

# The Labor Supply Response to Food Stamp Access

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## Abstract

Welfare reform in 1996 dramatically reduced immigrants' eligibility for Food Stamps, creating a new disparity in access between immigrants and natives. Subsequent policies restored eligibility for most immigrants at different times in different states, and this paper uses these changes to estimate the effect of the program on the labor supply of a specific, policy-relevant population. The Food Stamp program is among the largest safety net programs today, and my analysis provides one of the first quasi-experimental estimates of the effects of the modern Food Stamp program on adult labor supply. I find strong evidence of labor supply disincentives, and the magnitude and margin of this response varies across demographic groups. Access to the program reduces the employment rates of single women by about 6%, whereas married men continue to work but reduce their hours of work by 5%. These findings confirm the predictions of traditional labor supply theory regarding the response to a means-tested program.

**JEL Codes:** H31, J22

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# 1 Introduction

Rising immigration in the U.S., coupled with the fact that foreign-born individuals participate in safety net programs at higher rates on average than natives, led to concern over the costs associated with immigration in the 1990s (Borjas, 2003). Partly in reaction to this, welfare reform (the Personal Responsibility and Work Reconciliation Act of 1996) created a new “bright line” in eligibility for the Food Stamp program between immigrants and natives in the U.S., by making most documented immigrants ineligible for the program (Bitler and Hoynes, 2013).<sup>1</sup> In response, Food Stamp participation among foreign-born individuals fell dramatically (Haider et al., 2004).<sup>2</sup> Moreover, East (2016) documents that the restoration of eligibility, which occurred haphazardly at different times in different states in subsequent years, had large effects on the foreign-born’s participation in the Food Stamp program as well. In this paper, I build upon these findings to examine how the loss, and subsequent restoration of eligibility, affected immigrants’ labor supply.

Welfare reform was one of many policy changes in the 1990s that dramatically altered the landscape of the safety net. These changes limited traditional welfare, which discouraged work, and expanded the Earned Income Tax Credit, which encouraged work by targeting those with labor earnings. As a result of these changes, Food Stamps has become increasingly important for families, as it remains one of the only universal, means-tested safety net programs available to workers and non-workers alike.<sup>3</sup> Today, Food Stamps is one of the largest safety net programs; one out every seven individuals received benefits from the program in 2011 (Moffitt, 2013). However, the means-tested nature of Food Stamps creates disincentives to work; families with no income are entitled to a benefit guarantee, and for every additional dollar in income the family receives, the benefit amount is reduced (by less than one dollar) until income reaches a high enough level that they become ineligible for benefits. This creates an implicit tax on earnings, so, standard labor supply theory predicts disincentives to work due to the substitution effect from the lower net wage, as well as the income effect of the benefit guarantee. This has raised concerns about the moral hazard costs of the program among policy-makers and economists (Mulligan, 2012).

Quantifying the magnitude of these disincentive “costs” of the program, as well as

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<sup>1</sup>In 2008, Food Stamps was renamed the Supplemental Nutrition Assistance Program, “SNAP”, but I use the term Food Stamps throughout.

<sup>2</sup>Some researchers suggested this may have been in part due to a “chilling effect” (Fix and Passel, 1999). “Chilling effects” refer to changes in participation among groups whose program eligibility did not change, but who face an “icy” policy climate that deters their participation (Watson, 2014).

<sup>3</sup>As part of welfare reform, time limits on benefit receipt were introduced for “Able-Bodied Adults Without Dependents”—working-age adults without children. These restrictions are relaxed in times of high unemployment as they were in the Great Recession.

the “benefits” of the program, is crucial for optimal policy design. Despite this, the literature on the labor supply effects of Food Stamps is “exceedingly modest” (Moffitt, 2002), because Food Stamps, unlike many other safety net programs, is a federal program with little variation in benefit amounts or eligibility rules across geographic locations or over time. This paper utilizes the variation in eligibility generated by the immigrant-specific policy changes to provide one of the first quasi-experimental estimates of the labor supply effects of the modern program. One limitation of utilizing these policy changes to identify the labor supply effects of Food Stamps is that immigrants are only a subset of all Food Stamp recipients. However, prior to welfare reform a significant portion (10%) of all Food Stamp recipients were foreign-born.<sup>4</sup> Additionally, understanding the consequences of these immigrant-specific policy changes is inherently important, because immigrants are a large fraction of the working-age population—about 12% in 2009—so these policies may have had an important impact on aggregate labor supply (Kandel, 2011).

Many of the previous estimates of the effects on labor supply rely on comparing the labor supply of participants to similar non-participants. These estimates may be biased even after controlling for observables, if there are unobservable differences between these two groups that affect labor supply and program participation decisions (Currie, 2003). The first quasi-experimental study is by Hoynes and Schanzenbach (2012), who use the county by county introduction of the program in the 1960-70s to estimate the effects of program access on labor supply. They find reductions in labor supply, which are largest for low-educated single mothers, who participate in the program at very high rates. However, major changes have taken place over time in the Food Stamp program and other safety net programs as well as overall labor supply, especially among women, so the effects of the modern program may be very different. One recent paper uses modern state changes in application procedures and eligibility rules as instruments for participation and finds participation may increase labor supply among some groups (Stacy, Scherpf and Jo, 2016), but these policy changes had mostly small effects on participation (Ganong and Liebman, 2013; Ziliak, 2015).<sup>5</sup> All in all, how Food Stamps affect modern adult labor supply is still an open question.

For my analysis, I use the Current Population Survey (CPS) from 1995-2007. This data is well suited for my purposes in many ways, since it contains detailed demographic information, as well as measures of program participation and labor supply. However, due to changes in the questionnaire over time, I cannot include additional pre-welfare-reform years

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<sup>4</sup>Author’s calculation using the Food Stamp Quality Control data, described in more detail below.

<sup>5</sup>The papers using this latter methodology examine a variety of effects of the program and are summarized by Hoynes and Schanzenbach (2015).

before 1995. I focus on the labor supply response of individuals ages 16-59, whose head of household has a high school education or less, as these families are more likely to be affected by the eligibility changes. The policy variation creates differences in eligibility that depend on state, year and location of birth (foreign or not), as well as the year of immigration among the foreign-born. I utilize two specifications that take advantage of this rich variation. The first is a double difference model that only includes foreign-born individuals subject to the eligibility changes. This approach relies on variation within immigrants across states and over time. The second specification is a triple difference model that adds U.S.-born adults as a control group, and allows me to include state by year fixed effects, so that identification relies only on differential changes among immigrants relative to natives, across states and over time.

The common practice in the labor supply literature is to explore differences in labor supply elasticities across groups defined by gender and marital status (Blau and Kahn, 2007) and I take the same approach here. One of the unique aspects of Food Stamps, relative to other means-tested programs in the U.S., is that all families meeting the income test are eligible regardless of their marital status or the presence of children. 17% of all program benefits go to married couples, and married couples are an even larger group of *foreign-born* recipients, because the low-educated foreign-born are much more likely to be married than their low-educated native counterparts.<sup>6</sup> Therefore, in my analysis, I separately examine the labor supply effects for married men, married women, single women, and single men.

I find, consistent with theory, when immigrants are made eligible for Food Stamps they reduce their labor supply, and the magnitude of this reduction and the margins of response differ across demographic groups. When eligible, single women are less likely to work at all by about 6%. On the other hand, married men's extensive margin adjustments to labor supply are indistinguishable from zero and, instead, married men reduce labor supply along the intensive margin by working 5% fewer hours when eligible. I find mixed evidence regarding the responses among married women, which is similar to past work on female immigrants' labor supply (Borjas, 2003; Kaushal, 2010). The results are consistent across the double and triple difference models and are robust to including a variety of controls for other changes occurring across states and over time in the sample period. Finally, falsification tests on single men, who participate in the program at very low rates, as well as natives and a subgroup of immigrants exempt from the eligibility restrictions, all indicate there were no similar changes in labor supply for these "untreated" groups.

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<sup>6</sup>Authors calculation using the Food Stamp Quality Control Data.

The rest of the paper proceeds as follows. In section (2) I detail the background information about the Food Stamp program, the expected effects of Food Stamps on labor supply, and the prior literature. Next, I describe the data I use in section (3) and my empirical strategy in section (4). Section (5) describes the results and section (6) concludes.

## 2 Background

### 2.1 The Food Stamp Program

The Food Stamp program, renamed the Supplemental Nutrition Assistance Program (SNAP) in 2008, is a federal program and its benefit amounts are determined as a function of family income and family size. Most simply, Food Stamps is intended to allow families to maintain a minimum level of adequate nutrition assuming that families will spend 30% of their total income on food. Families with income below 130% of the poverty line are eligible for a maximum benefit amount, which is a function of family size, minus 30% of (adjusted) family income:<sup>7</sup>

Benefit Amount =

$$\text{Max Benefit}(\text{Number Eligible in Family}) - .30 * [\text{Family Income}]$$

Usually all members of the household are eligible, but as discussed in more detail below, the restrictions on immigrants' eligibility caused changes in the number of eligible household members among households with foreign-born individuals. Given this policy design, a family that meets the eligibility requirements will lose \$0.30 for every additional dollar of income so the "Benefit Reduction Rate" is 30%. These eligibility rules and benefit amounts are set nationally and have varied little since the program began. I describe the eligibility rules and benefit calculations in more detail in the Appendix.

### 2.2 Expected Effects and Prior Literature

To fix ideas about the expected effects on labor supply, I first consider the effects of the program on the labor supply incentives of a single earner family. As shown in Table (1), single women make up the majority of participants in the Food Stamp program: 67% of all participating households and 57% of participating foreign-born non-citizen households.<sup>8</sup>

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<sup>7</sup>The poverty line in 2014 was \$19,790 for a family of three. In 2014, the maximum monthly benefits for a family of 3 were about \$500 and the average benefits received were roughly \$100 below the maximum.

<sup>8</sup>Tabulations are from the Food Stamp Quality Control, which contains detailed demographic and economic information for a nationally representative sample of households participating in Food Stamps. This

It is also evident from this data that among immigrants, married couples are a much more significant fraction of Food Stamp participants relative to natives (35% of all participating households relative 13%.) Therefore, I also consider the theoretical predictions of Food Stamps on married couples labor supply below.

For the single earner case, I show the effects of the program on the individual's budget constraint and utility maximization in Figure (1). Without Food Stamps, the individual could earn a wage of  $w$  and chooses an amount of leisure  $L$ . The budget constraint is represented by the line from  $CDL_{max}$ . When Food Stamps are introduced, the budget constraint shifts upward to  $CDA'$ . At  $L = L_{max}$ , the individual does not work and receives the maximum Food Stamp benefit amount  $G$ . The wage is reduced by the Benefit Reduction Rate (BRR), causing the budget constraint to shift, so the slope of the new portion is  $-w(1 - BRR)$ . The individual receives Food Stamp benefits up until the point when their income exceeds the eligibility threshold—point D.

The availability of Food Stamp benefits increases families' total resources, so labor supply is predicted to decline due to the income effect. Additionally, the shift in the budget constraint due to the lower effective wage rate, will cause labor supply to decline due to the substitution effect. Together, the income and substitution effects predict unambiguously that among single earner families there will be reductions in labor supply both on the extensive and intensive margins when the Food Stamp program is available. To see these margins of response, consider an individual at point A when the program is not available. When the program is made available to them, they will reduce labor supply to zero and receive the maximum Food Stamp benefit amount—point A'. On the other hand, individuals working more beforehand—at point B—will reduce their labor supply and receive some Food Stamp benefits, but continue to work an amount greater than zero—point B'.

However, eligibility and benefit amounts are based on total *family* income, and since married couples are a significant fraction of immigrant families that participate in Food Stamps, I also consider the labor supply response among married couples. To understand the expected effects among married couples, I consider a traditional model of married couples' labor supply where the husband is the primary earner and ignores the wife's income when making his labor supply decision. The wife is the secondary earner and takes the husband's earnings as given when making her labor supply decision. Given that only 42% of married foreign-born non-citizen women work, it is likely that the husband is the primary earner in

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data provided online by Mathematica. Patterns of participation are similar in the ASEC supplement to the March CPS.

these households.<sup>9</sup> Again, considering the case where Food Stamps become available, the husband will respond the same way the single earner did, and he will reduce his labor supply along both the extensive and intensive margins, due to the income and the substitution effects. After the husband makes his labor supply decision, the wife takes the husband's earnings and any Food Stamp benefits the family may be eligible for as given when making her labor supply decision. If the husband's earnings alone make the family eligible for the program, then the wife will face the same labor supply disincentives as in the single earner case. Since the rates of work among these married women is very low on average, it is possible the labor supply disincentives will be smaller in magnitude relative to married men and single women. In the results that follow I separately examine the labor supply effects for married men, married women, and single women, since the effects may be different for these different groups. I also examine the effects on single men, however, this group participates in the Food Stamp program at very low rates—only 9% of foreign-born non-citizen households participating in Food Stamps are headed by a single male, as shown in Table (1)—so the effects on their labor supply should be negligible.

The existing empirical literature on the labor supply effects of Food Stamps is limited. The first quasi-experimental research documented declines in labor supply when the Food Stamp program was introduced in the 1960-70s (Hoynes and Schanzenbach, 2012). Several earlier papers use structural models to estimate the effect of Food Stamps on single women's labor supply, primarily in the 1980s, when the program was still relatively new. For example, Fraker and Moffitt (1988) use this method to estimate the effect of Food Stamps and AFDC on hours worked by single women and find among participants there is a one hour reduction in work per week (a 9% reduction off the mean). However, as discussed in Currie (2003), without accounting for the endogeneity of the participation decision, these estimates may be biased. Alternatively, Hagstrom (1996) takes advantage of variation in family-level food stamp benefit amounts, due to non-labor income and deductions for expenses, to identify the effects of Food Stamps on married couples' labor supply. In response to changes in the benefit guarantee or the benefit reduction rate, he finds small labor supply disincentives for married couples, relative to the magnitude of the estimated disincentives for single women, and larger disincentives for married women relative to married men. More recently, Stacy, Scherpf and Jo (2016) use state-level changes in eligibility rules and application requirements in the 1990s and 2000s as instruments for Food Stamp participation, and the author's find evidence of a *increase* in labor supply.<sup>10</sup> This increase is only present among "Able-Bodied Adults without

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<sup>9</sup>Author's calculation from the CPS.

<sup>10</sup>Specifically, these policies include changes in the income reporting requirements, asset tests, online applications, and expansion of eligibility through Broad-Based Categorical Eligibility.

Dependents” (called “ABAWD”s by the USDA) and there is mixed evidence of an effect for other adults. ABAWDs are in most cases subject to work requirements in order to qualify for benefits and the authors attribute their result to these work requirements.<sup>11</sup> Therefore, my paper fills an important gap in the literature by providing quasi-experimental estimates of the labor supply disincentive effects in response to a recent, large change in Food Stamp access, and separately estimating these effects for different demographic groups. I describe the immigrant-specific policy changes I use next.

## 2.3 Food Stamp Eligibility Changes for Immigrants

I focus on a series of federal and state laws governing immigrants’ eligibility for Food Stamps enacted between 1996 and 2002 that turn eligibility “off” and then back “on”. These laws provide a very rich source of variation, both across native and foreign-born individuals, as well as within foreign-born individuals based on state, year, and year of arrival to the U.S. and have been used previously to identify the effects of Food Stamps on children’s health (East, 2016). I describe these policy changes in detail next.

As part of welfare reform (the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, “PRWORA”) eligibility for many safety net programs was drastically restricted for immigrants. All immigrants who had moved to the U.S. prior to 1996, whom I call “pre-PRWORA” immigrants, were effectively prevented from receiving Food Stamp benefits. Similarly, all immigrants who moved to the U.S. after 1996, whom I call “post-PRWORA” immigrants, were prevented from receiving Food Stamp benefits, as well as Medicaid, Supplemental Security Income (SSI), and Temporary Assistance for Needy Families (TANF, formerly Aid to Families with Dependent Child, AFDC) for at least their first five years of residence in the U.S.. To isolate the effect of Food Stamps on labor supply, I restrict the analysis to pre-PRWORA immigrants.<sup>12</sup> Several subgroups of pre-PRWORA immigrants were exempt from the restrictions on Food Stamp eligibility: those who had worked in the U.S. for 40 quarters or more, those who had served in the military, or those who were refugees, asylees, or naturalized citizens. In what follows, I define “treated immigrants” as the pre-PRWORA immigrants who were not in any of these exempt groups and this is my main group of interest.<sup>13</sup>

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<sup>11</sup>See Appendix for more details about ABAWD-specific rules.

<sup>12</sup>Eligibility for SSI was limited for non-disabled, elderly pre-PRWORA immigrants. However, since I focus on working-aged adults, this is likely unimportant for my sample. Additionally, the State Children’s Health Insurance Program (SCHIP) did not exist until 1997, but all pre-PRWORA immigrants were eligible once it was created.

<sup>13</sup>Due to data restrictions, in the analysis I do not condition the sample based on veteran, refugee or asylee status. However, I conduct falsification tests on pre-PRWORA immigrants that likely met the 40 quarters



The first restorative policies were enacted by states using their own funds. I call the states that restored benefits “Fill-In” states, and I define a state as a Fill-In state if it provided benefits to immigrant children and their parents, without requirements beyond the federal eligibility requirements for non-immigrants.<sup>14</sup> This is a slightly more restrictive definition than has been used in the previous literature, so I test the robustness of my findings to alternative definitions. These Fill-In states were California, Connecticut, Maine, Massachusetts, Minnesota, Nebraska, Rhode Island, Washington and Wisconsin. I call the other 41 states and the District of Columbia the “No-Fill-In” states. The nine Fill-In states began their “fill-in” programs between in 1998 and 1999, shown in Figure (2). Then, the final policy change occurred with the passage of the 2002 Farm Security and Rural Investment Act (Farm Bill), which restored eligibility federally to all treated immigrants in the spring of 2003.<sup>15</sup> I show a time line of these events and how they affected immigrants’ eligibility in Figure (3).

While I focus on foreign-born adults for my analysis, and examine how eligibility affects their labor supply, about half of this sample have at least one child and 90% of these children were born in the U.S.<sup>16</sup> This is important because U.S.-born children, who are citizens, remain eligible for the program even when immigrants lose eligibility, so families with U.S.-born children could still receive benefits. Moreover, any foreign-born children were made eligible as part of the Agriculture, Research Extension and Education Reform Act in 1998. However, when the number of eligible members in the household falls, the benefit amount also falls. For example, for a family of 3, with one citizen child and two ineligible immigrant parents, benefits could fall by almost 66% (\$2400 annually in 1998). Additionally, the income of ineligible immigrants was discounted by the share that they represented in the household when determining the benefit amount.<sup>17</sup> So, for the family of three described above, the income of the parents would be discounted by two-thirds. This changes the benefit reduction

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of work requirement. Most undocumented immigrants and those on temporary visas (such as students) were never eligible for Food Stamps and were therefore unaffected by these policy changes.

<sup>14</sup>For example, some states required that immigrants apply for citizenship after receiving Food Stamp benefits, and I do not consider these states to be Fill-in states. I define the presence of a fill-in program based on information from the USDA SNAP Policy Database, the California Department of Social Services, and Bitler and Hoynes (2013). For post-PRWORA immigrants, states could provide fill-in programs for TANF, SSI, Food Stamps, and Medicaid and as a robustness check I control for these other fill-in programs.

<sup>15</sup>This discussion drawn primarily from Capps (2004), Zimmermann and Tumlin (1999) and Bitler and Hoynes (2013).

<sup>16</sup>Author’s calculation from the CPS.

<sup>17</sup>This discounting made it such that when benefits were restored to this group, some families may have actually experienced a reduction in benefits or elimination of benefits if the parents’ earnings were substantially large. Anecdotal evidence suggests that this was extremely rare— in one Texas region 5% of mixed citizenship households had benefits decline and 6% had benefits stay the same (Swarns, 1997). Discussion of these rules taken from Fix and Zimmermann (2001) and Capps (2004).

rate as follows:

$$\textit{Benefit Reduction Rate} = \left(1 - \frac{\textit{Number of Ineligible Immigrants}}{\textit{Number in Family}}\right) * 0.30$$

Therefore, in theory, when immigrants lose eligibility, the change in labor supply incentives will be smaller among households with children, than those made up exclusively of the foreign-born. However, the fall in the benefit amount for families with children is very large, so in practice these families may behave as if they have lost eligibility entirely, if the small benefit amounts no longer outweigh the costs of participating (Daponte, Sanders and Taylor, 1999). Existing evidence indicates the latter may be the case (Van Hook and Balistreri, 2006), so to simplify the analysis I focus on how *adults* eligibility affects labor supply outcomes and do not differentiate between families with and without children. I test the validity of this simplification empirically by examining if families continue to participate, but receive lower benefit amounts, when they become ineligible and find little evidence this occurs.<sup>18</sup>

Several papers looked at the consequences of welfare reform on program participation. Fix and Passel (1999) documented declines in average participation in many safety net programs—not just Food Stamps—following welfare reform, that were larger for foreign-born individuals relative to native-born. This finding spurred a large literature on the potential “chilling effects” of welfare reform on immigrants’ safety net participation (see for example: (Borjas, 2004; Kandula et al., 2004)). However, further work found that accounting for differences in demographics between foreign and native-born, as well as differences in the effect of state economic conditions on the foreign-born, explain the differential decline in participation among immigrants relative to natives for all programs except Food Stamps (Haider et al., 2004).

Borjas (2003) looks at the downstream effects of welfare reform on labor supply and finds that male labor supply among all immigrants, regardless of their year of entry, increased after welfare reform and attributes this to the loss in Medicaid eligibility for post-PRWORA immigrants. Borjas finds a negligible effect on the labor supply of female immigrants. However, as Borjas notes, public health insurance was not the only program for which eligibility was restricted for post-PRWORA immigrants. Similarly, Kaushal (2010) examines changes in the labor supply of elderly immigrants before and after welfare reform, and finds an increase in male labor supply following welfare reform that she attributes to changes in SSI eligibility.<sup>19</sup> Kaushal finds no evidence of large responses by women overall, but does find

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<sup>18</sup>Additionally as a robustness check I restrict the sample to individuals with no children.

<sup>19</sup>Kaushal argues that the 40 quarters of work requirement imposed on SSI eligibility for the elderly incentivized work and delayed retirement. It is possible that the treated immigrants in my sample also

suggestive evidence that women’s responses differed by whether they lived with other family members: the responses of women living alone were more similar to that of men.

More generally, recent evidence from Borjas (2016) suggests that immigrants and natives labor supply elasticities are not identical and, in particular, the wage elasticity of labor force participation and hours worked is smaller for immigrants than natives. Moreover, this difference between immigrants and natives is larger for men than women. Similarly, Cadena and Kovak (2016) find that immigrants are more geographically mobile in response to a labor supply shock than natives are, which suggests that immigrants adjust on margins besides work in response to changes in wages. Therefore, I expect the effects of Food Stamps on immigrants to be slightly smaller than the effects would be on natives and that this difference may be larger for men than women.

### 3 Data

For my analysis I use the 1995 to 2007 Current Population Survey (CPS), which is a nationally representative repeated cross-sectional survey conducted every month on about 60,000 households (Ruggles, 2010). Importantly for my analysis, the survey collects information about the country of birth of all individuals, and the year of arrival to the U.S. and citizenship status for all foreign-born.<sup>20</sup> However, this information is only available in more recent years of the survey, so one limitation of my data set is that I only observe one pre-welfare-reform year.<sup>21</sup> Additionally, in each month the CPS asks whether each adult in the household was working in the week before the survey.

I conduct additional analysis with two supplements to the CPS that collect more detailed information than the monthly surveys. First, I use the Annual Social and Economic Supplement (ASEC), which asks about household Food Stamp receipt in the past 12 months, to examine participation in the program and the dollar amount of benefits received. The ASEC has a slightly larger sample size than each monthly survey—roughly 130-200,000 house-

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increased their labor supply in a desire to reach this 40 quarters requirement.

<sup>20</sup>The citizenship information includes whether the individual is a naturalized citizen or not a citizen. I follow Van Hook (2003) and recode individuals as non-citizens if they have been in the U.S. for fewer than 5 years because most legal permanent residents must live in the U.S. for 5 years before applying for citizenship. I do not observe whether immigrants are documented or undocumented. This may introduce some noise in my analysis because undocumented immigrants are typically not eligible for Food Stamps and make up an estimated 25% of all foreign born in the U.S. (Passel, Capps and Fix, 2002).

<sup>21</sup>1994 was the first year the ASEC asked about country of birth and year of immigration for all individuals, however, the weights provided by the ASEC were not fully adjusted to account for immigrants until 1996. See Schmidley and Robinson (1998) for more detail about the comparability of information about the foreign-born over time.

holds are in each ASEC, however it is only conducted annually with most interviews occurring in March. Second, I use the “Outgoing Rotation Groups” (ORG) sample, which, in addition to the basic information in the monthly CPS, also includes information about hours of work and earnings for individuals in a subset of households. The CPS surveys households for 4 months, then the households are not surveyed for 8 months and then they are surveyed again for 4 months before being removed permanently from the sample. The ORG sample is only those households in their 4th or 8th month of being interviewed.

I create several variables to measure the labor supply response. To measure extensive margin decisions, I construct a variable equal to one if the individual is working in the week before the survey, which is collected in every monthly survey. From the ORG, I use information on the “usual” hours worked per week at the time of the survey as a continuous variable and I construct a measure of full-time and part-time work if the individual is working more than 35 and 20 hours per week, respectively.<sup>22</sup>

I define individuals as treated immigrants if they are foreign-born, moved to the U.S. in 1996 or before, and had been in the U.S. less than 15 years prior to being surveyed. Natives are those born in the U.S.. If the family is a married couple, I restrict both adults to be either natives or treated immigrants. I keep only heads of household or spouses aged 16 to 59, whose head of household has a high school education or less, because these disadvantaged families are most likely to be affected by the policy changes (the head of household is male, unless no male adult is present.) Because I focus only on heads and wives, I assume all the individuals in my sample were treated as adults, and subject to the rules regarding adults, rather than children, when their Food Stamp eligibility was determined. However, I test the robustness of this assumption below. I further restrict the treated immigrant group to be those in which the adult woman in the family is a non-citizen. I do this under the assumption that women are more likely to make decisions about family program participation than men.<sup>23</sup> For single male treated immigrants, I keep those where the single male is not a citizen.

Among the treated immigrant samples I do not restrict on the country of birth of the children in order to maximize sample size, so in families with U.S.-born children, when immigrants lose eligibility, the children remain eligible for the program.<sup>24</sup> Even though the

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<sup>22</sup>Information about hours of work and earnings are only asked of those reporting to currently work and is implicitly assumed to be zero for those reporting not currently working. The ASEC collects information on annual labor supply measures, however as eligibility is changing frequently across states and years and Food Stamp eligibility is based on monthly income, labor supply last week or “usually” is likely a better measure of the response to the policy changes than annual measures of labor supply, so I only use the ASEC for analysis of the effects of eligibility on program participation.

<sup>23</sup>This is similar to Watson (2014) and I test the robustness of the results to this assumption.

<sup>24</sup>And similar with foreign-born children after 1998.

family could still receive Food Stamp benefits, because the number of eligible members in the household falls, the maximum benefit amount the family is eligible for also falls.<sup>25</sup> This may result in slightly different labor supply incentives for families with and without children born in the U.S.. However empirically this difference is likely to be negligible because families in which some children remain eligible experience very large cuts in benefit generosity that may be “as good as” losing eligibility for the program (Van Hook and Balistreri, 2006). Therefore, the measure of eligibility in my analysis is based on the adults’ eligibility for the program and ignores the eligibility of children in the family as follows:<sup>26</sup>

$$Elig = \begin{cases} 0 & \text{if Individual is Ineligible Treated Immigrant based on state and year} \\ 1 & \text{if Individual is Eligible Treated Immigrant based on state and year} \\ & \text{or Native} \end{cases}$$

Because of the sample construction, if the individual is married, then their spouse will have the same value for the eligibility measure.

Food Stamp participation rates in 1996 are shown for different demographic groups in Table (2) based on gender, marital status and head of household’s education. As expected individuals in households where the head has more than a high school education participate at much lower rates, motivating my focus on these low-educated households. Among these low-educated households, married couples and single female treated immigrants participated at higher rates than their native counterparts, but the opposite is true for single men. Rates of participation were high among low-educated treated immigrants prior to welfare reform—22% of treated immigrant married couples, and 41% of treated immigrant single females, participated in the program—so the eligibility changes likely had large effects on the outcomes of these groups. Conversely only 7% of single men participated in the program suggesting their outcomes should be affected little by the policy changes.

Summary statistics are displayed in Table (3) and shown separately for married men, married women, single women, and single men. The average education level is much lower among all groups of treated immigrants, relative to all groups of natives, and treated immigrants are more likely to be Asian or Hispanic than natives. Comparing average labor supply, married men, single women, and single men work at similar rates to natives, but the labor

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<sup>25</sup> Additionally, in these households the income of foreign-born family members is discounted by the share they represent in the household when calculating the benefit amount.

<sup>26</sup> Because these outcomes refer to either the week prior to the survey or the time of the survey, the measure of Food Stamp eligibility is constructed using information on the eligibility rules in place at the beginning of the month prior to the month of the survey.

supply among married women is much lower in the treated immigrant group, possibly due to differences in gender norms between the two groups (Blau, Kahn and Papps, 2011).

I merge onto the CPS data information about the states’ unemployment rates from the Bureau of Labor Statistics, whether the state “filled-in” other programs for post-PRWORA immigrants, changes to Food Stamp application procedures and eligibility rules, whether the state had an EITC program, income eligibility cutoffs for Medicaid and SCHIP for children by state, and the timing of welfare reform or waivers within each state.<sup>27</sup> These data allow me to control for economic conditions and other safety net generosity during my sample period, which may affect labor supply outcomes. I also include several proxies for state’s attitudes regarding immigrants that may be important for determining program participation (Watson, 2014). I follow Bronchetti (2014) and use two measures of attitudes: 1) the fraction of individuals reporting they would like immigration decreased from the American National Election Studies (ANES), and 2) the number of deportation court cases divided by the foreign-born population from Transactional Records Access Clearinghouse (TRAC) Immigration Reports.<sup>28</sup>

## 4 Empirical Strategy

To examine the effects of changes in eligibility on program participation and labor supply I begin with a double difference model. This uses variation in the state of residence and year of survey to identify the effects, among treated immigrants aged 16-59, whose head of household has a high school education or less, as follows:

$$Y_{ist} = \alpha + \beta Elig_{st} + \gamma_1 X_{ist} + \gamma_2 Z_{st} + \nu_s + \lambda_t + \epsilon_{ist} \quad (1)$$

where  $Y_{ist}$  is the outcome of interest for individual  $i$  in state  $s$  observed in time  $t$ . Here  $Elig_{st}$  is equal to one if the adults in the family are eligible for Food Stamps. I control for state fixed effects,  $\nu_s$ , to absorb time invariant characteristics of the state that might affect the outcomes of interest, as well as time fixed effects,  $\lambda_t$ , to absorb national shocks to these outcomes over

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<sup>27</sup>Information on other Food Stamp program changes—the frequency with which applications must be re-certified, whether in-person applications or re-certifications are required, state spending on outreach, broad based categorical eligibility, vehicle asset rules, and whether benefits are issued on debit cards—are from the USDA’s SNAP Policy Database. The EITC information came from the NBER TAXSIM. The Medicaid/SCHIP income eligibility cutoffs were obtained from Hoynes and Luttmer (2011) and supplemented with information from the National Governor’s Association. The information about fill-in states comes from Bitler and Hoynes (2013).

<sup>28</sup>The ANES only includes census region rather than state, so I assign the same values to all states within the same region. Additionally, the ANES information is only available in 1992, 1994, 1996, 1998, 2000, 2004, 2008 and 2012, so I linearly interpolate for the missing years.

time. For outcomes observed in the ASEC, the time fixed effects are simply year fixed effects. For outcomes observed in the basic monthly surveys and Outgoing Rotation Groups, the time fixed effects are year and calendar month fixed effects. In  $X_{ist}$  I include controls for individual characteristics including age, education, marital status, race/ethnicity, number of years in the U.S. for foreign-born adults, number of children, number of children under age 5, number of foreign-born children, and number of elderly household members.  $Z_{st}$  includes controls for the state unemployment rate in the year of the survey and the year before the survey, as well as controls for state safety net program generosity in the year of the survey.<sup>29</sup>

The coefficient  $\beta$  indicates how eligibility for Food Stamps affects the given outcome.  $Elig_{st}$  is a function of the eligibility of the adults in the family, regardless of where their children were born (U.S. or not) and depends only on the state of residence and time of observation. As shown in Figure (4), there were differences in eligibility both within states over time, as well as across the Fill-In and Non-Fill-In states, and I utilize all these changes in treated immigrants' eligibility to identify the effects. Because I measure the effect of *eligibility* on labor supply, these estimates capture the Intent to Treat effect, rather than the effect on those that participating in the program—the Treatment on the Treated effect. I discuss methods of calculating this latter effect below.

I can also include natives aged 16-59, whose household head has a high school education or less, as a control group in a triple difference model as follows:

$$Y_{istn} = \alpha + \beta Elig_{stn} + \gamma_1 X_{istn} + \gamma_2 Z_{st} + \gamma_3 Z_{st} * \theta_n + \nu_s + \theta_n + \lambda_t + \nu_{tn} + \mu_{sn} + \epsilon_{istn} \quad (2)$$

where  $n$  denotes whether the individual is in the treated immigrant group or the native control group. To account for inherent differences between immigrants and natives, I include a dummy variable indicating if the individual is in the treated immigrant group,  $\theta_n$ . Similarly, I control for state by treated immigrant ( $\mu_{sn}$ ) and year by treated immigrant ( $\nu_{tn}$ ) fixed effects. I also include the state by year controls described above, as well as these measures interacted with treated immigrant status ( $Z_{st} * \theta_n$ ), since economic conditions and state safety net programs may affect immigrants differently than natives (Haider et al., 2004; Bronchetti, 2014). I can also drop the state by year control variables and instead include state by year fixed effects, which will flexibly absorb any shocks to outcomes that occur across states and

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<sup>29</sup>Specifically I include the state's maximum welfare benefits in the survey year, and Medicaid and SCHIP generosity for children in the survey year, and whether the state had implemented welfare reform or an AFDC waiver in the survey year.

over time and affect natives and treated immigrants similarly. The identification in this model comes from differential changes in treated immigrants' outcomes relative to natives' outcomes that occur across states and over time.

The advantage of the triple difference model is that it allows me to absorb state specific changes in program participation and labor supply that affect treated immigrants and natives similarly. For example, if a state changes their policies related to low-income workers, at the same time they changed immigrants' Food Stamp eligibility, the double difference models may be biased, but the effects of these policy changes will be captured in the triple difference model in the state by year fixed effects. However, the disadvantage is that natives may not be an ideal control group for treated immigrants, so including natives in the estimates may bias my estimates rather than differencing out other changes that are occurring across states and over time. Therefore, in a series of robustness checks I estimate the double difference model including controls for other things that change across states and over time that may affect program participation or labor supply discussed in more detail below.

## 5 Main Results

### 5.1 Baseline Results

I begin by analyzing the effects of the eligibility changes on Food Stamp participation and benefits received from Food Stamps to verify that the changes in eligibility led to changes in access to the program. As the effects on labor supply may be different across demographic groups, I split the sample into married men, married women, single women and single men and show the results for each group in Table (4). For each demographic group, I present three estimates: one for the double difference model with state by time controls, one for the triple difference model with state by time controls, and one for the triple difference model with state by time fixed effects. Recall that some families in the sample have children born in the U.S., who remain eligible when immigrants lose eligibility, so these families may continue to participate but receive smaller benefit amounts when the adults become ineligible. Therefore, to begin I examine the effects on both participation in Panel A, and the dollar amount of benefits received in Panel B.

For low-educated married men and women, I find that eligibility leads to an increase in participation in the program, shown in columns (1) to (6).<sup>30</sup> Becoming eligible for the program increases participation by 4.2 percentage points ( $p < 0.01$ ) in the double difference

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<sup>30</sup>Since Food Stamp participation is defined at the family level in the ASEC, the results for participation are the same for married men and women.



model and the effects are similar in the triple difference models, even when state by year fixed effects are included. Given the mean participation rate of 14% for this sample, this is a large change in exposure to the program—an increase of about 31% when eligible. I find a positive but statistically insignificant effect on the benefit amount received, indicating the loss of eligibility primarily affected participation in the program and few married individuals continued to receive benefits and got lower amounts.

I find slightly larger effects of eligibility on participation for low-educated single women in columns (7) to (9). Single women increase participation by about 7.9 percentage points ( $p < 0.05$ ) in the double difference model and the estimate is similar in the triple difference models. Single women also participate in the program at higher rates, so the implied increase in participation is 26%. For single women, I do find evidence of statistically significant increases in benefit amounts upon eligibility of about \$275-335 (2009\$), so there may be some single women who continued to participate but received smaller benefit amounts. To get a sense of how much of the change in benefits received can be explained by the change in participation, I conduct a back of the envelope calculation similar to the method used in McDonald and Moffitt (1980) and Hastings and Washington (2010). I take the average benefit amount received by single women that participated in the program in 1996 (about \$2735 in 2009\$) and multiply this by the change in participation (8 percentage points). This indicates that the change in participation can explain \$218 of the change in benefits received for single women.<sup>31</sup> Overall I take this as evidence that the changes in eligibility can be interpreted as primarily affecting participation in the program for single women and married couples, with possibly some single women continuing to participate in the program and receiving lower benefit amounts. Furthermore, this indicates there are unlikely to be differences in labor supply disincentives between families with and without children born in the U.S., so for my main analysis I continue to include both groups of families in the sample to maximize the sample size and in the robustness checks section I explore this assumption in more detail.

I next estimate the effect of eligibility on the measure of the extensive margin of labor supply shown in Panel A of Table (5). The coefficients indicate a small reduction in the likelihood of working for married men of 1.7 percentage points, but this coefficient is not

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<sup>31</sup>This calculation assumes that the marginal single woman who changes participation in the program is the same as the average single woman who participates, which may not be the case. I also estimate the effect on the dollar amount of benefits received among those that participate in the program in Appendix Table (A.1). In interpreting the results for the subsample of program participators, it is important to keep in mind that there could be selection into this subsample that affects the estimates. I find a positive effect on the benefit amount received for single women that participate, and a negative effect for married couples, although most of these estimates are not statistically different from zero.

significant in any model. For married women, the effects are larger—the likelihood of working is reduced by 3 percentage points ( $p < 0.01$ ). Because I am interested in comparing the response of the different demographic groups to one another, I show the “percentage” effect in the table which takes the percentage point estimate of the effect of eligibility on labor supply and divides it by the sample mean, which is important because the demographic groups have different average levels of labor supply. The percent effect for married men is very small—2%—and much larger for married women—7%. The effect on work for single women is also significantly different from zero—the point estimates indicate a decline in work of 3.4 percentage points ( $p < 0.10$ ) when eligible, which, when scaled by the sample mean is 6%. As with the program participation analysis, the point estimates are very similar across the double and triple difference models, suggesting that unobserved factors that change within states and over time are not driving my estimates. Finally, low-educated single men provide a falsification test as they participate in the program at very low rates so are not likely to be affected by the eligibility changes and as shown in columns (10) to (12) of Tables (4) and (5), there is no effect of eligibility on single men’s program participation or labor supply.

These results indicate significant impacts of eligibility on the extensive margin of labor supply for single and married women, but negligible effects for single and married men. However, focusing only on the extensive margin of labor supply may not reveal the full labor supply effect, especially for married men, whose labor force attachment is very high and extensive labor supply elasticity is low (McClelland and Mok, 2012). Married men may therefore be more likely to adjust labor supply on the intensive margin rather than the extensive margin. To investigate the intensive margin responses, I turn to the ORG sample, which measures usual hours of work (including zeros), but has a smaller sample size than the monthly CPS. I examine the effects of eligibility on the hours worked for the different demographic groups in Panels B-D of Table (5).

Panel B displays the estimated effect on the usual weekly hours worked and Panels C and D show the effects on the likelihood of working full-time ( $\geq 35$  hours per week) or part-time ( $\geq 20$  hours per week), respectively. The smaller sample size results in less precise estimates, however, the point estimates indicate declines in hours worked among married men and single women. Married men reduce their weekly hours worked by 5%, and the likelihood of working full-time by 6% and part-time by 4%. Given that married men did not reduce labor supply along the extensive margin, this implies the reduction in hours worked is purely from the intensive margin. While the estimate is not statistically different from zero, single women appear to reduce hours worked by about 7-12%. For both married men and single women, the results are consistent across both the double and triple difference models.

There are no consistent changes in married women’s or single men’s hours of work.

It is also informative to think about total *family* labor supply among married couples and compare this to the response for single females. I restrict the sample to only include married couples and create variables indicating whether *any* spouse worked at all, worked full-time or worked part-time, as well as the total hours worked for both individuals. In Table (6) I display the results looking at each of these outcomes. There is a small reduction in the likelihood of having any spouse working and total hours worked are reduced by 5%, which is similar in magnitude to the effect on hours worked for single women. Similarly, being eligible for Food Stamps decreases the likelihood of either spouse working full-time by 7% or part-time by 6%. Overall, these results indicate that both married couples and single women responded to the changes in Food Stamp eligibility. The magnitude of the total hours response is similar across household types, however, the nature of these changes in hours were different across these two types of households.

## 5.2 Robustness Checks

A potential concern with the empirical strategy is that there are other things that change within states over time that affect labor supply and are correlated with the changes in Food Stamp eligibility. While the triple difference model with state by time fixed effects is reassuring that no such changes are occurring, this conclusion depends on the validity of natives as a control group for immigrants. Since natives may not be the ideal control group, I re-estimate the double difference model including controls for other things that changed across states and over time during this period.<sup>32</sup> I implement these checks for the estimates from the previous section that were significantly different from zero: the likelihood of married or single women working at all, the number of hours married men work, and the measures of joint labor supply for married couples.

I show the baseline double difference estimates for the individual measures of labor supply in column (1) of Table (7) and for the measures of married couples’ joint labor supply in column (1) of Table (8). First, I include controls for year of survey by month of survey, which absorb any national shocks to labor supply that occur within a given year. These results are shown in column (2) of Table (7) for the individual outcome measures and column (2) of Table (8) for the joint measures. Married women’s labor supply is sensitive to the inclusion of this more demanding set of fixed effects and when they are included the effect on married women’s work falls to zero. Similarly, total hours worked in married couples,

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<sup>32</sup>Recall in the double difference models I already include controls for the state unemployment rate, Medicaid/SCHIP generosity, AFDC/TANF generosity, and welfare reform or waivers.

and the likelihood that either spouse works at all in the week prior to the survey, become indistinguishable from zero when these controls are included. I therefore am cautious about concluding that married women’s labor supply is affected by Food Stamp eligibility. While, on the one hand, this may be surprising, since married women have a larger elasticity of labor supply than married men (Blundell and MaCurdy, 1999; Blau and Kahn, 2007), this is consistent with the previous findings of the effect of safety net programs on female labor supply (Kaushal, 2010). The effects on married men’s and single women’s labor supply are robust to these fixed effects, as is the likelihood that either spouse worked full or part-time in married couples.

Next, I check whether including controls for state’s labor force policies (state EITC and the state’s minimum wage), other fill-in programs that states implement for post-PRWORA immigrants, other changes the states made to their Food Stamp programs, and states’ attitudes towards immigrants affect the estimates. These checks are shown in columns (3) to (6) and none of these controls substantively alter the estimated effects. Additionally, if states are experiencing differential trends in immigrants’ labor supply over this time period, this may be important to account for, so in column (7) I include state linear time trends. This has a minimal effect on the estimates.

Finally, as I include individuals with children who remain eligible in the analysis above, a potential concern is that the effect cannot be interpreted as the effect of a change in eligibility. Therefore, I examine how the results change if I restrict the sample to treated immigrants who have no children, so the loss of immigrant eligibility causes the whole family to become ineligible for the program. In column (8) I find very similar effects as with the full sample, although some estimates are no longer statistically significant due to increases in the standard errors because of the smaller sample size. This indicates the response was very similar among families that lost eligibility entirely and those that did not.<sup>33</sup>

I also implement an “event study” style visual test of the changes in labor supply, however, due to data limitations, the ability to draw conclusions from this test are limited so I discuss these results in the Appendix.

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<sup>33</sup>Here I find reductions in labor supply for individuals that are likely considered ABAWDs, and therefore subject to time limits on benefit receipt and work requirements. One possible explanation for the discrepancy in my findings on ABAWDs relative to Stacy, Scherpf and Jo (2016) is that the margins of the labor supply response are different across the two papers. I focus on the short-term response in terms of weekly measures of labor supply, because the policy changes occur at the monthly level and Food Stamp eligibility is determined based on monthly income, whereas Stacy, Scherpf and Jo (2016) measure the longer-term labor supply response to Food Stamp participation at the annual level.

### 5.3 Magnitude of Effects

Overall, I find declines in labor supply in response to Food Stamp eligibility and the response is heterogeneous across demographic groups. Married couples primarily adjusted their labor supply by reducing the hours of work of the husband, with little evidence of a consistent change in the labor supply of the wives. On the other hand, single women appeared to reduce their labor supply by dropping out of the labor force. I next compare my estimates to previous estimates of these effects. All of the point estimates discussed previously were intent to treat (ITT) estimates as they measure the effects of *eligibility* on labor supply, rather than the effect of participation on labor supply. In order to compare my findings to previous findings estimated among participants, I calculate the treatment on the treated (TOT) effect among those that participated in the program. To do this I utilize the estimated change in participation, as well as the change in dollar amount of benefits received, to calculate the change in labor supply among participants and the change in labor supply per dollar of Food Stamp benefits received. The estimated effect of Food Stamps received is likely a lower bound of the true effect, however, because Meyer, Mok and Sullivan (2009) find only about 60% of families that participate in Food Stamps report receiving benefits in the CPS in my sample window. Therefore I rescale my estimates on Food Stamp participation and the dollar amount of benefits received by this estimate of under-reporting, and then use these inflated estimates to calculate the TOT effects. If all the effects operate through changes in participation, then my estimates imply married men who participate in the program reduced their hours of work by 24 hours (75%) and for single women there is a reduction in work of 44% among participants. Even though the estimated effects on hours worked of single women are not precise, much of the previous literature focuses on the effects of Food Stamps on total hours worked, so I also rescale these estimates and calculate a reduction in usual hours worked per week among single women participants of 8 hours per week (52%).

Hoynes and Schanzenbach (2012) estimate a treatment on the treated effect of 300-650 annual hours of work, or about 30-60% for single females. My estimated effect of 52% is similar. On the other hand, I find larger effects relative to the structural estimates in Fraker and Moffitt (1988). They document a reduction in hours worked of 1 hour per week among single female participants, whereas my point estimate indicates a reduction in work eight times as large among single female participants.

Another point of reference is to compare the implied elasticities of my estimates to other estimates of labor supply elasticities. I compare the estimated income elasticity for single women that I find here to the net-of-tax income elasticity estimated using the variation in the

Earned Income Tax Credit (EITC) among single mothers. The latter comes from changes in the EITC that occurred in the 1980s and 1990s, and as there have been changes over time in women's labor supply, these may be more a similar point for comparison. Given that single women experience an increase in net income of \$558 (after adjusting for under-reporting of Food Stamps) my estimates imply a labor force participation elasticity with respect to net of Food Stamp income of 1.4, which is similar to the upper bound of others' findings using the EITC to identify this parameter (Hotz, 2003).

Finally, I use a variety of estimates of the substitution and income elasticities for married men and single women to simulate what the expected labor supply response in terms of hours worked would be. I use the experimentally estimated elasticities from the Negative Income Tax Experiments reported in Robins (1985), as well as more modern, but not as well-identified, estimates of these elasticities summarized by McClelland and Mok (2012). I show these elasticities in Appendix Table (A.2) below. I use the estimated change in the Food Stamp benefits received, the fact that Food Stamps reduces the effective wage by 30%, and estimates of the average family income of these households from the ASEC to simulate the expected labor supply response to the Food Stamp program. The simulated results are very similar to the estimated results, although my estimates are closer to the upper bound of the simulated effects. With the National Income Tax Experiment estimates, the hours of work response for married men is predicted to be about 3% and for single women it is predicted to be 5%, similar to my estimates of 5 and 7%, respectively. Moreover, using the more modern estimates, I find the predicted hours response of married men to be about 2% and for single women about 6%, suggesting my estimates are similar to the expected labor supply response of the full population. However, since the labor supply elasticities of immigrants may be smaller than those of the general population, especially for men, it is a puzzle why my estimates for married men show responses slightly larger than would be predicted by labor supply elasticities estimated on the general population.

The estimates in this paper can be used to quantify the effects of the immigrant-specific eligibility changes on the overall employment rates in the late 1990s and early 2000s. To do this I conduct a back of the envelope calculation using the average rates of work among treated immigrants and other working-age adults, along with my point estimates indicating how much work changed among treated immigrants. With the CPS, I estimate that treated immigrants make up 3% of all working-age married men and 2% of working-aged single women over this time period. Assuming no change in the labor supply of groups besides the treated immigrants, I estimate the effect of the change in labor supply among treated immigrants on the employment to population ratios of single women and on the rates of

full-time work for married men.<sup>34</sup> I find that restricting immigrants' eligibility for Food Stamps resulted in an increase in the employment to population ratio of single women of 0.7 percentage points (1%) and an increase in the rate of full-time work among married men of 0.1 percentage points (0.1%).

## 5.4 Falsification Tests

I next examine if groups that should be unaffected by the policy changes experience similar changes in labor supply. To do this I assign eligibility to individuals in “untreated” groups based on their state and year as if they were subject to the changes in eligibility faced by treated immigrants. These “untreated” groups are: 1) natives with a high school education or less, 2) immigrants who came to the U.S. more than 15 years prior to being surveyed, and therefore likely met the 40 quarter eligibility requirement, with a high school education or less, and 3) treated immigrants with a college education or more.<sup>35</sup> I focus here on the measure of extensive margin labor supply, as this affords me the largest sample size.

As expected, I find no statistically or economically significant relationship between immigrants' eligibility and the labor supply of these untreated groups as shown in Table (9). All of this evidence suggests that there were no changes occurring across states and over time, besides the Food Stamp policy changes, that affected labor supply.

## 5.5 Effect on Other Program Participation

All the above estimates are the reduced form effects of the policy changes on labor supply, and there may be other responses to these policy changes besides changes in participation in the Food Stamp program that contribute to this total effect. For example, if the changes in eligibility were correlated with changes in participation in other safety net programs, then the estimated effects on labor supply would be interpreted as changes in access to many programs rather than just the Food Stamp program. This could happen for several reasons. First, changes in participation in one safety net program may be linked to changes in participation in other programs if the applications for several programs are linked or the office in which individuals apply is the same (Baicker et al., 2014). In addition, confusion about the

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<sup>34</sup>Specifically the calculation for the employment to population ratio (EPOP) is as follows: Total EPOP = (EPOP of Treated Immigrants)\*(Fraction of Working-age that are Treated Immigrants)+ (EPOP of Other)\*(Fraction of Working-age that are not Treated Immigrant). Where I calculate the average EPOPs in the CPS and assume the EPOP for treated immigrants changes according to the point estimates in Table (5). All other terms are fixed. The calculation is similar for the rates of full-time work.

<sup>35</sup>One possibility is that I could find a positive relationship with natives' labor supply if immigrants are substitutes for natives.

eligibility rules, fear of participation affecting immigration status, and complicated application procedures which require proof of immigration status may discourage participation in programs besides Food Stamps (Capps et al., 2004; Watson, 2014).

Therefore I examine this question empirically. I re-estimate the triple and double difference models and look at the effect of Food Stamp eligibility on participation in AFDC/TANF, SSI, Medicaid/SCHIP, and Free and Reduced Price Lunch in Appendix Table (A.3). I look at married couples and single women, since I found the largest effects on Food Stamp participation for these groups. The coefficients are generally small and not statistically different from zero, indicating that the effects on labor supply are not be driven by large changes in participation in other programs. The only exception to this is changes in participation in welfare among single mothers—the estimates indicate that the changes in Food Stamp eligibility may have also affected welfare participation among this group, and this may also contribute to the effects on labor supply. Importantly, there may be other responses to immigrants’ loss of eligibility for Food Stamps, such as increases in private charities (Royer, 2005; Hungerman, 2005) and any effect these other responses have on labor supply will be captured in my reduced form estimates.

## 5.6 Policy Endogeneity, Classification of Fill-In States, and Sample Selection

A related concern with the empirical strategy is that the decision to create a fill in program may be endogenous and there may be other changes occurring within states and over time that are related to this decision that also affect labor supply. East (2016) examines the relationship between time-varying and fixed state characteristics and the existence of a fill in program. There is no evidence that state’s fixed demographic or political characteristics predict a fill in program, however these would be absorbed by the state fixed effects even if they were correlated with decision. Additionally the presence of a fill in program is not correlated with changes in state’s economic conditions or safety net generosity over time.<sup>36</sup>

Nevertheless, I implement several checks to explore the sensitivity of the results to the inclusion of Fill-In states. First, almost 90% of treated immigrants living in Fill-In states

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<sup>36</sup>This is in contrast to the findings in Zimmermann and Tumlin (1999), who suggest there may be correlations between the state’s average income and safety net generosity and the decision to create a fill-in program. However, the author’s use a different definition of Fill-In states than I do here. Nevertheless, if states with these characteristics were trending differently in terms of program participation or labor supply, this may lead to biased estimates. I show the results are robust to including these state characteristics in 1990 interacted with trends shown in column (6) of Tables (10) and (11).



live in California, so to ensure that the estimates above are not being driven by something unique to California, I drop California from the sample in column (2) of Tables (10) and (11). For many of the outcomes the effect shrinks and becomes statistically insignificant from zero. However, the precision of the estimate is also reduced and the pattern of effects remains consistent even when California is excluded, which suggests that California is not the only driver of the main estimates.

However, there is still the potential that there are unobservable differences between the Fill-In and No-Fill-In states that are changing over time, separately from the Food Stamp policies, which are driving my results. The richness of the policy variation allows me to drop all the Fill-In states and re-estimate the double difference model identifying only off of changes within the No-Fill-In states over time. These results are shown in column (3) of Tables (10) and (11) and are very similar to the results obtained after only dropping California.

As discussed previously, I define Fill-In states as those that provided Food Stamp benefits to all adult immigrants, and had no requirements for eligibility beyond those imposed federally. This is a slightly more restrictive definition than that used by other authors (see for example: Zimmermann and Tumlin (1999)), so I test the robustness of my findings to two broader definitions of Fill-In states. The first broader definition includes any state that provided Food Stamps to pre-PRWORA immigrants, regardless of whether the state had eligibility requirements beyond the federal ones. Two states—Illinois and New Jersey—fall into this category, and classifying them as Fill-In states does not substantively change the results as shown in column (4) of Tables (10) and (11). The second broader definition addresses the fact that foreign-born children under 18 were subject to less severe restrictions on eligibility than foreign-born adults. In the main analysis, I assume all adults in my sample were all eligible under the adult rules, rather than the child rules, so I next test the robustness of my results to assuming teens were subject to the rules for children under 18. I do not expect this to greatly affect my results because the individuals in my sample are all household heads or their wives, so teens in the sample are not dependents, and therefore likely not considered “children under 18” when their eligibility was determined. In column (5) of Tables (10) and (11) I indeed find this change in modeling eligibility has a negligible effect on the results.<sup>37</sup>

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<sup>37</sup>Several states restored benefits to foreign-born children under age 18 and then federally eligibility was restored in 1998 as part of the Agriculture, Research Extension and Education Reform Act to these children who were also living in the U.S. at the passage of PRWORA. In the robustness check, I take account of both of these policy differences between teens and adults.

If immigrants are changing their behavior to avoid the changes in eligibility, either by applying to become citizens or through selective migration, this may cause selection into my sample and bias my results. I test for changes in citizenship and migration directly and find no consistent relationship between eligibility and citizenship in Table (A.5), or eligibility and the likelihood of moving in Table (A.6).<sup>38</sup>

I also test the robustness of my findings to an alternative definition of treated immigrants. In the main sample treated immigrant households are defined based on the adult woman’s citizenship unless there is no adult woman present. Here, I examine whether for married couples, conditioning on head’s citizenship status, instead of wife’s citizenship status, or conditioning the citizenship status of both spouses affects my estimates. As shown in Appendix Table (A.7), I find consistent estimates across these alternative citizen definitions.

## 6 Conclusion

This paper evaluates the effect of changes in immigrants’ eligibility for the Food Stamp program on their labor supply. The Food Stamp Program is currently one of the largest safety net programs in the U.S., however, very little is known about the labor supply disincentives of the program. Understanding both the costs and the benefits of this program are crucial for optimal policy analysis and the eligibility changes faced by immigrants provide a unique setting to estimate the labor supply disincentive costs of the program.

I investigate the heterogeneous labor supply response across married men and women as well as single individuals. I find that changes in immigrants’ eligibility for Food Stamps led to changes in labor supply among both married couples and single women, but that the specific labor supply responses are heterogeneous across these demographic groups. In particular, Food Stamp eligibility causes married men to reduce their hours of work, whereas single women reduce the likelihood of working at all. These findings are robust to controlling for other changes across states and over time, as well as the inclusion of natives as a control group in a triple difference model. I conduct a back of the envelope calculation and estimate that

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<sup>38</sup>The ASEC asks about the state of residence in the year prior to the survey so I can directly test if eligibility influences state to state migration. If immigrants are migrating to avoid the eligibility restrictions would I expect to see an increase in the likelihood of moving if the immigrant is in a No-Fill-In state. To do this I examine whether eligibility in year  $t - 1$  affects the probability of moving states between year  $t - 1$  and  $t$  as follows:

$$\Delta State_{ist} = \alpha + \beta Elig_{ist-1} + \gamma_1 X_{ist-1} + \gamma_2 Z_{st-1} + \nu_s + \lambda_t - 1 + \epsilon_{ist-1} \quad (3)$$

restricting immigrants' eligibility for Food Stamps resulted in an increase in the employment to population ratios of single women of 0.7 percentage points, and in the rate of full-time work among married men of 0.1 percentage points.

Quantifying the effects of the program are especially important today, as there have been several small cuts in program generosity in the past few years, with potentially more cuts on the horizon. The findings in this paper suggest that reductions in benefit generosity would increase employment rates among single women and the hours worked among married men. Any benefits of the program must be weighed against these labor supply disincentives when policy changes are considered.

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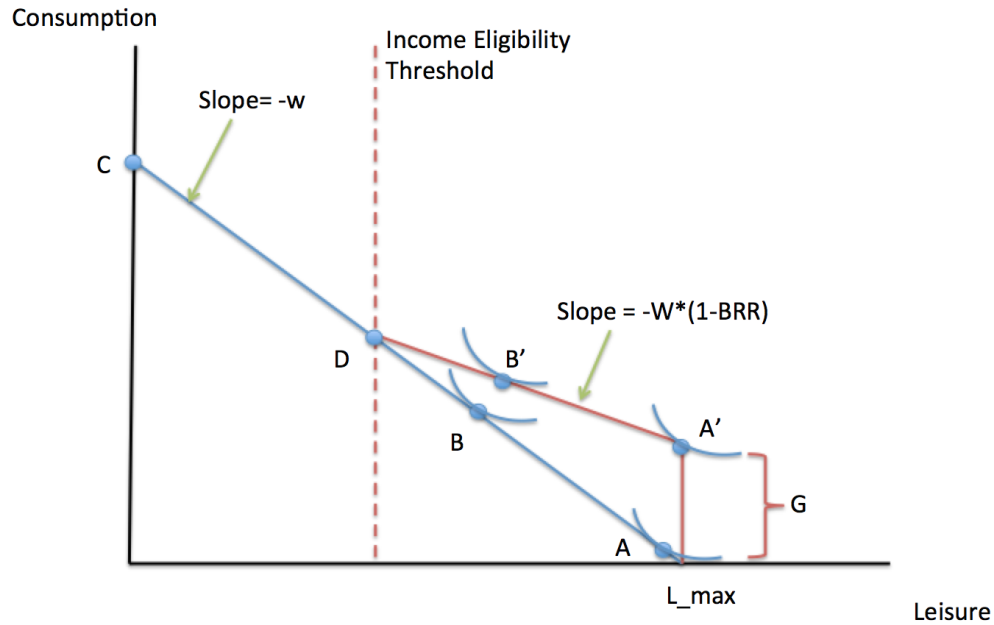
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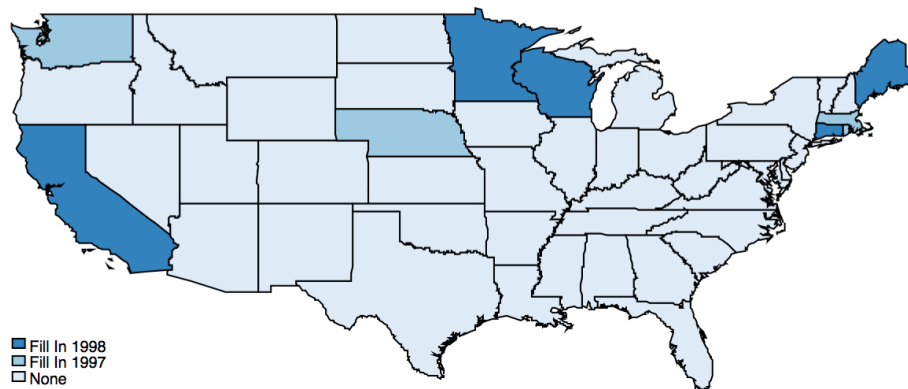
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**Figure 1: Predicted Effects**



**Figure 2: States that Chose to Fill In Food Stamps for Immigrants**

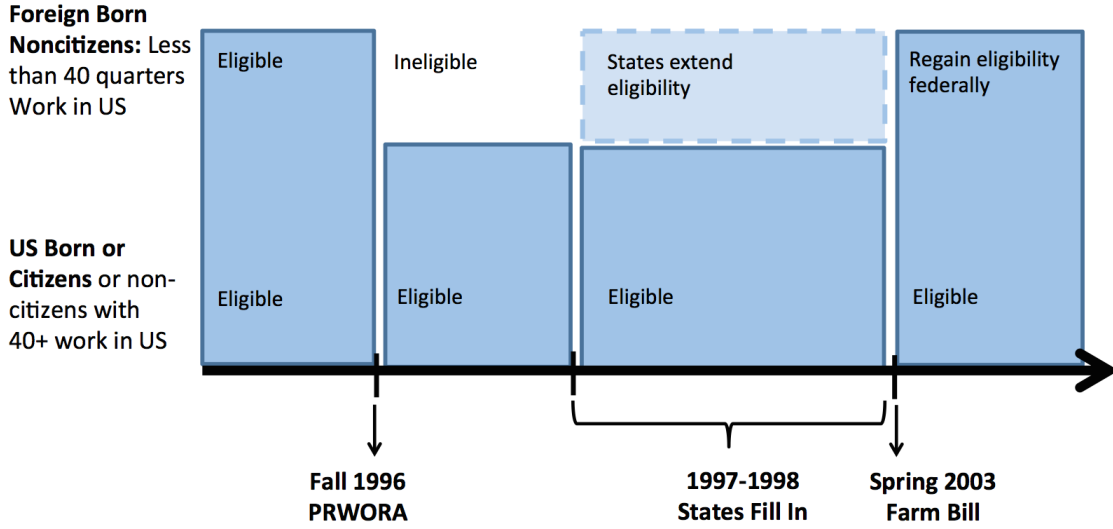


Notes: States are classified based on their availability of a Food Stamp fill-in program in December of a given year. Only fill-in programs that provided benefits to children and their parents are included here. Fill-in programs for the elderly are not included. In addition states that provided fill-in programs but had additional eligibility requirements above and beyond the federal ones are not counted as fill-in states. See text for more details.

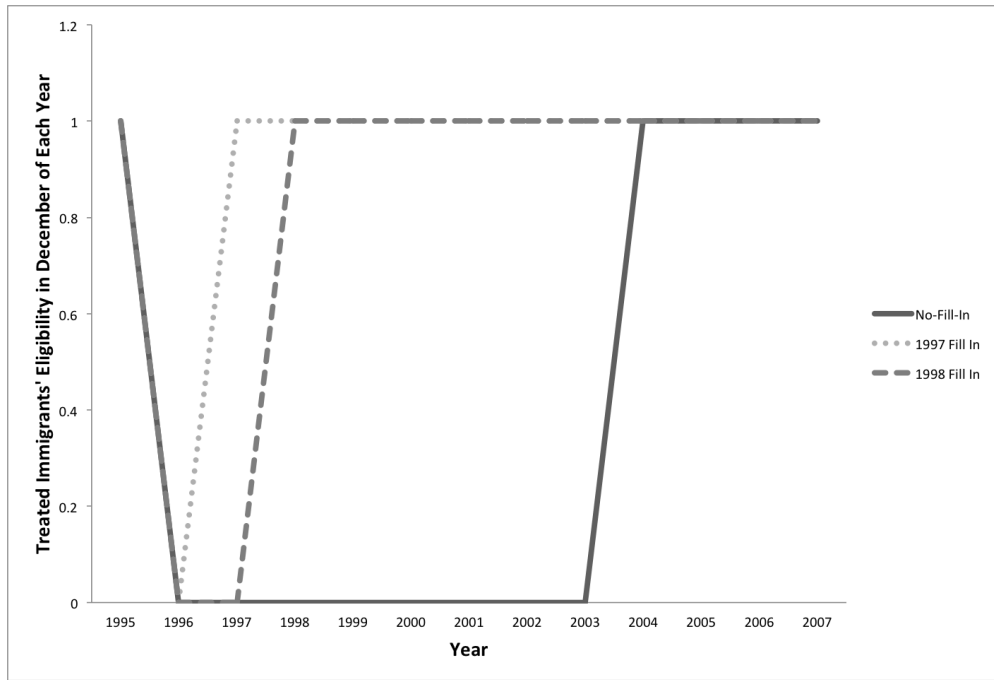


**Figure 3: Eligibility for Food Stamps**

**Individuals' Characteristics**



**Figure 4: Eligibility for Food Stamps by State**



Notes: States are classified based on their availability of a Food Stamp fill-in program in December of a given year. Only fill-in programs that provided benefits to children and their parents are included here. Fill-in programs for the elderly are not included. In addition states that provided fill-in programs but had additional eligibility requirements above and beyond the federal ones are not counted as fill-in states. See text for more details.

**Table 1:** Composition of Pre-PRWORA Food Stamp Participants

	Married Men & Women	Single Women	Single Men
1996 Food Stamp Quality Control Data			
All	0.17	0.67	0.16
Foreign-Born Non-Citizen	0.35	0.57	0.09
Natives	0.13	0.69	0.17

Notes: Data are from the Food Stamp Quality Control Data for Fiscal Year 1996. The sample is adults aged 16 to 59 who received Food Stamp benefits. Foreign-Born Non-Citizens are those whose head of household and spouse, if present, are foreign-born. Moreover, Non-Citizens are those in which the female (if present, otherwise the male) is a non-citizen. Natives are individuals born in the U.S.. The results are weighted using the Quality Control provided weights.

**Table 2:** Pre-PRWORA Food Stamp Participation (1995-1996 ASEC)

	Treated Immigrants				Natives			
	Married Men	Married Women	Single Women	Single Men	Married Men	Married Women	Single Women	Single Men
Head has High School Education or Less	0.22	0.22	0.44	0.07	0.07	0.07	0.34	0.12
Head's has More than High School	0.07	0.07	0.14	0.03	0.02	0.02	0.12	0.03

Notes: Data are from the 1996 Current Population Survey. The sample is adults aged 16 to 59. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. Natives are individuals born in the U.S.. The results are weighted using the CPS provided family weights.

**Table 3:** Summary Statistics

	Treated Immigrants						Natives			
	Married Men	Married Women	Single Women	Single Men	Married Men	Married Women	Single Women	Single Men	Married Women	Married Men
<b>Demographics (Monthly CPS)</b>										
Age	36	34	35	32	42	40	39	38		
White	0.81	0.80	0.71	0.77	0.89	0.89	0.65	0.78		
Black	0.05	0.05	0.16	0.11	0.11	0.10	0.33	0.19		
Asian	0.12	0.13	0.11	0.09	0.00	0.00	0.00	0.01		
Hispanic	0.76	0.74	0.68	0.72	0.06	0.06	0.08	0.07		
Number of Kids Under 5	0.74	0.74	0.49	0.17	0.33	0.33	0.28	0.08		
Total Number of Kids	1.8	1.8	1.3	0.3	1.0	1.0	0.8	0.2		
Number of Kids Born Outside U.S.	0.6	0.6	0.3	0.0	.	.	.	.		
Number People Age 65+	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.03		
Less than High School	0.65	0.63	0.63	0.59	0.20	0.13	0.28	0.24		
Year of Entry into U.S.	1990	1991	1990	1991	.	.	.	.		
<b>Labor Supply Variables</b>										
Work Last Week (Monthly CPS)	0.89	0.43	0.60	0.85	0.87	0.71	0.66	0.76		
Hours Work Usually (ORG)	33	13	16	30	30	21	19	24		
Whether Work 35+ Hours (ORG)	0.77	0.29	0.35	0.70	0.72	0.44	0.41	0.56		
Whether Work 20+ Hours (ORG)	0.81	0.35	0.42	0.76	0.74	0.55	0.50	0.61		

Notes: Data are from the 1995-2007 Current Population Survey. The sample is adults aged 16 to 59 whose head of household has a high school education or less. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. Natives are individuals born in the U.S.. The results are weighted using the CPS provided individual weights.

**Table 4:** Effect of Eligibility on Food Stamps Received

	Married Men			Married Women			Single Women			Single Men		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>A: FS Participation</i>												
Elig for Food Stamps	0.042*** (0.016)	0.040** (0.016)	0.035* (0.018)	0.042*** (0.016)	0.040** (0.016)	0.035* (0.018)	0.079** (0.038)	0.085** (0.041)	0.078* (0.046)	0.012 (0.021)	0.021 (0.019)	0.016 (0.020)
Mean Y	0.14	0.06	0.06	0.14	0.06	0.06	0.31	0.28	0.28	0.06	0.09	0.09
Percent Change	0.31	0.29	0.26	0.31	0.29	0.26	0.26	0.28	0.26	0.19	0.33	0.26
N	5857	115672	115672	5857	115672	115672	2603	59755	59755	2103	44222	44222
<i>B: FS Benefits Received</i>												
Elig for Food Stamps	44.919 (63.144)	47.690 (58.532)	34.795 (62.284)	44.919 (63.144)	47.690 (58.532)	34.795 (62.284)	335.841*** (99.755)	336.634*** (109.138)	275.312** (121.143)	7.156 (37.948)	11.037 (35.202)	12.934 (45.359)
Mean Y	360.37	152.33	152.33	360.37	152.33	152.33	848.19	754.40	754.40	118.53	160.68	160.68
Percent Effect	0.12	0.13	0.10	0.12	0.13	0.10	0.40	0.40	0.32	0.06	0.09	0.11
Triple Diff		X	X		X	X		X	X		X	X
State*Year FE			X			X			X			X
N	5857	115672	115672	5857	115672	115672	2603	59755	59755	2103	44222	44222

Notes: Data are from the 1995-2007 ASEC supplement to the March Current Population Survey. The sample is individuals aged 16 to 59 whose head of household has a high school education or less. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. Natives are individuals born in the U.S.. All regressions include controls for state and year fixed effects, and demographic characteristics. The double difference models include controls for state unemployment rate and state safety net generosity. In the triple difference models these state by year controls interacted with whether the family is a treated immigrant family are included to allow for the fact that these changes may affect immigrants and natives differently. In the triple difference model with state by year fixed effects the controls that vary by state and year only are omitted. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table 5: Effect of Eligibility on Whether Working Last Week and Hours Usually Work**

	Married Men			Married Women			Single Women			Single Men		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>A: Work Last Week</i>												
Elig for Food Stamps	-0.017 (0.010)	-0.015 (0.013)	-0.016 (0.012)	-0.031*** (0.011)	-0.022** (0.009)	-0.028*** (0.009)	-0.034* (0.019)	-0.041** (0.019)	-0.048** (0.022)	-0.001 (0.022)	-0.000 (0.023)	0.007 (0.021)
Mean Y	0.89	0.87	0.87	0.42	0.70	0.70	0.59	0.65	0.65	0.85	0.76	0.76
Percent Effect	-0.02	-0.02	-0.02	-0.07	-0.05	-0.06	-0.06	-0.07	-0.08	-0.00	-0.00	0.01
N	41970	1038900	1038900	41970	1038900	1038900	18720	546629	546629	16075	440034	440034
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>B: Weekly Hours</i>												
Elig for Food Stamps	-1.706** (0.723)	-1.496* (0.853)	-1.619* (0.822)	-0.543 (0.657)	-0.077 (0.749)	-0.422 (0.732)	-1.124 (0.834)	-1.585 (0.949)	-1.878** (0.888)	1.023 (1.184)	0.810 (1.338)	1.050 (1.379)
Mean Y	32.59	30.45	30.45	13.28	20.52	20.52	16.18	18.87	18.87	30.42	24.68	24.68
Percent Effect	-0.05	-0.05	-0.05	-0.04	-0.01	-0.03	-0.07	-0.10	-0.12	0.03	0.03	0.03
N	5622	99632	99632	5623	99634	99634	3531	98080	98080	2594	69785	69785
<i>C: Full-time Work (<math>\geq 35</math> Hours)</i>												
Elig for Food Stamps	-0.044** (0.018)	-0.041** (0.021)	-0.045** (0.019)	0.003 (0.020)	0.009 (0.023)	0.006 (0.023)	-0.032 (0.021)	-0.044* (0.023)	-0.053** (0.023)	0.026 (0.034)	0.021 (0.037)	0.028 (0.037)
Mean Y	0.77	0.72	0.72	0.29	0.43	0.43	0.35	0.40	0.40	0.70	0.57	0.57
Percent Effect	-0.06	-0.05	-0.06	0.01	0.03	0.02	-0.09	-0.13	-0.15	0.04	0.03	0.04
N	5622	99632	99632	5623	99634	99634	3531	98080	98080	2594	69785	69785
<i>D: Part-time Work (<math>\geq 20</math> Hours)</i>												
Elig for Food Stamps	-0.032** (0.016)	-0.027 (0.019)	-0.032* (0.018)	-0.017 (0.016)	-0.005 (0.018)	-0.017 (0.018)	-0.031 (0.023)	-0.042 (0.025)	-0.048** (0.023)	0.025 (0.031)	0.022 (0.035)	0.029 (0.036)
Mean Y	0.81	0.75	0.75	0.35	0.54	0.54	0.42	0.50	0.50	0.76	0.61	0.61
Percent Effect	-0.04	-0.03	-0.04	-0.05	-0.02	-0.05	-0.07	-0.10	-0.11	0.03	0.03	0.04
Triple Diff		X	X		X	X		X	X		X	X
State*Year FE			X		X	X		X	X		X	X
N	5622	99632	99632	5623	99634	99634	3531	98080	98080	2594	69785	69785

Notes: Data are from the 1995-2007 Current Population Survey. In Panel A the data comes from the monthly CPS and in Panels B-D the data comes from the Outgoing Rotation Groups. The sample is individuals aged 16 to 59 whose head of household has a high school education or less. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. Natives are individuals born in the U.S.. All regressions include controls for state and year fixed effects, and demographic characteristics. The double difference models include controls for state unemployment rate and state safety net generosity. In the triple difference models these state by year controls interacted with whether the family is a treated immigrant family are included to allow for the fact that these changes may affect immigrants and natives differently. In the triple difference model with state by year fixed effects the controls that vary by state and year only are omitted. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table 6:** Effect of Married Couples Joint Labor Supply

	Married Couples		
	(1)	(2)	(3)
<i>A: Any Work</i>			
Elig for Food Stamps	-0.020** (0.008)	-0.019* (0.011)	-0.021* (0.011)
Mean Y	0.93	0.95	0.95
Percent Effect	-0.02	-0.02	-0.02
N	41970	1038900	1038900
<i>B: Total Hours Work</i>			
Elig for Food Stamps	-2.289*** (0.712)	-1.825** (0.829)	-2.330*** (0.744)
Mean Y	45.84	50.99	50.99
Percent Effect	-0.05	-0.04	-0.05
N	5622	99629	99629
<i>C: Any Full-time Work</i>			
Elig for Food Stamps	-0.056*** (0.014)	-0.054*** (0.017)	-0.060*** (0.016)
Mean Y	0.81	0.81	0.81
Percent Effect	-0.07	-0.07	-0.07
N	5622	99633	99633
<i>D: Any Part-time Work</i>			
Elig for Food Stamps	-0.052*** (0.014)	-0.047*** (0.017)	-0.054*** (0.016)
Mean Y	0.85	0.85	0.85
Percent Effect	-0.06	-0.06	-0.06
Triple Diff		X	X
State*Year FE			X
N	5622	99633	99633

Notes: Data are from the 1995-2007 Current Population Survey. The sample is married men aged 16 to 59 who have a high school education or less. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. Natives are individuals born in the U.S.. All regressions include controls for state and year fixed effects, and demographic characteristics. The double difference models include controls for state unemployment rate and state safety net generosity. In the triple difference models these state by year controls interacted with whether the family is a treated immigrant family are included to allow for the fact that these changes may affect immigrants and natives differently. In the triple difference model with state by year fixed effects the controls that vary by state and year only are omitted. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 7:** Effect of Eligibility on Labor Supply: Robustness Checks

	Double Difference							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>A: Work Last Week, Married Women</i>								
Elig for Food Stamps	-0.031*** (0.011)	-0.001 (0.016)	-0.033*** (0.010)	-0.039*** (0.011)	-0.040*** (0.012)	-0.031*** (0.011)	-0.049*** (0.011)	-0.052 (0.031)
Mean Y	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.56
N	41970	41970	41970	41970	41970	41970	41970	8252
<i>B: Work Last Week, Single Women</i>								
Elig for Food Stamps	-0.034* (0.019)	-0.031 (0.022)	-0.039** (0.018)	-0.034 (0.025)	-0.038* (0.020)	-0.033 (0.022)	-0.035 (0.024)	-0.039 (0.031)
Mean Y	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.67
N	18720	18720	18720	18720	18720	18720	18720	6999
<i>C: Hours Worked, Married Men</i>								
Elig for Food Stamps	-1.706** (0.723)	-1.652** (0.707)	-1.620** (0.728)	-1.552* (0.796)	-1.687** (0.765)	-1.514** (0.744)	-1.949** (0.748)	-1.900 (1.248)
Mean Y	32.59	32.59	32.59	32.59	32.59	32.59	32.59	30.66
N	5622	5622	5622	5622	5622	5622	5622	1063
<i>D: Full-Time Work, Married Men</i>								
Elig for Food Stamps	-0.044** (0.018)	-0.036* (0.020)	-0.042** (0.018)	-0.045** (0.017)	-0.043** (0.018)	-0.040** (0.019)	-0.057*** (0.018)	-0.088*** (0.030)
Mean Y	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.72
N	5622	5622	5622	5622	5622	5622	5622	1063
<i>E: Part-Time Work, Married Men</i>								
Elig for Food Stamps	-0.032** (0.016)	-0.033* (0.018)	-0.032* (0.016)	-0.031* (0.017)	-0.032* (0.016)	-0.027* (0.016)	-0.039** (0.016)	-0.019 (0.028)
Mean Y	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.76
Year*Month FE		X						
Minimum Wage, EITC			X					
Other State Fill-In				X				
Other State FS Policies					X			
Attit to Immigrants						X		
State Trends							X	
No Kids								X
N	5622	5622	5622	5622	5622	5622	5622	1063

Notes: Data are from the 1995-2007 Current Population Survey. The sample is individuals aged 16 to 59 whose head of household has a high school education or less. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. All regressions include controls for state and year fixed effects, demographic characteristics and controls for the state unemployment rate and state safety net generosity. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table 8:** Effect of Eligibility on Married Couples' Joint Labor Supply: Robustness Checks

	Double Difference							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>A: Any Work</i>								
Elig for Food Stamps	-0.020** (0.008)	-0.012 (0.010)	-0.021** (0.009)	-0.022** (0.009)	-0.022** (0.009)	-0.018** (0.009)	-0.023** (0.010)	-0.020 (0.015)
Mean Y	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.92
N	41970	41970	41970	41970	41970	41970	41970	8252
<i>B: Total Hours Worked</i>								
Elig for Food Stamps	-2.289*** (0.712)	-0.764 (1.025)	-2.284*** (0.763)	-2.231*** (0.758)	-2.810*** (0.930)	-2.181*** (0.766)	-3.250*** (0.853)	-3.389 (2.748)
Mean Y	45.84	45.84	45.84	45.84	45.84	45.84	45.84	48.41
N	5622	5622	5622	5622	5622	5622	5622	1063
<i>C: Any Full-Time Work</i>								
Elig for Food Stamps	-0.056*** (0.014)	-0.042** (0.017)	-0.056*** (0.015)	-0.061*** (0.013)	-0.062*** (0.014)	-0.053*** (0.015)	-0.067*** (0.014)	-0.103*** (0.026)
Mean Y	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.78
N	5622	5622	5622	5622	5622	5622	5622	1063
<i>D: Any Part-Time Work</i>								
Elig for Food Stamps	-0.052*** (0.014)	-0.054*** (0.017)	-0.054*** (0.014)	-0.054*** (0.016)	-0.057*** (0.015)	-0.049*** (0.014)	-0.058*** (0.015)	-0.076** (0.030)
Mean Y	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.83
Year*Month FE		X						
Minimum Wage, EITC			X					
Other State Fill-In				X				
Other State FS Policies					X			
Attit to Immigrants						X		
State Trends							X	
No Kids								X
N	5622	5622	5622	5622	5622	5622	5622	1063

Notes: Data are from the 1995-2007 Current Population Survey. The sample is married men aged 16 to 59 who have a high school education or less. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. All regressions include controls for state and year fixed effects, demographic characteristics and controls for the state unemployment rate and state safety net generosity. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



**Table 9:** Effect of Eligibility on Whether Working Last Week–Falsification Tests

	Married Men	Married Women	Single Women	Single Men
	(1)	(2)	(3)	(4)
<i>A: Natives</i>				
Immig Elig for Food Stamps	-0.002 (0.002)	-0.002 (0.005)	0.003 (0.008)	-0.003 (0.005)
Mean Y	0.87	0.71	0.66	0.76
N	996930	996930	527909	423959
<i>B: Immigrants Entered 15+ Years Prior</i>				
Immig Elig for Food Stamps	-0.007 (0.005)	-0.008 (0.011)	-0.005 (0.013)	-0.007 (0.016)
Mean Y	0.86	0.57	0.67	0.81
N	54096	54096	33948	20074
<i>C: Treated Immigrants with College+</i>				
Elig for Food Stamps	0.004 (0.011)	-0.003 (0.018)	-0.004 (0.018)	0.007 (0.011)
Mean Y	0.91	0.52	0.83	0.86
N	18841	18841	6232	7641

Notes: Data are from the 1995-2007 monthly Current Population Survey. The sample is individuals aged 16 to 59. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. Natives are individuals born in the U.S.. All regressions include controls for state and year fixed effects, demographic characteristics and controls for state unemployment rate and state safety net generosity. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 10:** Effect of Eligibility on Labor Supply: Specification Checks

	Double Difference					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>A: Work Last Week, Married Women</i>						
Elig for Food Stamps	-0.031*** (0.011)	-0.060*** (0.020)	-0.081*** (0.023)	-0.031*** (0.011)	-0.018 (0.012)	-0.020 (0.013)
Mean Y	0.42	0.46	0.45	0.42	0.42	0.42
N	41970	29237	26451	41970	41970	41970
<i>B: Work Last Week, Single Women</i>						
Elig for Food Stamps	-0.034* (0.019)	-0.024 (0.036)	-0.033 (0.050)	-0.035* (0.018)	-0.049*** (0.015)	-0.043** (0.017)
Mean Y	0.59	0.62	0.62	0.59	0.59	0.59
N	18720	14036	12333	18720	18720	18720
<i>C: Hours Worked, Married Men</i>						
Elig for Food Stamps	-1.706** (0.723)	-0.457 (1.144)	-0.420 (1.492)	-1.706** (0.723)	-1.815** (0.812)	-1.917** (0.821)
Mean Y	32.59	33.70	33.89	32.59	32.59	32.59
N	5622	3872	3409	5622	5622	5622
<i>D: Full-Time Work, Married Men</i>						
Elig for Food Stamps	-0.044** (0.018)	-0.021 (0.031)	-0.037 (0.038)	-0.044** (0.018)	-0.044** (0.021)	-0.052** (0.021)
Mean Y	0.77	0.79	0.80	0.77	0.77	0.77
N	5622	3872	3409	5622	5622	5622
<i>E: Part-Time Work, Married Men</i>						
Elig for Food Stamps	-0.032** (0.016)	-0.009 (0.027)	-0.010 (0.035)	-0.032** (0.016)	-0.037** (0.018)	-0.040** (0.018)
Mean Y	0.81	0.84	0.84	0.81	0.81	0.81
Omit CA		X				
Omit Fill-In			X			
Model Teens as Children for Eligibility				X		
Model Illinois & New Jersey as Fill-In					X	
1990 Char*Trend						X
N	5622	3872	3409	5622	5622	5622

Notes: Data are from the 1995-2007 Current Population Survey. The sample is individuals aged 16 to 59 whose head of household has a high school education or less. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. All regressions include controls for state and year fixed effects, demographic characteristics and controls for the state unemployment rate and state safety net generosity. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table 11:** Effect of Eligibility on Married Couples' Joint Labor Supply: Specification Checks

	Double Difference					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>A: Any Work</i>						
Elig for Food Stamps	-0.020** (0.008)	-0.007 (0.013)	-0.006 (0.010)	-0.020** (0.008)	-0.019** (0.009)	-0.019* (0.010)
Mean Y	0.93	0.94	0.94	0.93	0.93	0.93
N	41970	29237	26451	41970	41970	41970
<i>B: Total Hours Worked</i>						
Elig for Food Stamps	-2.289*** (0.712)	-2.190 (1.740)	-2.923 (2.254)	-2.289*** (0.712)	-2.468** (1.033)	-2.843*** (1.013)
Mean Y	45.84	48.39	48.26	45.84	45.84	45.84
N	5622	3872	3409	5622	5622	5622
<i>C: Any Full-Time Work</i>						
Elig for Food Stamps	-0.056*** (0.014)	-0.043* (0.023)	-0.064** (0.029)	-0.056*** (0.014)	-0.054** (0.020)	-0.062*** (0.020)
Mean Y	0.81	0.84	0.85	0.81	0.81	0.81
N	5622	3872	3409	5622	5622	5622
<i>E: Part-Time Work, Married Men</i>						
Elig for Food Stamps	-0.052*** (0.014)	-0.038 (0.027)	-0.032 (0.037)	-0.052*** (0.014)	-0.051*** (0.018)	-0.052*** (0.019)
Mean Y	0.85	0.88	0.89	0.85	0.85	0.85
Omit CA		X				
Omit Fill-In			X			
Model Teens as Children for Eligibility				X		
Model Illinois & New Jersey as Fill-In					X	
1990 Char*Trend						X
N	5622	3872	3409	5622	5622	5622

Notes: Data are from the 1995-2007 Current Population Survey. The sample is married men aged 16 to 59 who have a high school education or less. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. All regressions include controls for state and year fixed effects, demographic characteristics and controls for the state unemployment rate and state safety net generosity. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## A Appendix: Food Stamp Program Details

As discussed in the text, in order to be eligible for Food Stamps families’ must meet several income and asset tests. First, families’ total income, called “gross income”, must be below 130% of the poverty line. However, not all income is counted as gross income. The major components of gross income are earnings, cash income from other safety net programs such as TANF, Unemployment Insurance, Social Security, and child support. The second income test is on “net income”, which is gross income minus deductions, and net income must be below 100% of the poverty line to be eligible. There is a standard deduction, as well as a deduction for child care expenses, medical expenses, child support payments, and excess shelter costs (high rent and utility payments). Importantly for thinking about the effects on labor supply, the family can deduct 20% of their earned income when calculating net income, which effectively lowers the benefit reduction rate below 30%. During the late 1990s and early 2000s, most states also had an asset test as part of their eligibility requirements. Alternatively, families are eligible if they received AFDC/TANF benefits, SSI payments, or General Assistance benefits, although these programs often had income eligibility thresholds below the Food Stamp thresholds.

“Able-bodied adults without dependents” (non-disabled working-age adults without children) were subject to stricter limits on their eligibility as the result of welfare reform in 1996. After 1996, most ABAWDs are subject to a time limit on benefit receipt unless they meet an additional work requirement. This requirement is to work or participate in qualifying education or training activities for at least 80 hours per month. These requirements are waived in local areas with high unemployment rates.<sup>39</sup>

For families that are eligible, family-level benefit amounts are calculated as follows: families receive the maximum benefit amount minus 30% of the families’ “net income”. The maximum benefit amount is determined by the Department of Agriculture’s Thrifty Food Plan, which is designed to provide adequate nutrition at minimal cost, is indexed to inflation, and varies with family size. Appendix Table (A.4) shows the maximum monthly benefit amount for families based on their size in fiscal year 1998.<sup>40</sup>

## B “Event Study”

I implement an “event study” style test of the effects on labor supply. Since there are multiple “events” I cannot conduct a typical event study, and instead I plot the difference in labor supply between Fill-In and No-Fill-In states for treated immigrants. This exercise allows me to check for pre-trends in labor supply across the two state groups, and to examine if treated immigrants labor supply appears to respond to the policy changes as expected. It is important to note that because of data limitations this only allows me one pre-welfare-reform year, which is a limitation when checking for differential pre-trends. I do this by estimating the following equation:

$$Y_{ist} = \alpha + \sum_{t=1995}^{2007} \beta_t Diff_{st} + \gamma X_{ist} + \gamma_2 Z_{st} + \nu_s + \lambda_t + \epsilon_{ist}$$

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<sup>39</sup>See the USDA website for more details on ABAWD policies: <http://www.fns.usda.gov/snap/able-bodied-adults-without-dependents-abawds>.

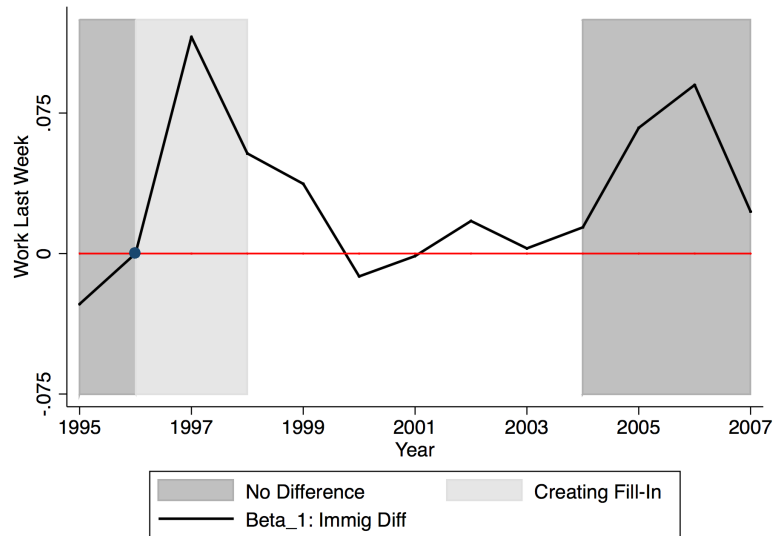
<sup>40</sup>Information in this section is from Wilde (2001) and (CBPP, 2013).

where 1996 is the omitted year because this is the last year with no difference in eligibility across the state groups. I first describe the expected pattern of effects and then compare that to the results. In 1996 and prior there is no difference in eligibility between the Fill-In and No-Fill-In states, so accordingly there should be no difference in labor supply between these state groups in these years. From 1997 to 1999, the Fill-In states create fill-in programs, so after 1999 there should be a difference in labor supply between the two states groups. Beginning in 2004, there again is no difference in eligibility between these two groups of states so I expect no difference in labor supply after this period as well.

I focus on the likelihood that single women work in the week prior to the survey and the hours of work of married men, as I find the most robust effects on these outcomes. The results of estimating the equation above are shown in Figures (A.1) and (A.2). The dark shaded areas indicate the periods in which there was no difference in eligibility rules between Fill-In and No-Fill-In states, and the lighter shaded area indicates the period in which the states were rolling out their fill-in programs. The results are somewhat noisy because of the small sample sizes in the state group by year cells and none of the individual point estimates are statistically different from zero, however, the pattern of effects is as expected. For married men, there appears to be no difference in the hours worked between the two state groups until all the fill-in programs have been created, then the difference becomes negative as expected. After 2003, when there is no difference in eligibility between the two state groups, the difference becomes close to zero again. For single women, the results are similar except that prior to all the fill-in programs being created, the difference in labor supply seems to be trending upward, then when all the programs are created the trend reverses, as expected.

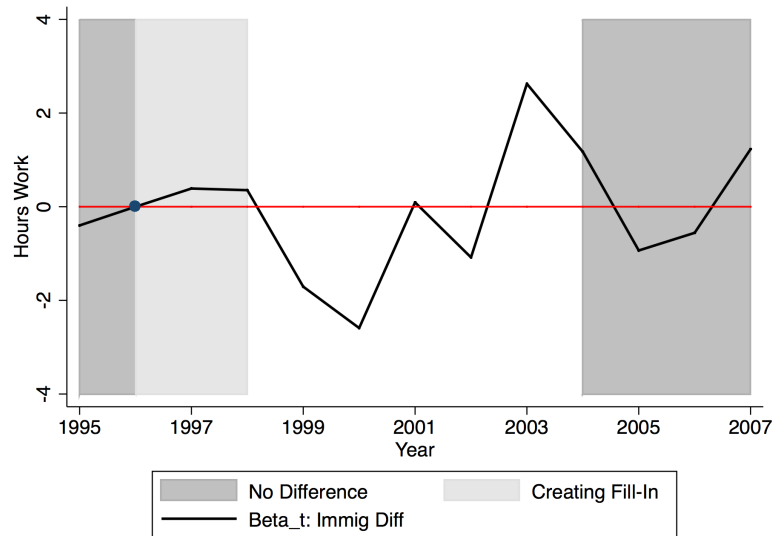
## C Appendix: Further Results

**Figure A.1:** Difference in Single Women’s Employment Last Week if Family in Fill-In State



Notes: Data are from the 1995-2007 Current Population Survey. The sample is treated immigrant single women aged 16 to 59 whose have a high school education or less. The regression also includes controls for state unemployment rate and state safety net generosity. The solid black line indicates the  $\beta_t$  coefficients for treated immigrants. The dark gray areas indicate periods in which there was no difference in eligibility between the Fill-In and No-Fill-In states. The light gray area indicates the period when the Fill-In states were creating their fill in programs. The results are weighted using the CPS provided individual weights.

**Figure A.2:** Difference in Married Men’s Hours Work if Family in Fill-In State



Notes: Data are from the 1995-2007 Current Population Survey. The sample is treated immigrant married men aged 16 to 59 whose have a high school education or less. The regression also includes controls for state unemployment rate and state safety net generosity. The solid black line indicates the  $\beta_t$  coefficients for treated immigrants. The dark gray areas indicate periods in which there was no difference in eligibility between the Fill-In and No-Fill-In states. The light gray area indicates the period when the Fill-In states were creating their fill in programs. The results are weighted using the CPS provided individual weights.

**Table A.1:** Effect of Eligibility on Food Stamp Benefit Receipt Among Participants

	Married Men			Married Women			Single Women			Single Men		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Elig for Food Stamps	-213.255 (475.549)	-298.400 (368.664)	-318.556 (487.174)	-213.255 (475.549)	-298.400 (368.664)	-318.556 (487.174)	578.739*** (184.065)	746.171*** (256.580)	611.479* (308.435)	582.244 (474.497)	31.274 (455.485)	-84.629 (553.206)
Mean Y	2615.51	2517.26	2517.26	2615.51	2517.26	2517.26	2774.68	2657.01	2657.01	1910.76	1727.11	1727.11
Triple Diff	X	X	X	X	X	X	X	X	X	X	X	X
State*Year FE	X	X	X	X	X	X	X	X	X	X	X	X
N	747	7027	7027	747	7027	7027	830	17380	17380	137	4445	4445

Notes: Data are from the 1995-2007 ASEC supplement to the March Current Population Survey. The sample is individuals aged 16 to 59 whose head of household has a high school education or less and who reported receiving Food Stamps in the past year. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. Natives are individuals born in the U.S.. All regressions include controls for state and year fixed effects, and demographic characteristics. The double difference models include controls for state unemployment rate and state safety net generosity. In the triple difference models these state by year controls interacted with whether the family is a treated immigrant family are included to allow for the fact that these changes may affect immigrants and natives differently. In the triple difference model with state by year fixed effects the controls that vary by state and year only are omitted. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table A.2:** Substitution and Income Elasticities of Labor Supply

	Married Men		Single Women	
	Substitution	Income	Substitution	Income
<i>A: Negative Income Tax Experiments</i>				
Lower Bound	0.06	-0.02	0.12	-0.15
Upper Bound	0.09	-0.14	0.14	-0.20
<i>B: Recent Estimates</i>				
Lower Bound	0.04	-0.02	0.15	-0.02
Upper Bound	0.07	-0.11	0.19	-0.09

Notes: See text for sources.



**Table A.3:** Effect of Eligibility on Other Program Participation

	Married Couples				Single Women			
	AFDC/TANF	SSI	Medicaid/SCHIP	School Lunch	AFDC/TANF	SSI	Medicaid/SCHIP	School Lunch
<i>A: Double Difference, State by Year Controls</i>								
Elig for Food Stamps	-0.000 (0.017)	0.020 (0.014)	0.050 (0.039)	0.005 (0.024)	0.066* (0.034)	0.022 (0.019)	0.039 (0.035)	0.032 (0.024)
Mean Y	0.06	0.03	0.46	0.42	0.21	0.05	0.59	0.45
N	5857	5857	4363	5857	2603	2603	2006	2603
<i>B: Triple Difference, State by Year Controls</i>								
Elig for Food Stamps	0.001 (0.015)	0.019 (0.014)	0.049 (0.037)	-0.015 (0.026)	0.071** (0.035)	0.032 (0.022)	0.050 (0.034)	0.043* (0.025)
Mean Y	0.02	0.03	0.26	0.12	0.14	0.10	0.57	0.26
N	115672	115672	57620	115672	59755	59755	38679	59755
<i>C: Triple Difference, State by Year Fixed Effects</i>								
Elig for Food Stamps	-0.006 (0.014)	0.031** (0.014)	0.053 (0.039)	-0.020 (0.029)	0.060 (0.043)	0.013 (0.024)	0.005 (0.039)	0.037 (0.025)
Mean Y	0.02	0.03	0.26	0.12	0.14	0.10	0.57	0.26
N	115672	115672	57620	115672	59755	59755	38679	59755

Notes: Data are from the 1995-2007 ASEC supplement to the March Current Population Survey. The sample is heads of household aged 16 to 59 whose head of household has a high school education or less. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. Natives are individuals born in the U.S.. All regressions include controls for state and year fixed effects, and demographic characteristics. The double difference models include controls for state unemployment rate and state safety net generosity. In the triple difference models these state by year controls interacted with whether the individual is a treated immigrant are included to allow for the fact that these changes may affect immigrants and natives differently. In the triple difference model with state by year fixed effects the controls that vary by state and year only are omitted. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table A.4:** Maximum Food Stamp Benefit in Continental United States in Fiscal Year 1998

Household Size	Benefit Amount
1	\$122
2	\$224
3	\$321
4	\$408
5	\$485
6	\$582
7	\$643
8	\$735
Each Add'l Member	\$92

Notes: Maximum benefit amounts from USDA "CHARACTERISTICS OF FOOD STAMP HOUSEHOLDS FISCAL YEAR 1998".

**Table A.5:** Effect of Eligibility on Whether Citizen

	Married Men	Married Women	Single Women	Single Men
	(1)	(2)	(3)	(4)
Elig for Food Stamps	0.020*	0.009	-0.015	0.031
	(0.011)	(0.010)	(0.018)	(0.019)
Mean Y	0.16	0.14	0.18	0.14
N	49085	49257	22927	18877

Notes: Data are from the 1995-2007 monthly Current Population Survey. The sample is individuals aged 16 to 59 whose head of household has a high school education or less, is foreign-born and who entered the U.S. before 1997 and less than 15 years prior to being surveyed. All regressions include controls for state and year fixed effects, and demographic characteristics. Additionally the regressions include controls for state unemployment rate, and state safety net generosity. Results for the double difference models including only treated immigrants are shown. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table A.6:** Effect of Eligibility on Migration

	Married Couple Households	Single Women Households
	(1)	(2)
<i>A: Double Difference, State by Year Controls</i>		
Elig for Food Stamps	0.016*	-0.009
	(0.009)	(0.013)
Mean Y	0.02	0.02
N	5148	2289
<i>B: Triple Difference, State by Year Controls</i>		
Elig for Food Stamps	0.016*	-0.007
	(0.008)	(0.013)
Mean Y	0.02	0.03
N	106721	55505
<i>C: Triple Difference, State by Year Fixed Effects</i>		
Elig for Food Stamps	0.013	-0.016
	(0.010)	(0.015)
Triple Difference	X	X
Mean Y	0.02	0.03
N	106721	55505

Notes: Data are from the 1995-2007 ASEC supplement to the March Current Population Survey. The sample is individuals aged 16 to 59 whose head of household has a high school education or less. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. Moreover, Treated Immigrants are restricted to those in which the female (if present, otherwise the male) is a non-citizen. Natives are individuals born in the U.S.. All regressions include controls for state and year fixed effects, and demographic characteristics. The double difference models include controls for state unemployment rate and state safety net generosity. In the triple difference models these state by year controls interacted with whether the individual is a treated immigrant are included to allow for the fact that these changes may affect immigrants and natives differently. In the triple difference model with state by year fixed effects the controls that vary by state and year only are omitted. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table A.7:** Effect of Eligibility on Labor Supply: Robustness to Citizenship Definition

	Baseline	Husband Non-Citizen	Both Non-Citizen
	(1)	(2)	(3)
<i>A: Married Men's Work Last Week</i>			
Elig for Food Stamps	-0.017 (0.010)	-0.020** (0.009)	-0.020* (0.010)
Mean Y	0.89	0.88	0.88
N	41970	40719	37994
<i>B: Married Women's Work Last Week</i>			
Elig for Food Stamps	-0.031*** (0.011)	-0.033*** (0.010)	-0.034*** (0.011)
Mean Y	0.42	0.44	0.42
N	41970	40719	37994
<i>C: Married Men's Hours Worked</i>			
Elig for Food Stamps	-1.706** (0.723)	-1.605* (0.885)	-1.921** (0.847)
Mean Y	32.59	32.46	32.59
N	5622	5455	5176
<i>D: Married Women's Hours Worked</i>			
Elig for Food Stamps	-0.543 (0.657)	-0.584 (0.761)	-0.465 (0.737)
Mean Y	13.28	13.74	13.29
N	5623	5456	5177

Notes: Data are from the 1995-2007 monthly Current Population Survey. The sample is individuals aged 16 to 59 whose head of household has a high school education or less. Treated Immigrants are foreign-born individuals who entered the U.S. before 1997 and less than 15 years prior to being surveyed. All regressions include controls for state and year fixed effects, demographic characteristics and controls for the state unemployment rate and state safety net generosity. Results for the double difference models including only treated immigrants are shown. The results are weighted using the CPS provided individual weights. Standard errors are clustered by state and shown in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$