	11.6	12.3	
	HH Income/Poverty	1.98	2.13	2.22	1.91	
	Unemployment Rate	4.86	4.78	4.69	4.95	
	Race-White	0.79	0.86	0.71	0.69	
	Race-Black	0.08	0.05	0.12	0.28	
	Race-API	0.12	0.06	0.17	0.00	
	Race-other	0.02	0.03	0.01	0.03	
	Hispanic	0.68	0.83	0.60	0.11	
	30-day SNAP Participation	0.12	0.15	0.15	0.29	
	30-day SNAP Amount	211	222	211	245	
	Food Insecurity	0.10	0.06	0.05	0.14	



Year	Variable	Recent Immigrant Parents	Long-term Immigrant Parents	Citizen Immigrant Parents	US-Born Parents	
2006	Male	0.55	0.47	0.43	0.32	
	Age	33	38	41	37	
	Household Size	4.3	4.7	4.4	3.9	
	Owns Home	0.17	0.41	0.48	0.45	
	Urban	0.97	0.94	0.92	0.73	
	Married	0.88	0.73	0.59	0.42	
	Education (years)	10.7	9.9	11.8	12.3	
	HH Income/Poverty	2.00	2.09	2.19	1.90	
	Unemployment Rate	5.32	5.42	5.33	5.14	
	Race-White	0.73	0.84	0.69	0.68	
	Race-Black	0.05	0.06	0.14	0.29	
	Race-API	0.19	0.07	0.17	0.00	
	Race-other	0.03	0.03	0.01	0.03	
	Hispanic	0.65	0.82	0.57	0.11	
	30-day SNAP Participation	0.12	0.14	0.17	0.29	
	30-day SNAP Amount	201	220	229	233	
	Food Insecurity	0.04	0.08	0.09	0.14	
	2007	Male	0.49	0.50	0.43	0.32
		Age	34	38	40	38
Household Size		4.2	4.6	4.3	3.9	
Owns Home		0.17	0.39	0.46	0.46	
Urban		0.94	0.94	0.93	0.72	
Married		0.73	0.72	0.61	0.42	
Education (years)		10.7	9.9	11.7	12.4	
HH Income/Poverty		1.92	2.14	2.23	2.05	
Unemployment Rate		5.22	5.12	5.00	5.17	
Race-White		0.79	0.86	0.69	0.70	
Race-Black		0.11	0.06	0.16	0.27	
Race-API		0.09	0.06	0.14	0.01	
Race-other		0.01	0.02	0.01	0.03	
Hispanic		0.71	0.84	0.54	0.10	
30-day SNAP Participation		0.13	0.16	0.22	0.26	
30-day SNAP Amount		191	208	231	230	
Food Insecurity		0.13	0.12	0.11	0.17	
2008		Male	0.47	0.49	0.43	0.32
		Age	34	39	41	38
	Household Size	4.3	4.6	4.6	4.0	
	Owns Home	0.24	0.38	0.53	0.47	
	Urban	0.94	0.94	0.95	0.74	
	Married	0.75	0.72	0.63	0.44	
	Education (years)	11.1	10.2	11.8	12.4	
	HH Income/Poverty	1.65	2.10	2.31	2.04	
	Unemployment Rate	7.46	7.76	7.84	7.47	
	Race-White	0.76	0.83	0.69	0.70	
	Race-Black	0.11	0.08	0.10	0.26	
	Race-API	0.12	0.06	0.19	0.01	
	Race-other	0.01	0.03	0.03	0.03	
	Hispanic	0.59	0.81	0.58	0.12	
	30-day SNAP Participation	0.19	0.20	0.22	0.28	
	30-day SNAP Amount	238	224	217	240	
	Food Insecurity	0.22	0.16	0.17	0.20	
	2009	Male	0.52	0.48	0.46	0.34
		Age	35	39	41	38

Year	Variable	Recent Immigrant Parents	Long-term Immigrant Parents	Citizen Immigrant Parents	US-Born Parents
	Household Size	4.3	4.8	4.6	4.0
	Owns Home	0.22	0.39	0.54	0.45
	Urban	0.91	0.94	0.96	0.75
	Married	0.75	0.72	0.66	0.44
	Education (years)	11.2	10.1	12.1	12.5
	HH Income/Poverty	1.76	2.07	2.41	1.97
	Unemployment Rate	10.18	10.28	10.35	10.17
	Race-White	0.73	0.86	0.65	0.70
	Race-Black	0.08	0.06	0.16	0.26
	Race-API	0.18	0.05	0.18	0.01
	Race-other	0.01	0.03	0.01	0.03
	Hispanic	0.57	0.82	0.50	0.11
	30-day SNAP Participation	0.20	0.21	0.17	0.32
	30-day SNAP Amount	270	257	262	265
	Food Insecurity	0.19	0.19	0.18	0.20
2010	Male	0.62	0.50	0.44	0.34
	Age	35	39	42	37
	Household Size	4.3	4.8	4.6	4.0
	Owns Home	0.12	0.39	0.51	0.43
	Urban	0.97	0.93	0.94	0.75
	Married	0.80	0.70	0.67	0.43
	Education (years)	11.5	9.9	12.2	12.6
	HH Income/Poverty	1.69	2.05	2.34	1.97
	Unemployment Rate	10.52	10.79	10.46	9.68
	Race-White	0.65	0.83	0.65	0.70
	Race-Black	0.10	0.08	0.15	0.26
	Race-API	0.23	0.07	0.18	0.01
	Race-other	0.02	0.01	0.02	0.03
	Hispanic	0.52	0.81	0.50	0.13
	30-day SNAP Participation	0.30	0.22	0.21	0.36
	30-day SNAP Amount	234	259	261	266
	Food Insecurity	0.22	0.14	0.12	0.16

Source: Analysis of CPS-FSS Data.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants.

**A.3. Table III.1. Log of SNAP Benefit Amount During the Economic Downturn, Controlling for Householder and Household Characteristics, OLS Regression Results**

	Log (SNAP Benefit Amount per Person)
<b>Immigrant Status</b>	
Recent Immigrants	-0.551***
Long-term Immigrants	-0.512***
Naturalized Immigrants	-0.202***
<b>Householder Characteristics</b>	
Age	0.036***
Age Squared	-0.000***
Black	0.381***
Hispanic	0.020
Asian/Pacific Islander	-0.171**
Other Race	0.516***
Years of Education	-0.076***
<b>Household Characteristics</b>	
Single Female	0.175***
Single Male	-0.413***
Married, Two-Parent	-0.609***
Size	0.252***
Owns Home	-0.704***
Urban Area	-0.135***
<b>Other Controls</b>	
2009	0.136***
2010	0.279***
Constant	1.401***

Source: Current Population Survey Food Security Supplement, 2008–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. (N=4,394)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.3. Table III.2. Log of SNAP Benefit Amount, By Macro-Economic Conditions, Controlling for Householder and Household Characteristics, OLS Regression Results**

	Log(SNAP Benefit Amount per Person)
<b>Immigrant Status</b>	
Recent Immigrants	-0.751***
Long-term Immigrants	-0.578***
Naturalized Immigrants	-0.204***
<b>Difference-in-Difference Terms</b>	
Economic Downturn	0.217***
Economic Downturn * Recent Immigrants	0.175***
Economic Downturn * Long-term Immigrants	0.083**
Economic Downturn * Naturalized Immigrants	-0.005
<b>Householder Characteristics</b>	
Age	0.031***
Age Squared	-0.000***
Black	0.380***
Hispanic	0.038
Asian/Pacific Islander	-0.040
Other Race	0.464***
Years of Education	-0.070***
<b>Household Characteristics</b>	
Single Female	0.308***
Single Male	-0.225***
Married, Two-Parent	-0.395***
Size	0.228***
Owns Home	-0.693***
Urban Area	-0.151***
<b>Other Controls</b>	
Constant	1.167***

Source: Current Population Survey Food Security Supplement, 2003–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. (N=10,688)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.3. Table III.3. Log of SNAP Benefit Amount During the Economic Downturn, By State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results**

	Log(SNAP Benefit Amount per Person)
<b>Immigrant Status</b>	
Recent Immigrants	-0.305***
<b>Difference-in-Difference Terms</b>	
Inclusive State	0.024
Recent Immigrants * Inclusive State	0.308**
<b>Householder Characteristics</b>	
Age	0.006
Age Squared	0
Black	-0.015
Hispanic	-0.097
Asian/Pacific Islander	-0.324***
Other Race	-0.033
Years of Education	-0.01
<b>Household Characteristics</b>	
Single Female	0.304*
Single Male	-0.407***
Married, Two-Parent	-0.089
Size	0.340***
Owns Home	-0.150**
Urban Area	-0.025
Income	-0.503***
Employed	-0.345***
<b>Other Controls</b>	
2009	0.042
2010	0.123
Constant	1.421**

Source: Current Population Survey Food Security Supplement, 2008–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. Households with only naturalized immigrants are not included. (N=2,965)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.3. Table III.4. Log of SNAP Benefit Amount, By Macro-Economic Conditions and State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results**

	Log(SNAP Benefit Amount per Person)
<b>Immigrant Status</b>	
Recent Immigrants	-0.255***
<b>Difference-in-Difference Terms</b>	
Economic Downturn	0.253***
Economic Downturn * Recent Immigrants	-0.068
Inclusive State	-0.062
Recent Immigrants * Inclusive State	0.158*
Economic Downturn * Inclusive State * Recent Immigrants	0.197
<b>Householder Characteristics</b>	
Age	0.011
Age Squared	0
Black	0.038
Hispanic	-0.036
Asian/Pacific Islander	-0.199***
Other Race	-0.034
Years of Education	-0.011
<b>Household Characteristics</b>	
Single Female	0.232
Single Male	-0.357***
Married, Two-Parent	-0.067
Size	0.276***
Owns Home	-0.174***
Urban Area	-0.009
Income	-0.431***
Employed	-0.526***
<b>Other Controls</b>	
Constant	1.195***

Source: Current Population Survey Food Security Supplement, 2003–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. Households with only naturalized immigrants are not included. (N=7,503)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.4. Table III.3. SNAP Participation, SNAP Benefit Amount, and Food Insecurity During the Economic Downturn, By State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results, Omitting Household Income or Employment Rate Controls**

	SNAP Participation	SNAP Benefit Amount per Person	Low or Very Low Food Security
<b>Immigrant Status</b>			
Recent Immigrants	-0.028	-11.098***	0.040
<b>Difference-in-Difference Terms</b>			
Inclusive State	0.003	0.356	0.033**
Recent Immigrants * Inclusive State	0.050*	17.489***	-0.005
<b>Householder Characteristics</b>			
Age	-0.004	-0.602	0.008**
Age Squared	0.000	0.003	-0.000***
Black	-0.013	-6.462	0.061
Hispanic	-0.024	-14.060*	0.059*
Asian/Pacific Islander	-0.076***	-17.663***	-0.088***
Other Race	0.043	28.178	0.136
Years of Education	-0.006***	-1.287***	-0.006***
<b>Household Characteristics</b>			
Single Female	0.112***	24.881***	-0.048
Single Male	-0.057**	-12.221**	-0.117***
Married, Two-Parent	-0.021	-5.503	-0.093**
Size	0.042***	13.102***	0.023***
Owens Home	-0.077***	-17.620***	-0.056***
Urban Area	-0.004	-7.863	0.030
<b>Other Controls</b>			
2009	0.012	6.143*	0.032*
2010	0.028	10.269	0.017
Constant	0.260**	55.140**	0.164***

Source: Current Population Survey Food Security Supplement, 2008–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. Households with only naturalized immigrants are not included. (N=2,965)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.4. Table III.4. SNAP Participation, SNAP Benefit Amount, and Food Insecurity, By Macro-Economic Conditions and State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results, Omitting Household Income or Employment Rate Controls**

	SNAP Participation	SNAP Benefit Amount per Person	Low or Very Low Food Security
<b>Immigrant Status</b>			
Recent Immigrants	-0.054***	-9.378***	-0.007
<b>Difference-in-Difference Terms</b>			
Economic Downturn	0.047***	16.339***	0.065***
Economic Downturn * Recent Immigrants	0.017	-3.699	0.049*
Inclusive State	-0.013	-3.911	0.030*
Recent Immigrants * Inclusive State	0.038**	6.103*	0.015
Economic Downturn * Inclusive State * Recent Immigrants	0.022	13.909**	-0.026
<b>Householder Characteristics</b>			
Age	-0.003	-0.371	0.008***
Age Squared	0	0.002	-0.000***
Black	0.003	-2.288	0.076***
Hispanic	-0.014	-9.727	0.067***
Asian/Pacific Islander	-0.035**	-10.092***	-0.067***
Other Race	0.022	22.588	0.292***
Years of Education	-0.006***	-1.056***	-0.007***
<b>Household Characteristics</b>			
Single Female	0.098***	21.947***	-0.002
Single Male	-0.054**	-9.158**	-0.080***
Married, Two-Parent	-0.022	-3.587	-0.045*
Size	0.033***	10.020***	0.022***
Owns Home	-0.075***	-16.535***	-0.078***
Urban Area	-0.004	-4.032	0.017
<b>Other Controls</b>			
Constant	0.224***	33.496**	0.111**

Source: Current Population Survey Food Security Supplement, 2003–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. Households with only naturalized immigrants are not included. (N=7,503)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.



**A.5. Table III.3. SNAP Participation and Food Insecurity During the Economic Downturn, By State Policy, Controlling for Householder and Household Characteristics, Logistic Regression Marginal Effects Results**

	SNAP Participation	Low or Very Low Food Security
<b>Immigrant Status</b>		
Recent Immigrants	-0.042**	0.031
<b>Difference-in-Difference Terms</b>		
Inclusive State	0.004	0.034*
Recent Immigrants * Inclusive State	0.051	-0.003
<b>Householder Characteristics</b>		
Age	0.001	0.014***
Age Squared	0	-0.000***
Black	-0.001	0.080*
Hispanic	-0.006	0.074*
Asian/Pacific Islander	-0.064***	-0.087**
Other Race	-0.015	0.101
Years of Education	-0.003**	-0.004***
<b>Household Characteristics</b>		
Single Female	0.043	-0.077**
Single Male	-0.100***	-0.124***
Married, Two-Parent	-0.015	-0.083**
Size	0.050***	0.033***
Owens Home	-0.039***	-0.032**
Urban Area	0.005	0.035
Income	-0.084***	-0.054***
Employed	-0.068***	-0.070***
<b>Other Controls</b>		
2009	0.009	0.030*
2010	0.027	0.015

Source: Current Population Survey Food Security Supplement, 2008–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. Households with only naturalized immigrants are not included. (N=2,965)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.5. Table III.4. SNAP Participation and Food Insecurity, By Macro-Economic Conditions and State Policy, Controlling for Householder and Household Characteristics, Logistic Regression Marginal Effects Results**

	SNAP Participation	Low or Very Low Food Security
<b>Immigrant Status</b>		
Recent Immigrants	-0.071***	-0.011
<b>Difference-in-Difference Terms</b>		
Economic Downturn	0.034***	0.057***
Economic Downturn * Recent Immigrants	0.039	0.045
Inclusive State	-0.012	0.031**
Recent Immigrants * Inclusive State	0.057***	0.014
Economic Downturn * Inclusive State * Recent Immigrants	-0.001	-0.025
<b>Householder Characteristics</b>		
Age	0.001	0.013***
Age Squared	0	-0.000***
Black	0.013	0.098***
Hispanic	0.002	0.082***
Asian/Pacific Islander	-0.032**	-0.072***
Other Race	-0.027	0.267***
Years of Education	-0.003**	-0.005***
<b>Household Characteristics</b>		
Single Female	0.022	-0.039***
Single Male	-0.088***	-0.088***
Married, Two-Parent	-0.017	-0.037*
Size	0.039***	0.034***
Owns Home	-0.036***	-0.049***
Urban Area	0.002	0.022
Income	-0.075***	-0.061***
Employed	-0.095***	-0.072***

Source: Current Population Survey Food Security Supplement, 2003–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. Households with only naturalized immigrants are not included. (N=7,503)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.6. Table III.3. SNAP Participation, SNAP Benefit Amount, and Food Insecurity During the Economic Downturn, By State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results, Mexican and Central American Immigrant Parents Excluded from Sample**

	SNAP Participation	SNAP Benefit Amount per Person	Low or Very Low Food Security
<b>Immigrant Status</b>			
Recent Immigrants	-0.002	-5.653	0.007
<b>Difference-in-Difference Terms</b>			
Inclusive State	0.012	-1.703	-0.001
Recent Immigrants * Inclusive State	0.04	16.956	0.033
<b>Householder Characteristics</b>			
Age	0.010*	2.857**	0.018***
Age Squared	-0.000**	-0.031***	-0.000***
Black	0.003	-2.873	0.092**
Hispanic	0.074	7.459	0.122***
Asian/Pacific Islander	-0.074***	-16.172***	-0.076***
Other Race	-0.007	17.954	-0.356***
Years of Education	-0.008***	-2.137***	-0.012***
<b>Household Characteristics</b>			
Single Female	0.113*	30.789***	-0.041
Single Male	-0.02	2.645	-0.085
Married, Two-Parent	0.014	7.797	-0.036
Size	0.090***	27.062***	0.047***
Owens Home	-0.040**	-12.126***	-0.078**
Urban Area	-0.029	-16.905	0.002
Income	-0.107***	-31.683***	-0.052***
Employed	-0.063**	-9.606	-0.044
<b>Other Controls</b>			
2009	0.03	12.897**	0.053***
2010	0.063***	20.004***	0.058***
Constant	0.007	-8.735	0.002

Source: Current Population Survey Food Security Supplement, 2008–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. Mexican and Central American immigrants are excluded. Households with only naturalized immigrants are not included. (N=1,572)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.6. Table III.4. SNAP Participation, SNAP Benefit Amount, and Food Insecurity, By Macro-Economic Conditions and State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results, Mexican and Central American Immigrant Parents Excluded from Sample**

	SNAP Participation	SNAP Benefit Amount per Person	Low or Very Low Food Security
<b>Immigrant Status</b>			
Recent Immigrants	-0.032**	-2.645	-0.011
<b>Difference-in-Difference Terms</b>			
Economic Downturn	0.045***	18.237***	0.055*
Economic Downturn * Recent Immigrants	0.01	-6.208	0.03
Inclusive State	0.014	1.014	0.031**
Recent Immigrants * Inclusive State	0.015	0.09	-0.011
Economic Downturn * Inclusive State * Recent Immigrants	0.032	16.108	0.013
<b>Householder Characteristics</b>			
Age	0.010***	2.177***	0.017***
Age Squared	-0.000***	-0.025***	-0.000***
Black	0.01	-2.233	0.102***
Hispanic	0.035	-1.182	0.083***
Asian/Pacific Islander	-0.042***	-12.062***	-0.057***
Other Race	-0.017	12.881	0.108
Years of Education	-0.007***	-1.465**	-0.008***
<b>Household Characteristics</b>			
Single Female	0.074**	19.423***	-0.026
Single Male	-0.026	-1.959	-0.060*
Married, Two-Parent	0.011	5.44	-0.032
Size	0.070***	20.076***	0.045***
Owns Home	-0.064***	-14.310***	-0.058**
Urban Area	-0.005	-7.341	-0.023
Income	-0.089***	-22.836***	-0.061***
Employed	-0.115***	-21.796***	-0.044***
<b>Other Controls</b>			
Constant	0.044	1.661	0.004

Source: Current Population Survey Food Security Supplement, 2003–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. Households with only naturalized immigrants are not included. Mexican and Central American immigrants are excluded. (N=3,677)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.7. Table III.3. SNAP Participation, SNAP Benefit Amount, and Food Insecurity During the Economic Downturn, By State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results, Households with Naturalized Immigrant Parents Included in Sample**

	SNAP Participation	SNAP Benefit Amount per Person	Low or Very Low Food Security
<b>Immigrant Status</b>			
Recent Immigrants	-0.092***	-20.577***	0.026
Long-term Immigrants	-0.040***	-4.224	-0.005
<b>Difference-in-Difference Terms</b>			
Inclusive State	0.003	1.144	0.040**
Recent Immigrants * Inclusive State	0.056	16.497*	-0.01
Long-term Immigrants * Inclusive State	0.003	-1.319	-0.003
<b>Householder Characteristics</b>			
Age	0.002	0.394	0.013***
Age Squared	0	-0.009*	-0.000***
Black	0.011	3.232	0.062**
Hispanic	0.013	-1.788	0.084***
Asian/Pacific Islander	-0.046**	-10.797***	-0.061***
Other Race	-0.02	16.51	0.231***
Years of Education	-0.003*	-0.21	-0.002
<b>Household Characteristics</b>			
Single Female	0.009	1.645	-0.064*
Single Male	-0.103***	-21.198***	-0.100***
Married, Two-Parent	-0.061***	-12.241***	-0.094**
Size	0.061***	18.073***	0.035***
Owens Home	-0.067***	-11.438***	-0.02
Urban Area	-0.008	-2.646	0.042*
Income	-0.092***	-24.659***	-0.058***
Employed	-0.104***	-18.951***	-0.085***
<b>Other Controls</b>			
2009	0.006	4.438**	0.008
2010	0.031**	9.896**	-0.009
Constant	0.381***	68.309***	0.133**

Source: Current Population Survey Food Security Supplement, 2008–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. Immigrants who are naturalized citizens are included in the sample. (N=4,394)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.7. Table III.4. SNAP Participation, SNAP Benefit Amount, and Food Insecurity, By Macro-Economic Conditions and State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results, Households with Naturalized Immigrant Parents Included in Sample**

	SNAP Participation	SNAP Benefit Amount per Person	Low or Very Low Food Security
<b>Immigrant Status</b>			
Recent Immigrants	-0.089***	-16.995***	-0.019
Long-term Immigrants	-0.021	-4.494	-0.012
<b>Difference-in-Difference Terms</b>			
Economic Downturn	0.047***	10.824***	0.065***
Economic Downturn * Recent Immigrants	-0.004	-2.667	0.032
Inclusive State	-0.018	-3.212	0.006
Recent Immigrants * Inclusive State	0.039	3.857	0.034
Economic Downturn * Inclusive State *	0.027	14.672**	-0.026
Recent Immigrants			
Economic Downturn * Long-term Immigrants	-0.018	1.232	0.002
Long-term Immigrants * Inclusive State	-0.004	-3.629	0.032
Economic Downturn * Inclusive State *	0.018	4.822	-0.022
Long-term Immigrants			
<b>Householder Characteristics</b>			
Age	0.004*	0.738**	0.012***
Age Squared	-0.000**	-0.012***	-0.000***
Black	0.01	2.011	0.087***
Hispanic	0.009	-2.912	0.071***
Asian/Pacific Islander	-0.029*	-7.943***	-0.065***
Other Race	0.04	13.333	0.209***
Years of Education	-0.003***	-0.356**	-0.004***
<b>Household Characteristics</b>			
Single Female	0.013	2.939	-0.027*
Single Male	-0.080***	-15.034***	-0.074***
Married, Two-Parent	-0.040***	-6.605*	-0.052***
Size	0.054***	15.220***	0.037***
Owens Home	-0.060***	-10.376***	-0.048***
Urban Area	-0.006	-1.486	0.023
Income	-0.084***	-20.928***	-0.063***
Employed	-0.131***	-24.218***	-0.077***
<b>Other Controls</b>			
Constant	0.313***	53.544***	0.133***

Source: Current Population Survey Food Security Supplement, 2003–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. Immigrants who are naturalized citizens are included in the sample. (N=10,688)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.8. Table III.3. SNAP Participation and SNAP Benefit Amount During the Economic Downturn, By State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results, Control for Food Insecurity Included**

	SNAP Participation	SNAP Benefit Amount per Person
<b>Immigrant Status</b>		
Recent Immigrants	-0.048***	-15.971***
<b>Difference-in-Difference Terms</b>		
Inclusive State	0.001	0.232
Recent Immigrants * Inclusive State	0.050*	17.043**
<b>Householder Characteristics</b>		
Age	0	0.397
Age Squared	0	-0.008
Black	-0.001	-2.957
Hispanic	-0.014	-11.449*
Asian/Pacific Islander	-0.053***	-12.100**
Other Race	-0.028	9.994
Years of Education	-0.003*	-0.337
<b>Household Characteristics</b>		
Single Female	0.068*	13.756*
Single Male	-0.069**	-15.204**
Married, Two-Parent	-0.01	-3.322
Size	0.059***	18.082***
Owns Home	-0.034***	-5.865**
Urban Area	0.002	-6.159
Income	-0.087***	-24.348***
Employed	-0.070***	-13.381***
Low or Very Low Food Security	0.073***	12.997***
<b>Other Controls</b>		
2009	0.008	5.197
2010	0.024	9.17
Constant	0.250**	52.554**

Source: Current Population Survey Food Security Supplement, 2008–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. (N=2,965)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.

**A.8. Table III.4. SNAP Participation and SNAP Benefit Amount, By Macro-Economic Conditions and State Policy, Controlling for Householder and Household Characteristics, OLS Regression Results, Control for Food Insecurity Included**

	SNAP Participation	SNAP Benefit Amount per Person
<b>Immigrant Status</b>		
Recent Immigrants	-0.056***	-10.156***
<b>Difference-in-Difference Terms</b>		
Economic Downturn	0.034***	13.657***
Economic Downturn * Recent Immigrants	0.003	-6.79
Inclusive State	-0.015	-4.086
Recent Immigrants * Inclusive State	0.032*	4.755
Economic Downturn * Inclusive State * Recent Immigrants	0.027	14.869**
<b>Householder Characteristics</b>		
Age	0.001	0.679
Age Squared	0	-0.01
Black	0.013	0.187
Hispanic	-0.005	-7.708
Asian/Pacific Islander	-0.025	-8.008**
Other Race	-0.043	7.922
Years of Education	-0.003*	-0.292
<b>Household Characteristics</b>		
Single Female	0.045	10.004
Single Male	-0.067***	-12.117**
Married, Two-Parent	-0.015	-1.928
Size	0.049***	14.391***
Owns Home	-0.035***	-6.743***
Urban Area	0.002	-2.392
Income	-0.076***	-19.844***
Employed	-0.107***	-21.330***
Low or Very Low Food Security	0.070***	11.834***
<b>Other Controls</b>		
Constant	0.241***	37.094**

Source: Current Population Survey Food Security Supplement, 2003–2010.

Note: The sample is restricted to households with children, with income < 185% of poverty, without a missing householder, who are not missing SNAP benefits, who are not missing food security status, and do not contain only refugee immigrants. (N=7,503)

The models also include region fixed effects. The standard errors are clustered at the state level.

\*Significantly different from zero at the .10 level, two-tailed [or one-tailed] test.

\*\*Significantly different from zero at the .05 level, two-tailed [or one-tailed] test.

\*\*\*Significantly different from zero at the .01 level, two-tailed [or one-tailed] test.



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