

Do State Supplemental Nutrition Assistance Program Policies affect Older Adults and People with Disabilities?

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Abstract:

This study examines the effect of state SNAP policies on access to SNAP benefits for the older adults and people with disabilities. Although SNAP is a federal program, states have considerable power to choose which policies to adopt, when to adopt them, and to what extent those policies cover their population. Previous research has focused on a single policy database and using policy indices to measure the impact of SNAP policies on caseloads. Using state policy variation from the *SNAP Policy Database* and the *SNAP State Option Reports*, this study uses two-way fixed effects and difference-in-differences models to understand the effects of both individual SNAP policies and the policy indices. Results indicate that SNAP policies that improve eligibility and reduce transaction costs increase participation among older adults and people with disabilities and restrictive policies reduce participation. The magnitudes of these coefficients are larger for the older adults and people with disabilities compared to the general population.

JEL Codes: J14, I38

Key Words: SNAP, older adults, people with disabilities, policy

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1. Introduction

In 2015, approximately eleven million individuals with a functional or work-limiting condition participated in SNAP, about one quarter of total SNAP participants at the time (Carlson, Keith-Jennings, and Chaudhry 2017). The older adult subpopulation comprised about 14 percent of SNAP caseloads in 2018 and is expected to grow based on trends in population aging (Hodges 2021). Given that 40 percent of individuals with disabilities are also older adults (Carlson, Keith-Jennings, and Chaudhry 2017), and that SNAP policies treat people with disabilities and older adult applicants the same, concerns about the economic security of older adults are closely related to the same concerns about people with disabilities. This paper examines whether state SNAP policies influence access to SNAP benefits for the older adults and people with disabilities and finds that older adults and people with disabilities are more likely to receive SNAP benefits when states enact policies that facilitate access.

Many studies have examined the economic consequences of disability and have found that disability lowers earnings and employment (e.g., Autor et al. 2017) and is associated with poverty and food insecurity (e.g., Moffitt and Ribar 2016). For example, the U.S. Department of Agriculture's Economic Research Services finds that food insecurity is two to three times more prevalent among households with a working-age adult with a disability compared to those households with able-bodied working-age adults (Coleman-Jensen and Nord 2013). SNAP is intended to help those experiencing extreme economic insecurity and research shows that access to SNAP reduces food insecurity (Deb and Gregory 2016; Moffitt and Ribar 2016). However, since 1996, states have had discretion over the administration of the SNAP program, leading to differences in who receives SNAP benefits (Food and Nutrition Services 2022).

This paper examines the effect of state SNAP policies on access to SNAP benefits for older adults and people with disabilities. Though SNAP is a federal program, states have considerable power to choose which policies to adopt and to what extent those policies cover their population. This allows us to examine the causal effect of these policies on SNAP access. This study makes two main contributions. First, it is the first paper to focus on the effect of SNAP policies on the population of people with disabilities. Most previous literature study the general population or specifically exclude people with disabilities. It is also one of the few to study the older adult population. Second, it considers policies previously not studied. Almost all research that examined the impact of state policies on SNAP participation use the *SNAP Policy Database*.¹ This study includes data from the *SNAP State Options Reports*² which few previous studies use. The *SNAP State Options Reports* includes policies options like the Elderly Simplified Application Process and the Standard Medical Deduction that are relevant to the older adult and people with disabilities and have not been examined in the literature.

This paper uses two-way fixed effects and difference-in-differences models and studies the effects of both individual SNAP policies and policy indices. Preliminary results indicate that generosity SNAP policies increase participation among older adults and people with disabilities and restrictive policies reduce participation. The magnitudes of these coefficients are larger for the older adults and people with disabilities compared to the general population.

The rest of this paper proceeds as follows: Section 2 provides background information about the SNAP program and eligibility rules. Section 3 review the scholarly literature and elaborates on the contribution of this chapter. Section 4 describe the data and Section 5

¹ These data are available at <https://www.ers.usda.gov/data-products/snap-policy-data-sets/>.

² These annual reports are available at <https://www.fns.usda.gov/snap/waivers/state-options-report>.

describes the empirical strategy and the model. Section 6 contains the results and discussion of the analysis and intentions of robustness checks. Section 7 concludes the paper.

2 Background

2.1 SNAP program and eligibility

SNAP is a federal program administered by the Food and Nutrition Service (FNS) agency of the U.S. Department of Agriculture. Its purpose is to improve food security among low-income households by providing beneficiaries a monthly cash transfer that can be spent on food products at participating businesses. Once an individual applies for benefits, there is an initial interview and, if accepted, the individual needs to get recertified at regular intervals to maintain benefits. The individual may also need to report significant changes in income or employment status that would affect eligibility.

Eligibility for SNAP is determined by characteristics such as age, ability, assets, household structure, labor force participation, and income. For SNAP purposes, an individual is considered older adults if they are 60 years or older. An individual is considered a person with a disability if they are receiving payments for their disability from Social Security Disability Insurance, Supplemental Security Income (SSI), Veterans Affairs, or miscellaneous government agencies. However, this definition of the people with disabilities undercounts people who report a disability that affects their ability to work. As previously mentioned, eligibility requirements for people with disabilities and older adults are different from the general population. In 2022, a household is allowed up \$2,500 in countable resources to be considered for eligibility, but this amount is increased to \$3,750 if the household contains an older adult or person with a disability. Generally, vehicles are counted as an asset if used recreationally or for daily commuting, though they can be exempt if used to transport a physically disabled household member. Households

consisting entirely of people with disabilities or older adult members are exempt from work requirements. Finally, most households must be under both a net and gross income limit determined by their household size to be eligible, but households with older adults or people with disabilities members only need to meet the net income limit (Food and Nutrition Services 2021). Thus, it is easier to obtain SNAP benefits if the individual is an older adult or a person with a disability. Nevertheless, state policies may affect access to SNAP regardless of age or disability status and thus are the focus of this paper.

2.2 *Description of SNAP policies*

Although SNAP is a federal program, it is administered by the states. Since 1996, states have had significant leeway in establishing policies that determine SNAP access. SNAP policies are commonly divided in to three categories: Eligibility policies, transaction cost policies, and stigma policies. Eligibility policies reduce the requirements of the income or asset tests, such as:

- **Broad Based Categorical Eligibility (BBCE)** – Households that receive cash benefits from other means-tested programs are automatically eligible for SNAP. States that offer BBCE may extend eligibility to households that receive non-cash benefits from these programs by increasing or eliminating the asset test or increasing the gross income limit. States additionally have the option of which types of households BBCE applies to, such as all households, households with dependent children, or households with older adults or members with disabilities.
- **Vehicle Exemptions** – Generally, a SNAP agency finds the total fair market value of all vehicles owned by the household, deducts \$4,650, and considers the rest as a countable resource. States have the option of increasing the amount of the deduction or exempting one or all vehicles from the asset test.

- ABAWD Waivers – Generally, Able-Bodied Adults Without Dependents are required to participate in the labor force to receive SNAP benefits. However, if parts of the state are experiencing unemployment rates higher than ten percent or there is a lack of sufficient jobs, the state can waive the work requirement for ABAWDs for that part of the state.
- Noncitizen Eligibility – States have the option to extend eligibility to legal noncitizen residences if they meet the other requirements to receive benefits. States can further choose if this policy only covers a subset of noncitizens, such as children, working age adults, or older adults.

Transaction cost policies intend to ease the burden of applying or participating in SNAP. Several policies simplify the application process, such as:

- The Elderly Simplified Application Project (ESAP) – For those states that offer it, the ESAP simplifies the entire process for those 60 years and older by streamlining the verification process, waiving the recertification interview, and extending benefits to 36 months.
- The Standard Medical Deduction (SMD) – Households with older adults or members with disabilities are allowed to itemize medical expenses as a deduction if they exceed \$35 per month. States that offer the SMD allow households to claim a standard deduction instead of itemizing expenses.
- The Combined Application Project (CAP) – The CAP is a joint effort by the Social Security Administration, Food and Nutrition Services, and States to improve access to nutrition for SSI recipients. It offers joint application and recertification for SNAP and SSI benefits when individuals participate in SSI.

- Joint Processing: Medicaid or TANF – Similar to the CAP, states may offer some degree of jointly applying or processing applications for Medicaid and/or Temporary Assistance for Needy Families alongside SNAP.
- Online applications – Some states provide the option to submit applications for SNAP online.

Further transaction cost policies help to reduce the burden while participating in SNAP:

- Simplified Reporting – Households in states with simplified reporting only need to report periodically, if countable resources rise above 130 percent of the federal poverty level, or if ABAWDs work hours fall below 20 hours a week.
- Monthly Reporting – Households in states with monthly reporting are required to report to the agency at least once a month.
- Transitional Benefits Alternative (TBA) – If a state offers TBA, households that are transitioning off of TANF or State-funded cash assistance programs receive a set benefit amount, have extended benefits periods, and are not required to report to the state office while transitioning.
- Recertification waivers – Households are normally required to have a face-to-face interview in order to get recertified for SNAP benefits. States have the option of waiving the face-to-face requirement.
- Recertification periods – States can choose how many months households can receive SNAP benefits before they need to recertify to maintain benefits. State can further choose different recertification periods for different types of households, such as earners, non-earners, or older adults.

Finally, states have the option of implementing policies that are aimed at restricting participation, often called stigma policies, such as:

- Fingerprinting – States may require individuals to submit copies of fingerprints when applying for benefits.
- EBT cards – States can choose to issue EBT cards to beneficiaries and transfer the monthly benefits to the card.
- Disqualification policies – States may permanently disqualify individuals from receiving SNAP benefits if they are convicted of a drug felony, fail to cooperate with child support enforcement agencies, or are disqualified from other means tested programs (Food and Nutrition Services 2019).

3 The Effect of State Policies on SNAP Access

Many studies have examined the economic consequences of disability and have found that disability lowers earnings (Autor et al. 2017; Deshpande 2016; Meyer and Mok 2019), employment (Autor et al. 2017; Maestas, Mullen, and Strand 2013; Meyer and Mok 2019), and is associated with poverty (Moffitt and Ribar 2016) and food insecurity (Coleman-Jensen and Nord 2013; Moffitt and Ribar 2016). People with disabilities, especially those without spouses (Autor et al. 2019), often rely on the social safety net for economic security, such as turning to other programs while waiting for disability insurance (DI) (Coe et al. 2014) and turning to DI to alleviate financial distress (Deshpande, Gross, and Su 2021).

SNAP is intended to help those experiencing extreme economic insecurity. Research shows that SNAP caseloads increase during economic downturns (Dickert-Conlin et al. 2017; Ganong and Liebman 2018; Ziliak, Gunderson, and Figlio 2003) and when Unemployment Insurance benefits end (Rothstein and Valletta 2017). Further research shows that access to

SNAP reduces food insecurity (Deb and Gregory 2016; Moffitt and Ribar 2016) and reduces criminal recidivism (Tuttle 2019).

There is a growing body of research that shows these state SNAP policies affect access to SNAP. Within this literature there are a variety of approaches to policy analysis, ranging from studying a single SNAP policy like time until recertification (Kabbani and Wilde 2003), simplifying the recertification process (Gray 2019), or work requirements for Able-Bodied Adults Without Dependents (ABAWD) (Gray et al. 2021; Harris 2018), to multiple policies simultaneously (Dickert-Conlin et al. 2017; Ratcliffe, McKernan, and Finegold 2008; Ziliak 2013), to using an index of SNAP policies (Ganong and Liebman 2018; Jones et al. 2021; Stacy, Tiehen, and Marquardt 2018).

Some authors choose to study multiple policies simultaneously, arguing that since policies are correlated with each other, studies that focus on a single policy are prone to omitted variable bias. Early work by Hanratty (2006) studies the effects of reduced recertification times, simplified reporting, and vehicle exemption policies. Ratcliffe, McKernan, and Finegold (2008) study the effect of 15 SNAP policies along with other federal policies aimed at low-income individuals and Ziliak (2013) studies 12 SNAP policies along with other policies, demographics, and economic conditions.

The studies listed above find conflicting results of the effects of SNAP policies on SNAP participation. Some find evidence that reduced recertification periods increase participation (Hanratty (2006); Ratcliffe, McKernan, and Finegold (2008); Kabbani and Wilde (2003); Gray (2019)) while Ziliak (2013) finds no evidence. Ratcliffe, McKernan, and Finegold (2008) show that vehicle exemptions have a positive effect, while Hanratty (2006) and Ziliak (2013) find no effect. Ziliak (2013) finds a positive effect of simplified reporting, while Hanratty (2006) and

Ratcliffe, McKernan, and Finegold (2008) find none. Finally, Ratcliffe, McKernan, and Finegold (2008) and Ziliak (2013) find conflicting evidence on the sign of outreach efforts, though both agree that the magnitude is only marginally significant, and recent work by Finkelstein and Notowidigdo (2019) find evidence that providing information and assistance with about SNAP eligibility increase applications and enrollment. These authors also agree that BBCE increases SNAP participation and fingerprint requirements decrease participation.

A recent paper by Brantley, Pillai & Ku (2020) examine the impact of work requirements on SNAP participation for the full sample and people with disabilities. Using a difference-in-differences approach, they find that work requirements are associated with a 4-percentage point reduction in caseloads for childless adults and childless adults with disabilities.

Further work by Dickert-Conlin et al. (2017) studies the effects of 11 policies categorized into four different aspects of SNAP policies: eligibility, transaction costs, stigma, and outreach. These categories are noteworthy as they help to consolidate the findings of previous research and many researchers continue to classify SNAP policies this way. They find significant evidence that improving eligibility and reducing transaction costs increase SNAP caseloads, some evidence that stigma reduces caseloads, and no evidence of an outreach effect.

Ganong and Liebman (2018) are noted for being early proponents of using a SNAP policy index to measure the effect of SNAP policies on SNAP enrollment instead of individual SNAP policies. They note there is inconsistent measurement of when and which policies are adopted for each state and that states tend to adopt policies simultaneously, making it difficult to disentangle the effects of individual policies. They use eight policies related to improving eligibility and easing transaction costs and find results consistent with the literature.

Following the example of Ganong and Liebman (2018), Stacy, Tiehen, and Marquardt (2018) also use policy indices to measure the effect of SNAP policies on SNAP usage, though they differ and expand their index construction. These authors use the ten most significant SNAP policies to construct an index. They find that increases in the index predict increases in SNAP participation and note the index could be useful as an instrument, which authors such as Han (2020) use to study the effect of SNAP policies on school lunch and Women, Infants, and Children (WIC) participation.

Others have developed an index that focuses on policies associated with income generosity. Johnson-Motoyama et al (2022) develop an income generosity policy index that included states offering BBCE for income, child support is excluded from income, state offers transitional SNAP benefits, and the state offers simplified reporting. They find that an increase in the state income generosity policy index increases SNAP caseloads for families with children. They also find that these policies are associated with significant reductions in child abuse reports, substantiated cases, and foster care placements.

Finally, Jones et al. (2021) study the effect of SNAP policies on SNAP participation with a focus on older adults. They use the Stacy, Tiehen, and Marquardt (2018) policy index and construct a simulated eligibility variable as a different approach to measuring the effect of policies on participation. They find that expanding eligibility increased participation among seniors and non-seniors using data from the Current Population Survey, but the effect was stronger for non-seniors. They also find little evidence that outreach policies and transaction cost policies effect participation. The authors acknowledge that the SNAP policies they analyze also apply to people with disabilities but did not analyze outcomes for this demographic group.

Following Jones et al. (2021) and Ganong and Liebman (2018), this paper examines whether state policies affect access to SNAP for older adults and people with disabilities. It contributes to our understanding of the economic outcomes of people with disabilities and, specifically for those that are low-income, how SNAP policies affect them. The disability literature has done little to consider the effect of SNAP policies, and what literature there is tends to focus on how the federal programs interact, such as how access to SNAP affects SSI and SSDI applications (Lindner and Nichols 2012) or how DI wait times affect SNAP applications (Coe et al. 2014). The SNAP literature has done little to consider people with disabilities despite the fact that there are modifications to SNAP policies aimed at this demographic group. Most of the literature listed previously either look at the population in general or specifically exclude the population with disabilities. Further studies specifically include people with disabilities in their analysis, but either are narrow in their policy analysis or only analyze a subset of the population with disabilities. For example, Gray (2019) studies the effect of a single SNAP policy, the simplified reverification process, on SNAP retention but finds the results to be driven by a subpopulation without disabilities. Hanratty (2006) studies the effects of reduced recertification times, simplified reporting, and vehicle exemption policies and finds participation rates to be highly correlated with disability status, but the analysis sample is limited to only families with children.

In addition, this paper utilizes data from the SNAP State Options Reports (SOR) which allows analysis of SNAP policies previously not analyzed. Most previous literature relied on only the SNAP Policy Database for policy data. Ratcliffe, McKernan, and Finegold (2008) use the SOR, but many new policy options have become available since 2008. Ganong and Liebman (2018) use the SOR, but only to extend the analysis of variables that overlap between the Policy

Database (which ends in 2016) and the SOR. Of particular interest to this study, the SOR contains information on the ESAP, the SMD, and ABAWD waivers. To the best of our knowledge, this study will be the first to study the entirety of the people with disabilities and older adult population and incorporate all relevant policy options.

4 Data

4.1 SNAP policy data

The SNAP policy data primarily come from two sources: the *SNAP Policy Database* and the *SNAP State Options Reports*. Both sources are provided by the US Department of Agriculture (USDA). The *SNAP Policy Database* reports policies for each state and D.C. for each month from 1996 to 2016. The *SNAP Policy Database* includes information on eligibility, recertification and reporting, benefit methods, online applications, use of biometrics, and coordination with other low-income assistance programs. In addition, we use annual information from issues of the *SNAP State Options Reports* available from 2002 to 2018. These reports contain annual information on vehicle policies, coordination with TANF and Medicaid, disqualification policies, application processes and further reporting, eligibility, and benefit methods for the states and D.C. as well (along with Guam and the Virgin Islands). In addition, the *State Option Reports* contain information on the Elderly Simplified Application Process (ESAP), Standard Medical Deduction (SMD) and Able-Bodied Adults Without Dependents (ABAWD) waivers and limits.

This paper creates dummy variables for states adopting the policies listed in section 2.2. For BBCE, this study only considers BBCE extensions to households with older adults or members with disabilities. For vehicle policies, only the policy that increases the standard deduction is considered. Additionally, the data contains continuous variables on the income

limit used under BBCE (as a percent of the federal poverty guideline), the proportion of all SNAP benefits that are accounted for by EBT (electronic benefit transfer), and the sum of all outreach spending (in thousands of dollars). Finally, we perform year-month level analysis. Since the State Option Reports are annually, this study finds the midpoint between each State Option Report release date and imputes the value for each year-month based on the nearest Report.

4.2 *Survey of Income and Program Participation (SIPP)*

The main data source for measuring individual factors, such as SNAP participation and disability, will be the 2001, 2004, 2008, and 2014 panels of the SIPP. Each panel covers approximately four calendar years, so the analysis covers October 2000 up to December 2016. For example, the 2014 SIPP panel begins in January of 2013 and covers the calendar years of 2013, 2014, 2015 and 2016. The SIPP is administered by the US Census Bureau and contains monthly, individual-level responses to survey questions. The monthly nature of the SIPP is particularly appealing since SNAP benefits are issued monthly and some policies operate on a three-month basis.

The SIPP contains two variables that are used to restrict the sample and two more that are used to define populations. The SIPP asks survey-takers what the total household income is and contains a variable that represents the poverty threshold for the household. These variables are combined to create an income-to-poverty ratio and the sample is restricted to observations that have a value of 200% or less of the income-to-poverty ratio. The older adult population is defined as anyone age 60 and up, and the population with disabilities is defined using the variable described below. For this study, there are 3,627,600 observations across 205,851

individuals, 33,666 of which are considered older adults and 44,840 of which are considered people with disabilities.

4.3 Disability Definition

There are no standard approaches to defining disability, so we use multiple methods. One question asked of survey-takers is: “Does [person in household] have a physical, mental, or other health condition that prevents the kind or amount of work [person] can do?” This paper uses the associated indicator variable and considers an observation as a person with a disability if it has a value of 1 (responded “yes”). Next, we define a person with a disability as receiving disability income payments. However, the SIPP generally does not collect information on whether a person receives Social Security Disability Insurance (SSDI). This makes it difficult to compare the results of this analysis to previous literature. For example, the SIPP asks respondents about disability income from employer payments, accident insurance, and even Black Lung benefits, but not SSDI. However, in a supplemental dataset to wave 1 of the 2014 SIPP panel, this survey asks whether a respondent receives SSDI. Finally, the SIPP asks questions about functional limitations. However, these questions are not consistently asked in older panels of the SIPP and the wording differs across surveys, which reduces the number of observations and makes data harmonization difficult, respectively. Thus, our main measure of disability is whether the person has a condition that prevents their ability to work, and the other definitions will be used as robustness checks.

The SIPP also asks respondents about the amount of SNAP benefits received for the month. We create a dummy variable for positive values in the underlying variable. Missing values in the underlying variable indicate no SNAP receipt and are included as zeros in the

dummy variable. The SIPP also asks standard demographic questions which are included as control variables.

Table 1 provides summary statistics for the individuals in the sample. The columns represent the younger adult population without disabilities; people with disabilities; and the older adult population. One noteworthy observation is that people with disabilities are noticeably more likely to participate in SNAP, while the older population participates at the same rate as the younger adult population without disabilities.

4.4 *Additional Data*

The University of Kentucky Center for Poverty Research compiles data from multiple sources into a single dataset called the National Welfare Dataset. It contains annual data about the population, employment, poverty, welfare, and politics from 1980 to 2019 for each state. We use this dataset to control for the unemployment rate, the poverty rate, state GDP, average state personal income and AFDC/TANF caseloads.

As a robustness check, we also include state-level analysis of SNAP caseloads in the appendix. The SNAP caseloads data comes from the *Characteristics of SNAP Households Annual Reports* released by the USDA from 1976 to 2017. The reports detail economic and demographic information about SNAP households at the state-level. The reports break down caseloads for older adults and people with disabilities. Finally, the USDA also releases data specifically on the state ABAWD waivers. This data is released quarterly (as opposed to annually in the State Option Reports) and covers Q2 of 2016 to the present. This data is also slightly more detailed as it states whether the waivers apply to the entire state or parts of it.

5 Empirical Approach

This study uses two-way fixed effects and difference-in-differences (DID) models to estimate the effect of SNAP policy changes on people with disabilities and older adult SNAP recipients. We will estimate whether state policy indices have an effect on the probability of receiving SNAP benefits. Let m represent a given year-month, s represent a given state, and i represent a given individual. Then specification one is:

$$SNAPReceipt_{ism} = \beta_n^r PolicyIndex_{sm} + \delta W_{ism} + \gamma X_{sm} + f_s + v_m + \epsilon_{ism}$$

where W_{ism} contains the demographic controls mentioned in Table 1, X_{sm} contains the state-level control variables (the unemployment rate, the poverty rate, state GDP, average state personal income and AFDC/TANF caseloads), f_s are the state fixed-effects, v_m are the year-month fixed-effects, and ϵ_{ism} is the error term. The superscript r represents receipt and distinguishes the individual-level analysis from the state-level performed in the appendix.

Ganong and Liebman (2018) have noted that identifying the effect of an individual SNAP policy is complicated by measurement error, citing sources with conflicting dates for the adoption of policies, and that states tend to adopt multiple policies simultaneously. We follow their approach to create counts of SNAP policies as indices. Previous researchers have used policy indices as well (Ganong and Liebman 2018; Jones et al. 2021; Stacy, Tiehen, and Marquardt 2018).

We categorize SNAP policies into the three categories recognized by the USDA: eligibility, transaction costs, and stigma policies; and further categorize policies into counts of program generosity and program restriction policies. Let p denote a given policy. Then:

$$PolicyIndex_{sm} = \sum_p Policy_{psm}$$

For this model, we test several indices to gauge the effectiveness of SNAP policies along different dimensions. Table 2 categorizes these indices by the specific policies they include. We test the weighted and unweighted indices used by Stacy, Tiehen, and Marquardt (2018). As best as we can tell, these are the closest to official USDA indices. These indices are comprised of policies that extend benefits to noncitizen adults; exempt at least one vehicle from the asset test; use broad based categorical eligibility (BBCE); lengthen recertification times for earner households; use simplified reporting, online applications, and issue EBT cards; and require fingerprinting.

We also test indices comprised of policies that fall into the three USDA categories and target older adults or people with disabilities: an eligibility index, a transaction cost index, and a stigma index. Eligibility includes state policies that expand access to SNAP including eligibility extended to noncitizen older adults, raising the income limit under BBCE, at least one vehicle excluded from assets, and no standard medical deduction (SMD). Transaction costs includes state policies that lower transaction costs including the combined application project (CAP) for SSI and SNAP, longer recertification times for older adults, the elderly simplified application project (ESAP) and no online applications. Finally, the stigma index includes state policies that may involve public acknowledgement of SNAP benefits including fingerprinting, issuing electronic benefits (EBT), and using disqualification policies for drug felonies, child support payment delinquencies, and disqualifications from other means-tested programs.

In addition, we define two new indices: generosity and restrictive. The generosity index is a combination of the positive components of the eligibility and transaction cost indices including eligibility extended to noncitizen older adults, BBCE income limit, at least one vehicle excluded from assets, CAP, and ESAP. The restrictive index includes: the SMD, BBCE only

applying to seniors, fingerprinting, transitional benefits, and disqualifications due to child support payment delinquencies.

Though previous research explains the difficulty of individual policy analysis, this study performs the analysis because granular analysis of the impact of some policies, particularly the ESAP and SMD, have not been conducted and these policies directly relate to older adults and people with disabilities. It would also be worth studying which policies may be driving the indices even if the results should be interpreted with caution. This leads to the second specification, which studies the effect of individual policies on the probability of an individual receiving SNAP benefits. The model is:

$$SNAPReceipt_{ism} = \beta_p^r Policy_{sm} + \delta W_{ism} + \gamma X_{sm} + f_s + v_m + \epsilon_{ism}$$

We do two version of this model. First, we include all policies individual in the model. Second, we do separate regressions that include one policy at a time. Finally, for each of the specifications, the model is run over three populations: the general population is used as a baseline and contains everyone, including older adults and people with disabilities. The other two populations are people with disabilities and older adult populations, as defined in sections 4.2.

6 Results

There is substantial policy variation across states and time. Table 3 shows the number of states that have selected policies in the years 2000, 2008 and 2016 and the average of indices used at the state level. On average and for most policies, states have become more generous over time. In 2000, very few states enacted SNAP policies. By 2008, there are large increases in states offering vehicle exemptions and using simplified reporting. By 2016, almost every state is

using vehicle exemptions, simplified reporting, and joint processing of TANF applications, and over half provide BBCE to seniors.

Table 4 shows the estimated effects of the various policy indices on SNAP receipt. For all three populations (the general population, people with disabilities, and older adults), the USDA indices developed by Stacy et al (2018) do not seem to have a significant effect. In addition, some of the coefficients are small in magnitude, and even negative for older adults. For older adults and people with disabilities, these coefficients may be explained by the fact that the policies included in the indices do not target them. The next three rows in Table 3, contain the indices for eligibility, transaction costs and stigma developed by Jones et al (2021). None of these indices have a significant effect on the likelihood of receiving SNAP benefits. In some cases, the signs are reversed — policies designed to expand eligibility have a negative but insignificant effect on older adults receiving SNAP benefits.

In Table 5 we see that our indices have a significant impact on SNAP receipt. For the general population, the eligibility index is positive and very significant. It seems that each additional eligibility policy increases the probability of receiving SNAP by 0.571 percentage points. For people with disabilities, this effect diminishes to significance at the 5 percent level, but the results estimate the effect to be stronger for this group at a 1.21 percentage point increase. The effect of eligibility policies for older adults are not statistically significant, but transaction cost policies seem to have a very significant effect. Each additional policy that reduces the burden of applying or participating in SNAP seems to increase senior participation by 0.983 percentage points. These policies seem to have no effect on people with disabilities or the general population. Stigma policies also have no significant effect on the probability of receiving SNAP benefits for any population.

Finally, the generosity index is positive and significant and seems to capture the best of both the eligibility and transaction cost indices. The results indicate that across all three populations, increases in generosity policies increase SNAP receipt. It is worth noting that the magnitudes of the coefficients are stronger for both people with disabilities and older adults. For the general population, an adoption of an additional generosity policy increases the probability of receiving SNAP benefits by 0.584 percentage points, while the estimated effect for people with disabilities is 1.29 percentage points and for older adults is 0.905 percentage points. Restrictive policies reduce receipt of SNAP benefits by 0.378 percentage points in the general population and 0.858 percentage points for people with disabilities.

Table 6 shifts to the individual policy analysis and contains the estimated effects of individual SNAP policies on the probability of receiving SNAP benefits. Across all three populations, simplifying the application for older adults and improving eligibility through BBCE are effective in increasing SNAP receipt, and the effects are larger for older adults. Combining the SNAP and SSI applications increase receipt for the older adult population only, while vehicle exclusion policies only benefit people with disabilities. Paying benefits in the form of EBT cards seems to decrease participation among the general population and older adults, corroborates previous research that has found that older adults have difficulty with EBT cards and that EBT cards have a stigma associated with them. The SMD appears to decrease SNAP receipt across all populations and the effect is strongest among people with disabilities. While this may seem counterintuitive, the SMD simplifies the application process by offering a standard deduction instead of itemizing medical expenses. It is possible that the standard deduction puts individuals over the income limit, where if they had itemized expenses, they may have been under and received benefits. Fingerprinting policies reduce participation in the general population. Non-

citizen, older adult eligibility, online applications, recertification for older adults, and disqualification policies do not seem to be driving any of the results of the indices.

We performed a similar analysis in Appendix Table 1, this time entering each policy separately in regressions, and the results are very similar to those found in Table 5. We also include estimates of our indices and state policies on state-level caseloads in the appendix.

6.1 Heterogeneous effects

Table 7 estimates the effect of the eligibility, transaction cost, stigma, generosity and restrictive indices using different definitions of disability. Different organizations will define disability differently, and researchers will use different measures based on what is available in their data. The first column of Table 6 repeats the definition used in the previous tables. This measure uses the presence of a work-preventing health condition to define disability. The advantages of this definition are that it strikes a balance between the extreme definitions and that it is asked in every wave of every panel of the SIPP used in this study, allowing for significantly more observations than the other definitions. The second column uses receipt of Social Security Disability Insurance as the definition of disability. This definition is popular in the disability literature because it is not prone to the biases of self-reported disability. This is also the definition used by the Social Security Administration and the SNAP program and tends to be the most conservative measure. A drawback of this definition for this study is that it is only explicitly available in one year in a supplemental dataset to the SIPP, so the sample size is considerably smaller. The final column uses the six functional limitation questions commonly found in surveys such as the SIPP and the CPS and defines disability as the presence of any one of those limitations. This definition tends to also be popular in the disability literature due to its

prevalence, making it accessible and the results comparable across surveys. This measure tends to be the most inclusive definition of disability.

For the definition that uses DI receipt, none of the policies are statistically significant. Since DI receipt is the definition used by the SNAP program, this may imply that the policies are not as effective for this population as they appear or intend to be. However, this is a much smaller sample than that used throughout the rest of the paper. The generosity and transaction cost indices are positively associated with increase in SNAP receipt for those reporting functional limitations. However, the eligibility index has a negative impact, reducing the likelihood of SNAP receipt for those reporting functional limitations by 1.2 percentage points.

We repeat the analysis that uses individual policies for the three disability definitions in Table 8. Simplified applications for older adults appear to have a positive externality, increasing the participation of people with disabilities in SNAP by 3 – 4 percentage points. Transitional benefits reduce SNAP caseloads for disability recipients. None of the other individual policies have significant effects on SNAP receipt of people with disabilities. Appendix Table 2 repeats this analysis but includes each policy separately in individual regressions. The results do not differ from those in Table 7.

Finally, Table 9 contains estimates of disparities by race for the effects of the generosity and restrictive SNAP policy indices on SNAP receipt. For the generosity index, the increases in SNAP participation seem to be concentrated in white and black populations. The coefficients are slightly larger for the black population, though the coefficient for older adults and black is only marginally significant. For the restrictive index, the only statistically significant coefficients are for the white population. These coefficients are negative, implying that the restrictive policies are effective in reducing participation.

6.2 Future work

We plan to include several robustness checks before submitting this paper to a journal. First, we plan to use a simulated eligibility approach. Previous research has used simulated eligibility as an alternative to policy indices, stating that policy indices may not capture the effects of policy interaction and that indices assume that each policy expands eligibility to the same degree (Jones et al. 2021). To construct the simulated eligibility variable (SEV), we will start with a fixed national sample and compute the proportion eligible for SNAP under a given state's SNAP policy environment in a given year. We plan to do this for both older adults and people with disabilities. For a given state s and time t ,

$$SEV_{st} = \frac{\# \text{ individuals simulated as eligible for SNAP}}{\text{Total \# of individuals}}$$

Then the estimation equation becomes:

$$SNAPReceipt_{ist} = \beta_{SEV}^r SEV_{st} + \delta W_{ist} + \gamma X_{st} + f_s + v_t + \epsilon_{ist}$$

In addition, recent econometric literature has brought to light problems with two-way fixed effects estimation, particularly in the context of difference-in-difference models with staggered adoption of treatment. Goodman-Bacon (2021) finds that naïve TWFE estimates tend to over-weight observations in the middle time periods of the sample. He also finds evidence of non-zero weights placed on a comparison that uses already treated observations as a control but mentions this tends to bias results towards zero. De Chaisemartin and D'Haultfoeuille (2022) finds evidence that staggered adoption in DID can result in negative weights being assigned and Callaway and Sant'Anna (2021) stress that time varying controls that are affected by treatment will bias estimates of the treatment effect. We plan to incorporate these findings into the paper shortly.

Lastly, we plan to test robustness to different definitions of older adults. SNAP uses age 60 to define older adults, but the general population may use 65 and the Social Security administration may use the full retirement age (currently 66 or 67 for most people).

7 Conclusion

This paper examined whether state SNAP policies have an effect on SNAP participation for older adults and people with disabilities. Overall, we find evidence that policies that increase generosity or simplify the application process increase participation and policies that disqualify or restrict access decrease participation, but, as previous research has found, estimating the effect of a single SNAP policy in isolation is complicated. With the use of policy indices however, we find consistent results that increasing the number of generosity policies increases participation and adopting more restrictive policies reduces participation. This chapter also finds older adults and people with disabilities to be more sensitive to these policies, with larger magnitudes compared to the general population.

These results suggest that state policies that restrict SNAP eligibility or increase transaction costs may counteract federal policies designed to make SNAP more available to older adults and people with disabilities. Our study is the first to examine two policies designed to facilitate access to SNAP for older adults ESAP and SMD. Our analysis indicates that the ESAP policy works as intended and facilitates access to SNAP benefits for those aged 60 or over. However, the standard medical deduction (SMD) has a negative and significant impact on SNAP receipt for the general population and for those with work-limiting disabilities. While SMD simplifies reporting it may have unintended consequences. If for example, people with disabilities are close to the margin of the income threshold and would qualify for benefits if

allowed to itemize medical deductions but are over the threshold when using the SMD, this might explain the negative impact on SNAP receipt.

One avenue for future research is to extend this analysis by using SNAP policies as instrumental variables (IV). In particular, it could be interesting to look at the effect of SNAP participation on food security. While some authors have done this, they have not taken an IV approach using policy indices. Since the SIPP asks questions about food security, this could be an easy extension for this project. In addition, if the correlation between the policy indices and food security is strong enough to allow instrumenting for food security directly, then another avenue could be to study the effect of food security on disability. Some literature has tried this before as well, but without an instrument, they ran into problems with reverse causality: food insecurity can lead to malnourishment which could lead to disability. It is also associated with poverty which is tied to insufficient healthcare. Disability is also associated with reduced earnings and poverty, which leads to food insecurity.

Table 1: Descriptive statistics for individuals in the SIPP sample

VARIABLES	General Population		People with Disabilities		Older Adults	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Proportion receiving SNAP	0.124	(0.329)	0.347	(0.476)	0.127	(0.333)
<i>Education Level</i>						
High school	0.881	(0.324)	0.941	(0.235)	0.913	(0.282)
Bachelor's degree	0.0888	(0.284)	0.0437	(0.204)	0.0584	(0.235)
Graduate degree	0.0301	(0.171)	0.0150	(0.121)	0.0288	(0.167)
<i>Marital Status</i>						
Married, spouse present	0.374	(0.484)	0.282	(0.450)	0.330	(0.470)
Married, spouse absent	0.0188	(0.136)	0.0180	(0.133)	0.0161	(0.126)
Widowed	0.0183	(0.134)	0.0613	(0.240)	0.425	(0.494)
Divorced	0.115	(0.319)	0.245	(0.430)	0.145	(0.352)
Separated	0.0347	(0.183)	0.0620	(0.241)	0.0190	(0.137)
Never married	0.440	(0.496)	0.332	(0.471)	0.0644	(0.245)
<i>Race</i>						
White	0.730	(0.444)	0.698	(0.459)	0.788	(0.409)
Black	0.183	(0.387)	0.227	(0.419)	0.157	(0.364)
Asian	0.0427	(0.202)	0.0177	(0.132)	0.0290	(0.168)
Residual	0.0438	(0.205)	0.0580	(0.234)	0.0253	(0.157)
Age	34.92	(13.36)	46.52	(12.71)	75.58	(6.787)
Female	0.555	(0.497)	0.557	(0.497)	0.653	(0.476)
Hispanic	0.232	(0.422)	0.114	(0.318)	0.0806	(0.272)
Observations	2,342,918		634,627		705,750	

Table 2: Policies Included in Policy Indices

Policies	Stacy et al (2018)	Jones et al (2021)	This study
Noncitizens eligible for SNAP	X	E*	E*,G
Excludes at least 1 vehicle	X	E	E, G
Broad-based Categorical Eligibility	X	E*	E, G
% of pop. w/ recertification \leq 3 months	X	T*†	T*, G
Simplified reporting	X	T	
Online applications	X	T	T-, G
Face-to-face recertification waived		T	
Call centers		T	
Combined Application Project		T	T, G
Issues EBT cards	X		S, R
Fingerprints required	X	S	S, R
Standard medical deductions			E-, R
Application simplified for the elderly			T, G
DQ from drug felony			S, R
DQ from DQ in another program			S, R
DQ from child support misconduct			S, R

*: Uses measures specifically for older adults when available.

†: Defines short recertification as 6 months or less.

E: Eligibility

T: Transactions

S: Stigma

G: Generosity

R: Restrictive

E-: Subtracted from eligibility index.

T-: Subtracted from transactions index.

Table 3: Count of State SNAP Policies by Year

	2000	2008	2016
State offers BBCE to seniors	5	12	27
State uses standard medical deduction	0	0	18
State offers benefits for those leaving TANF	0	19	23
State exempts all vehicles	5	34	44
State offers vehicle deductions above the standard	1	5	0
State offers ESAP	0	0	8
State uses simplified reporting	0	47	50
State offers joint processing for TANF	0	0	50
State offers joint processing for Medicaid	0	0	39
Average income generosity index	0.22	1.37	2.22
Average reporting generosity index	0	1.29	3.35

Source: SNAP State Option Reports, SNAP Policy Database 2000-2016

Table 4: Two-Way Fixed Effects Estimates of the effects of previously established SNAP policy indices on SNAP receipt

	(1) Gen. Pop.	(2) Disability	(3) Older Adults
Unweighted Stacy et al (2018) Index	0.000991 (0.00100)	0.00432 (0.00340)	-0.00195 (0.00159)
Weighted Stacy et al (2018) Index	0.000764 (0.000463)	0.00167 (0.00168)	-0.0000435 (0.000756)
Jones et al (2021) Eligibility Index	0.000656 (0.00158)	0.00382 (0.00540)	-0.00221 (0.00262)
Jones et al (2021) Transaction Cost Index	-0.000128 (0.000880)	0.00176 (0.00289)	-0.00144 (0.00144)
Jones et al (2021) Stigma Index	-0.00269 (0.00400)	0.00518 (0.0133)	-0.00301 (0.00743)
Controls	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	3,435,490	498,112	848,270
R^2	0.010	0.014	0.012
Individuals	196,915	28,966	42,389

Robust standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Table 5: Two-Way Fixed Effects Estimates of the effects of SNAP policy indices on probability of SNAP receipt

	(1) Gen. Pop.	(2) Disability	(3) Older Adults
Eligibility Index	0.00571*** (0.00152)	0.0121* (0.00522)	0.00413 (0.00261)
Transaction Cost Index	0.00320 (0.00169)	0.00781 (0.00506)	0.00983*** (0.00279)
Stigma Index	-0.00101 (0.00120)	0.00253 (0.00373)	0.00204 (0.00187)
Generosity Index	0.00584*** (0.00138)	0.0129** (0.00474)	0.00905*** (0.00228)
Restrictive Index	-0.00378** (0.00132)	-0.00858* (0.00413)	-0.00415 (0.00218)
Controls	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	3,435,490	498,112	848,270
R^2	0.010	0.014	0.012
Individuals	196,915	28,966	42,389

Robust standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Table 6: Two-Way Fixed Effects Estimates of the effects of SNAP policies on probability of SNAP receipt

	(1) Gen. Pop.	(2) Disability	(3) Older Adults
All noncitizen older adults eligible for SNAP	-0.00289 (0.00740)	-0.0427 (0.0308)	0.00944 (0.0116)
Income limit increased above Federal minimum	0.0122*** (0.00294)	0.0126 (0.00958)	0.0151** (0.00493)
State combines SNAP & SSI applications	0.00199 (0.00264)	0.0146 (0.00913)	0.0127** (0.00464)
Short recertification for older adults	0.0414 (0.0326)	-0.0781 (0.107)	0.0701 (0.0495)
State simplifies application for older adults	0.0196*** (0.00542)	0.0434** (0.0133)	0.0285** (0.00921)
State excludes at least 1 vehicle	0.00392 (0.00211)	0.0158* (0.00724)	0.000815 (0.00320)
State offers SMD	-0.0104** (0.00354)	-0.0306** (0.0108)	-0.00714 (0.00631)
Income limit increased or eliminated for senior/people with disabilities	-0.00660* (0.00271)	-0.00321 (0.00850)	-0.0109* (0.00444)
Fingerprints required in at least part of state	-0.00834* (0.00401)	-0.00594 (0.0130)	-0.00741 (0.00732)
State offers benefits for families leaving TANF	-0.00556* (0.00239)	-0.0234** (0.00781)	-0.00570 (0.00349)
State has a child support DQ policy	-0.00301 (0.00294)	0.00276 (0.00952)	-0.00237 (0.00429)
Online app available in at least part of state	0.00132 (0.00210)	0.00351 (0.00658)	-0.00251 (0.00330)
State issues benefits electronically	-0.0114* (0.00546)	0.000325 (0.0208)	-0.0190* (0.00931)
State has a drug DQ policy	-0.00424 (0.00269)	-0.00856 (0.00836)	0.00159 (0.00441)
Mean-tested DQs apply to SNAP	0.00131 (0.00175)	0.00447 (0.00514)	0.00483 (0.00276)
Controls	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	3,435,490	498,112	848,270
R^2	0.010	0.015	0.013
Individuals	196,915	28,966	42,389

Robust standard errors in parentheses. All policies run together in a single regression.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Two-Way Fixed Effects Estimates of the effects of SNAP policy indices using different definitions of disability

	(1) Work Preventing	(2) DI Receipt	(3) 6 Questions
Eligibility Index	0.0121* (0.00522)	-0.0172 (0.0336)	-0.0122* (0.00598)
Transaction Cost Index	0.00781 (0.00506)	0.00166 (0.00836)	0.0146* (0.00584)
Stigma Index	0.00253 (0.00373)	-0.00104 (0.00881)	-0.00173 (0.00488)
Generosity Index	0.0129** (0.00474)	0.762 (0.457)	0.0172** (0.00590)
Restrictive Index	-0.00858* (0.00413)	0.0113 (0.0136)	0.00842 (0.00557)
Controls	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	498,112	11,735	274,153
R^2	0.014	0.043	0.013
Individuals	28,966	1,067	21,688

Robust standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Table 8: Two-Way Fixed Effects Estimates of the effects of SNAP policies using different definitions of disability.

	(1) Work Preventing	(2) DI Receipt	(3) 6 Questions
All noncitizen older adults eligible for SNAP	-0.0427 (0.0308)	-0.00747 (0.0145)	-0.0247 (0.0306)
Income limit increased above Federal minimum	0.0126 (0.00958)	-0.0220 (0.0609)	-0.0137 (0.00992)
State combines SNAP & SSI applications	0.0146 (0.00913)	0.00145 (0.0112)	-0.000632 (0.0231)
Short recertification for older adults	-0.0781 (0.107)	0.792 (0.477)	-0.117 (0.181)
State simplifies application for older adults	0.0434** (0.0133)		0.0342*** (0.00929)
State excludes at least 1 vehicle	0.0158* (0.00724)	-0.0242 (0.0309)	0.0196 (0.0151)
State offers SMD	-0.0306** (0.0108)	0.0156 (0.0352)	0.000386 (0.0113)
Income limit increased or eliminated for senior/people with disabilities	-0.00321 (0.00850)	0.0255 (0.0841)	0.0136 (0.0104)
Fingerprints required in at least part of state	-0.00594 (0.0130)		-0.00111 (0.0253)
State offers benefits for families leaving TANF	-0.0234** (0.00781)	-1.003*** (0.0233)	-0.0250 (0.0205)
State has a child support DQ policy	0.00276 (0.00952)	0.00517 (0.0160)	0.00209 (0.0121)
Online app available in at least part of state	0.00351 (0.00658)	0.00241 (0.00877)	0.00118 (0.00860)
State issues benefits electronically	0.000325 (0.0208)		
State has a drug DQ policy	-0.00856 (0.00836)	-0.00652 (0.0186)	-0.0138 (0.0124)
Mean-tested DQs apply to SNAP	0.00447 (0.00514)	-0.00443 (0.00955)	0.000957 (0.00571)
Controls	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	498,112	11,735	274,153
R^2	0.015	0.044	0.014
Individuals	28,966	1,067	21,688

Robust standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 9: Two Way Fixed-Effects Estimates of the effects of SNAP policy indices on probability of SNAP receipt by race

	(1) Gen. Pop.	(2) Disability	(3) Older Adults
<i>Generosity Index</i>			
White only	0.00545*** (0.00148)	0.0145** (0.00529)	0.00614** (0.00235)
Black Only	0.00972*** (0.00282)	0.0152* (0.00751)	0.0216*** (0.00556)
Asian Only	-0.00602 (0.00424)	-0.0250 (0.0165)	0.0142 (0.00991)
Residual	0.00331 (0.00643)	-0.000886 (0.0166)	0.0140 (0.0139)
<i>Restrictive Index</i>			
White only	-0.00533*** (0.00141)	-0.00985* (0.00478)	-0.00839*** (0.00223)
Black Only	0.00105 (0.00329)	-0.00453 (0.00779)	0.0126* (0.00641)
Asian Only	-0.00371 (0.00574)	-0.0198 (0.0267)	0.00892 (0.0129)
Residual	0.00191 (0.00631)	-0.00690 (0.0156)	0.00391 (0.0149)
Controls	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	3,435,490	498,112	848,270
R ²	0.010	0.014	0.012
Individuals	196,915	28,966	42,389

Robust standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Appendix A: Additional Table to Main Analysis

Appendix Table 1: Two Way Fixed Effects Estimates of the effects of SNAP policies on probability of SNAP receipt

	(1) Gen. Pop.	(2) Disability	(3) Older Adults
All noncitizen older adults eligible for SNAP	-0.00648 (0.00733)	-0.0443 (0.0307)	0.00631 (0.0118)
Income limit increased above Federal minimum	0.00949*** (0.00252)	0.0134 (0.00881)	0.0100* (0.00439)
State combines SNAP & SSI applications	0.00308 (0.00261)	0.0152 (0.00906)	0.0139** (0.00461)
State simplifies application for elderly	0.0132* (0.00523)	0.0283* (0.0126)	0.0245** (0.00905)
State excludes at least 1 vehicle	0.00293 (0.00207)	0.0125 (0.00720)	-0.00170 (0.00315)
State offers SMD	-0.00740* (0.00337)	-0.0232* (0.0104)	-0.00341 (0.00618)
Income limit increased or eliminated for senior/people with disabilities	-0.0000981 (0.00234)	0.00372 (0.00775)	-0.00399 (0.00397)
Fingerprints required in at least part of state	-0.00269 (0.00400)	0.00518 (0.0133)	-0.00301 (0.00743)
State offers benefits for families leaving TANF	-0.00512* (0.00236)	-0.0218** (0.00775)	-0.00728* (0.00347)
State has a child support DQ policy	-0.00431 (0.00298)	-0.00445 (0.00987)	-0.00209 (0.00458)
Online app available in at least part of state	-0.000836 (0.00210)	0.00128 (0.00660)	-0.00371 (0.00335)
State has a drug DQ policy	-0.00419 (0.00267)	-0.00754 (0.00821)	0.00127 (0.00434)
Mean-tested DQs apply to SNAP	0.00283 (0.00174)	0.00809 (0.00513)	0.00635* (0.00271)
Short recertification for older results	0.0595 (0.0337)	-0.0254 (0.112)	0.0862 (0.0528)
State issues benefits electronically	-0.0133* (0.00541)	0.000727 (0.0207)	-0.0199* (0.00925)
Controls	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	3,435,490	498,112	848,270
R ²	0.010	0.014	0.012
Individuals	196,915	28,966	42,389

Robust standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Appendix Table 2: Two Way Fixed Effects Estimates of the effects of SNAP policies using different definitions of disability

	(1) Work Preventing	(2) DI Receipt	(3) 6 Questions
All noncitizen older adults eligible for SNAP	-0.0443 (0.0307)	-0.0123 (0.0174)	-0.0247 (0.0304)
Income limit increased above Federal minimum	0.0134 (0.00881)	0.00459 (0.0110)	-0.0110 (0.00863)
State combines SNAP & SSI applications	0.0152 (0.00906)	0.00459 (0.0110)	0.000212 (0.0231)
State excludes at least 1 vehicle	0.0125 (0.00720)	-0.00459 (0.0110)	0.0129 (0.0154)
State offers SMD	-0.0232* (0.0104)	0.0172 (0.0336)	0.0222* (0.0103)
Income limit increased or eliminated for senior/people with disabilities	0.00372 (0.00775)	-0.00456 (0.0145)	0.0151 (0.00986)
Fingerprints required in at least part of state	0.00518 (0.0133)		-0.000635 (0.0239)
State offers benefits for families leaving TANF	-0.0218** (0.00775)	-1.008*** (0.0148)	-0.0218 (0.0199)
State has a child support DQ policy	-0.00445 (0.00987)	0.0112 (0.0144)	-0.00294 (0.0115)
Online app available in at least part of state	0.00128 (0.00660)	-0.00122 (0.00841)	-0.00305 (0.00883)
State has a drug DQ policy	-0.00754 (0.00821)	0.00456 (0.0145)	-0.00775 (0.0110)
Mean-tested DQs apply to SNAP	0.00809 (0.00513)	-0.00245 (0.00945)	0.000269 (0.00554)
Short recertification for older adults	-0.0254 (0.112)	0.762 (0.457)	-0.0308 (0.182)
Controls	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	498,112	11,735	274,153
R^2	0.014	0.044	0.013
Individuals	28,966	1,067	21,688

Robust standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Appendix B: State level analysis of SNAP policies on SNAP participation

The two specifications contained in this appendix are similar to the two found in the main body but study state-level SNAP caseloads instead of individual-level receipt and use annual data instead of the year-month format of the SIPP. For this analysis, if a state adopts a policy at any point in a calendar year according to the Policy Database, then it is treated as if it adopted the policy for the entire calendar year. The first specification attempts to capture the effect of changes in the policy index on state SNAP caseloads. Let, s a given state, and a (for annual) represent a given year. Then the first model is:

$$\ln(\text{SNAPCases})_{sa} = \beta_n^c \text{PolicyCount}_{sa} + \gamma X_{sa} + f_s + v_a + \epsilon_{sa}$$

where X_{sa} contains the state-level control variables (the unemployment rate, the poverty rate, state GDP, average state personal income and AFDC/TANF caseloads), f_s are the state fixed-effects, v_a are the year fixed-effects, and ϵ_{sa} is the error term. The c superscript represents caseloads and is used to distinguish the coefficients from the individual-level analysis done in the main body of the paper. To decide which policies to include in this model, we run the model for each policy individually with and without controls and use only those that are significant in the final model.

For this model, we test two policy indices: an income generosity index, comprised of the BBCE, SMD, transitional benefits, vehicle exclusion, and vehicle exemption policies; and a reporting generosity policy, comprised of the ESAP, simplified reporting, joint TANF and joint Medicaid processing, and transitional benefits policies.

Second, we perform state-level analysis to see if the individual policies have an effect on state SNAP caseloads. Let p denote a given policy. Then the second specification is:

$$\ln(\text{SNAPCases})_{sa} = \sum_p \beta_p^c \text{Policy}_{psa} + \gamma X_{sa} + f_s + v_a + \epsilon_{sa}$$

Table A3 holds the estimates for the income generosity index and the reporting generosity index for both people with disabilities and older adult caseloads. The results seem to indicate that, on average, an adoption of an additional income generosity policy will increase people with disabilities caseloads by approximately 3.3 percentage points and an additional reporting generosity policy will increase people with disabilities caseloads by approximately 7.7 percentage points. While all coefficients are positive, only the ones for people with disabilities caseloads are significant and only marginally so.

Table A4 contains the results of the regression of people with disabilities SNAP caseloads on SNAP policies. The first column contains the estimates of a TWFE model without controls and shows that the ESAP, ABAWD waivers, joint TANF policies, and eliminating the income limit for seniors under BBCE have a positive effect on caseloads. The second column shows that when other factors are accounted for, the estimated magnitudes diminish slightly but are overall still significant and positive. The final column shows estimates of a TWFE model that only includes the previously mentioned significant policies. Overall, magnitudes and statistical significance become stronger than either previous model. The ESAP and BBCE for seniors having an effect on people with disabilities makes sense given the close connection between age and disability. The ABAWD waivers having an effect on people with disabilities caseloads however is counterintuitive. Overall, this table shows some evidence that simplifying the application process increases caseloads.

Table A5 contains the results for the parallel process performed for older adults caseloads. These results are more puzzling than the previous table. The ABAWD waivers continue to have a positive effect for a non-ABAWD population. The ESAP seems to have no statistical effect, joint TANF policies tend to have negative effects, and while increasing the

generosity of the income limit under BBCE has a positive effect, eliminating the income limit entirely does not have a stronger effect. While counterintuitive, these results are not surprising, given that previous literature has had difficulty identifying estimates for individual policies as well.

Table A3: OLS estimates of the effect of SNAP indices on SNAP caseloads

	(log) Disability Levels	(log) Older Adult levels
	TWFE w/o Controls	TWFE w/o Controls
Income Generosity Index	0.0326* (0.0180)	0.024 (0.0246)
Reporting Index	0.0745** (0.0431)	0.0709 (0.0490)

Robust standard errors in parentheses

* p<0.10, ** p<0.05, *** p<0.01. **** p<0.001

Table A4: OLS estimates of the effect of SNAP policies on people with disabilities SNAP caseloads

	(log) Disability Levels		
	TWFE w/o Controls	TWFE w/ Controls	Final TWFE
ESAP	0.118** (0.0712)	0.0818** (0.0431)	0.178*** (0.0897)
SMD	-0.0259	-0.0245	
Full ABAWD Waiver	0.302** (0.138)	0.268*** (0.322)	0.319*** (0.118)
Partial ABAWD Waiver	-0.0774	-0.0792	
ABAWD 15% Exemption	-0.0971	-0.0993	
<i>Joint Medicaid</i>			
Joint processing in some cases	0.0498	0.0362	
Joint processing only	0.102	0.129	
Joint application and processing in some cases	0.119	0.0482	
Joint application and processing	0.0633	0.0343	
<i>Joint TANF</i>			
Joint processing in some cases	0.048 (0.104)	-0.0229 (0.0463)	0.185*** (0.110)
Joint processing only	0.226**** (0.128)	0.129*** (0.0716)	0.433**** (0.0933)
Joint application and processing in some cases	0.161** (0.138)	0.0796* (0.0703)	0.261*** (0.152)
Joint application and processing	0.0917*** (0.101)	0.0524 (0.0465)	0.197*** (0.0929)
Child support disqualification	-0.00588	-0.00496	
Comparable disqualification	-0.00369	-0.0107	
<i>Drug felony disqualification</i>			
Modified ban	-0.0425	-0.0334	
Lifetime ban	-0.0162	-0.000669	
<i>BBCE for Seniors</i>			
No income limit	0.105* (0.064)	0.103* (0.0639)	0.104** (0.0560)
Income limit applied	0.0684 (0.0778)	0.0103 (0.0641)	0.0524 (0.0808)
Simplified Reporting	0.0553	0.044	
Transitional Benefits	0.0673	0.0498	
Excludes all vehicles from asset test	0.0158	-0.00535	
Higher vehicle exemption than standard exemption	0.0134	0.0266	

Robust standard errors in parentheses

* p<0.10, ** p<0.05, *** p<0.01. **** p<0.001

Table A5: OLS estimates of the effect of SNAP policies on (log) Older Adult SNAP caseloads

	TWFE w/o Controls	TWFE w/ Controls	Final TWFE
ESAP	0.0985	0.056	
SMD	-0.0949	-0.0889	
Full ABAWD Waiver	0.43*** (0.175)	0.389*** (0.377)	0.422*** (0.373)
Partial ABAWD Waiver	-0.0333	-0.0356	
ABAWD 15% Exemption	-0.134	-0.13	
<i>Joint Medicaid</i>			
Joint processing in some cases	0.0714 (0.0786)	0.0524 (0.0599)	0.118 (0.0642)
Joint processing only	0.0449 (0.190)	0.113 (0.150)	0.0028 (0.199)
Joint application and processing in some cases	0.204* (0.0970)	0.11 (0.0974)	0.159 (0.112)
Joint application and processing	0.0872 (0.0633)	0.0465 (0.0588)	0.068 (0.0671)
<i>Joint TANF</i>			
Joint processing in some cases	-0.0814***** (0.152)	-0.164***** (0.162)	-0.21* (0.121)
Joint processing only	0.189***** (0.142)	0.0478 (0.136)	0.241***** (0.0819)
Joint application and processing in some cases	0.105 (0.152)	-0.00686 (0.116)	-0.0405 (0.0978)
Joint application and processing	-0.0604 (0.124)	-0.108** (0.100)	-0.107 (0.0706)
Child support disqualification	-0.00894	-0.0118	
Comparable disqualification	-0.00968	-0.0232	
<i>Drug felony disqualification</i>			
Modified ban	-0.0678	-0.0521	
Lifetime ban	-0.0273	-0.00282	
<i>BBCE for seniors</i>			
No income limit	0.115 (0.0773)	0.111 (0.0759)	0.112 (0.0755)
Income limit applied	0.182* (0.103)	0.102 (0.0918)	0.164* (0.0914)
Simplified Reporting	0.0406	0.034	
Transitional Benefits	0.0702	0.04	
Excludes all vehicles from asset test	0.0285	-0.00105	
Higher vehicle exemption than standard exemption	0.0817	0.0908	

Robust standard errors in parentheses

* p<0.10, ** p<0.05, *** p<0.01. ***** p<0.001

References

- Autor, David, Andreas Kostol, Magne Mogstad, and Bradley Setzler. 2019. "Disability Benefits, Consumption Insurance and Household Labor Supply." *American Economic Review* 109 (7): 2613-54. <https://doi.org/10.1257/aer.20151231>
- Autor, David, Nicole Maestas, Kathleen J. Mullen, and Alexander Strand. 2017. "Does Delay Cause Decay? The Effect of Administrative Decision Time on the Labor Force Participation and Earnings of Disability Applicants." Available at <https://economics.mit.edu/files/10336>
- Callaway, Brantly, and Pedro H.C. Sant'Anna. 2021. "Difference-in-Differences with multiple time periods." *Journal of Econometrics* 225 (2): 200-230. <https://doi.org/10.1016/j.jeconom.2020.12.001>
- Carlson, Steven, Brynne Keith-Jennings, and Raheem Chaudhry. 2017. "SNAP Provides Needed Food Assistance to Millions of People with Disabilities." <https://www.cbpp.org/research/food-assistance/snap-provides-needed-food-assistance-to-millions-of-people-with>
- Coe, Norma B., Stephan Lindner, Kendrew Wong, and April Yanyuan Wu. 2014. "How do people with disabilities cope while waiting for disability insurance?" *IZA Journal of Labor Policy* 3 (1). <https://doi.org/10.1186/2193-9004-3-1>
- Coleman-Jensen, Alisha, and Mark Nord. 2013. "Food Insecurity Among Households With Working-Age Adults With Disabilities." *Economic Research Report* (ERR-144). <https://www.ers.usda.gov/publications/pub-details/?pubid=45040>
- De Chaisemartin, Clement, and Xavier D'Haultfoeuille. 2022. "Two-way Fixed Effects and Differences-in-Differences Estimators with Several Treatments." *NBER Working Paper* 29734. <https://doi.org/10.3386/w29734>
- Deb, Partha, and Christian A. Gregory. 2016. "Who Benefits Most from SNAP? A Study of Food Security and Food Spending." *NBER Working Paper* 22977. <https://doi.org/10.3386/w22977>
- Deshpande, Manasi. 2016. "Does Welfare Inhibit Success? The Long-Term Effects of Removing Low-Income Youths from the Disability Rolls." *American Economic Review* 106 (11): 3300-3330. <https://doi.org/10.1257/aer.20151129>
- Deshpande, Manasi, Tal Gross, and Yalun Su. 2021. "Disability and Distress: The Effect of Disability Programs on Financial Outcomes." *American Economic Journal: Applied Economics* 13 (2): 151-178. <https://doi.org/10.1257/app.20190709>
- Dickert-Conlin, Stacy, Katie Fitzpatrick, Laura Tiehen, and Brian Stacy. 2017. "The Downs and Ups of the SNAP Caseload: What Matters?." <https://doi.org/10.2139/ssrn.3052570>
- Finkelstein, Amy, and Matthew J Notowidigdo. 2019. "Take-Up and Targeting: Experimental Evidence from SNAP." *The Quarterly Journal of Economics* 134 (3): 1505-1556. <https://doi.org/10.1093/qje/qjz013>
- Ganong, Peter, and Jeffery B. Liebman. 2018. "The Decline, Rebound, and Further Rise in SNAP Enrollment: Disentangling Business Cycle Fluctuations and Policy Changes." *American Economic Journal: Economic Policy* 10 (4): 153-76. <https://doi.org/10.1257/pol.20140016>
- Goodman-Bacon, Andrew. 2021. "Difference-in-differences with variation on treatment timing." *Journal of Econometrics* 225 (2): 254-277. <https://doi.org/10.1016/j.jeconom.2021.03.014>

- Gray, Colin. 2019. "Leaving benefits on the table: Evidence from SNAP." *Journal of Public Economics* 179. <https://doi.org/10.1016/j.jpubeco.2019.104054>
- Gray, Colin, Adam Leive, Elena Prager, Kelsey B. Pukelis, and Mary Zaki. 2021. "Employed in a SNAP? The Impact of Work Requirements on Program Participation and Labor Supply." *NBER Working Paper* 28877. <https://doi.org/10.3386/w28877>
- Han, Jeehoon. 2020. "SNAP Expansion and Participation in Government Safety Net Programs." *Economic Inquiry* 58, no. 4: 1929-1948. <https://doi.org/10.2139/ssrn.3296547>
- Hanratty, Maria J. 2006. "Has the Food Stamp Program Become More Accessible? Impacts of Recent Changes in Reporting Requirements and Asset Eligibility Limits." *Journal of Policy Analysis and Management* 25, no. 3: 603-621. <https://doi.org/10.1002/pam.20193>
- Harris, Timothy F. 2018. "Do SNAP Work Requirements Work?" *Upjohn Institute working paper* 19-297. <https://doi.org/10.17848/wp19-297>
- Hodges, Leslie. 2021. "Data Linkage Shed Light on Older USDA Supplemental Nutrition Assistance Program (SNAP) Participants' Health." <https://www.ers.usda.gov/amber-waves/2021/december/data-linkages-shed-light-on-older-usda-supplemental-nutrition-assistance-program-snap-participants-health/>
- Jones, Jordan W., Charles Courtemanche, Augustine Denteh, James Marton, and Rusty Tchernis. 2021. "Do State SNAP Policies Influence Program Participation Among Seniors?" *NBER Working Paper* 29037. <https://doi.org/10.3386/w29037>
- Kabbani, Nader S., and Parke E. Wilde. 2003. "Short Recertification Periods in the U.S. Food Stamp Program." *Journal of Human Resources* 38 (Special Issue on Income Volatility and Implications for Food Assistance Programs): 1112-1138. <https://doi.org/10.2307/3558983>
- Lindner, Stephan, and Austin Nichols. 2012. "The Impact of Temporary Assistance Programs on Disability Rolls and Re-employment." *CRR Working Paper* 2012-2. Available at <https://crr.bc.edu/working-papers/the-impact-of-temporary-assistance-programs-on-disability-rolls-and-re-employment/>
- Maestas, Nicole, Kathleen J. Mullen, and Alexander Strand. 2013. "Does Disability Insurance Receipt Discourage Work? Using Examiner Assignment to Estimate Causal Effects of SSDI Receipt." *American Economic Review* 103 (5): 1797-1829. <https://doi.org/10.1257/aer.103.5.1797>
- Meyer, Bruce D., and Wallace K.C. Mok. 2019. "Disability, Earnings, Income and Consumption." *Journal of Public Economics* 171: 51-69. <https://doi.org/10.1016/j.jpubeco.2018.06.011>
- Moffitt, Robert A., and David C. Ribar. 2016. "Rasch Analysis of Very Low Food Security Among Households and Children in the Three City Study." *Southern Economic Journal* 82 (4): 1123-1146. <https://doi.org/10.1002/soej.12081>
- Ratcliffe, Caroline, Signe-Mary McKernan, and Kenneth Finegold. 2008. "Effects of Food Stamp and TANF Policies on Food Stamp Receipt." *Social Service Review* 82, no. 2: 291-334. <https://doi.org/10.1086/589707>
- Rothstein, Jesse, and Robert G. Valletta. 2017. "Scraping by: Income and Program Participation After the Loss of Extended Unemployment Benefits." *Journal of Policy Analysis and Management* 36, no. 4 (880-908). <https://doi.org/10.1002/pam.22018>

- Services, Food and Nutrition. 2019. "State Options Report."
<https://www.fns.usda.gov/snap/waivers/state-options-report>
- . 2021. "SNAP Special Rules for the Elderly or Disabled."
<https://www.fns.usda.gov/snap/eligibility/elderly-disabled-special-rules>
- . 2022. "Calculating the SNAP Program Access Index: A Step-By-Step Guide."
<https://www.fns.usda.gov/snap/calculating-snap-program-access-index-step-step-guide>.
- Stacy, Brian, Laura Tiehen, and David Marquardt. 2018. "Using a Policy Index To Capture Trends and Differences in State Administration of USDA's Supplemental Nutrition Assistance Program." *USDA Economic Research Service* ERR-244. Available at <https://www.ers.usda.gov/webdocs/publications/87096/err-244.pdf?v=9133>
- Tuttle, Cody. 2019. "Snapping Back: Food Stamp Bans and Criminal Recidivism." *American Economic Journal: Economic Policy* 11 (2): 301-327.
<https://doi.org/10.1257/pol.20170490>
- Ziliak, James, P. 2013. "Why Are So Many Americans on Food Stamps? The Role of Economy, Policy, and Demographics." *University of Kentucky Center for Poverty Research Discussion Paper Series* 12. Available at https://uknowledge.uky.edu/ukcpr_papers/12
- Ziliak, James, P., Craig Gundersen, and David N. Figlio. 2003. "Food Stamp Caseloads over the Business Cycle." *Southern Economic Journal* 69, no. 4: 903-919.
<https://doi.org/10.2307/1061657>