



# Broad-Based Categorical Eligibility Policy and SNAP Participation



TEXAS A&M  
UNIVERSITY

Xingguo Wang, Pourya Valizadeh, Rodolfo M. Nayga, Jr., Henry Bryant, Bart Fischer  
Department of Agricultural Economics, Texas A&M University

## Introduction

The Supplemental Nutrition Assistance Program (SNAP) has grown rapidly over the past few decades. Between 2001 and 2021, the program witnessed a staggering jump in participation—from 17.3 million to 41.5 million individuals. Such exponential growth not only underscores the pivotal role SNAP plays in addressing food insecurity but has also spurred policy debates about how best to shape its future.

At the heart of these debates is the state-operated Broad-Based Categorical Eligibility (BBCE) policy (Congressional Research Service 2022). BBCE, in essence, offers states the flexibility to relax SNAP's eligibility. It enables households—even those whose incomes and tangible resources exceed federal SNAP benchmarks—to qualify for the program, provided they receive non-cash benefits from the Temporary Assistance for Needy Families (TANF) block grant program (see, e.g., Rosenbaum 2019; Waxman and Joo 2019; Wheaton 2019; Congressional Research Service 2022).

Therefore, unbiased estimates of BBCE's impact on SNAP participation are indispensable as they provide a foundation for informed decisions and evaluations regarding potential adjustments to this policy to address the so-called BBCE "loophole" (Nannery 2018).

## Objectives

- Present new estimates of BBCE's effects on SNAP enrollments using a more appropriate econometric model, grounded in assumptions more attuned to the BBCE's nature
- Compare the new estimates with baseline models that are commonly-adopted by past literature
- Investigate if there is heterogeneity in BBCE's effect based on length of policy exposure and adoption timing, across states, or among populations with varying income levels
- Showcase counterfactual simulations regarding program participation and benefit expenditures in the absence of BBCE

## Methods

### Two-way fixed effects (TWFE)

$$S_{it} = \beta BBCE_{it} + \mathbf{X}'_{it} \delta + \theta_i + \mu_t + \epsilon_{it}$$

$S_{it}$ : logarithmic transformation of SNAP participation per capita for state  $i$  in year  $t$

$BBCE_{it}$ : binary treatment variable indicating if state  $i$  in year  $t$  adopts BBCE

$\mathbf{X}_{it}$ : vector of control variables: policy index, unemployment rate, and poverty rate

$\theta_i$  and  $\mu_t$ : state and year fixed effects

### Staggered difference-in-differences (CSDD) (Callaway and Sant'Anna, 2021)

$$ATT(g, t) = E[S_t(g) - S_t(0) | G_g = 1, \mathbf{X}]$$

$G_g$ : binary variable indicating if a state belongs to group  $g$

$S_t(g)$ : log of participation per capita for group  $g$  in year  $t$

$S_t(0)$ : potential outcome of log of participation per capita for group  $g$  in year  $t$ , assuming no adoption of BBCE

### Event-study specifications of TWFE and CSDD

## Data Sources

- Supplemental Nutrition Assistance Program (SNAP) Quality Control Data
- SNAP Policy Data Sets
- Integrated Public Use Microdata Series
- Bureau of Labor Statistics Local Area Unemployment Statistics

Xingguo Wang  
Department of Agricultural Economics  
Texas A&M University  
xingguo.wang@ag.tamu.edu  
References upon request

Pourya Valizadeh  
Department of Agricultural Economics  
Texas A&M University  
pourya.valizadeh@ag.tamu.edu

## Results

Table (1) Estimated impacts on enrollment using TWFE and CSDD, without and with covariates

$\text{Log}(\text{SNAP participation per capita})$	(1)	(2)
TWFE	9.57*** (3.26)	7.04** (2.75)
CSDD	14.99*** (2.98)	18.15*** (3.58)
Covariates	NO	YES
# obs (state, year)	1069	

Figure (1) Conditional event-study analysis, TWFE and CSDD

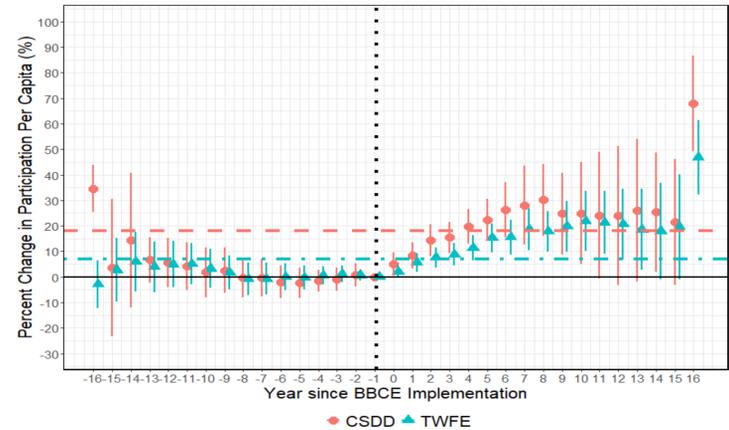


Figure (2) Differential effects across the SNAP household income distribution, with covariates

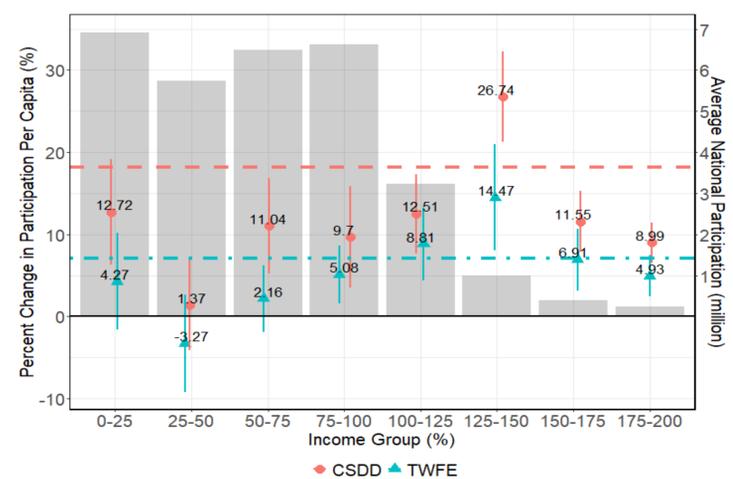
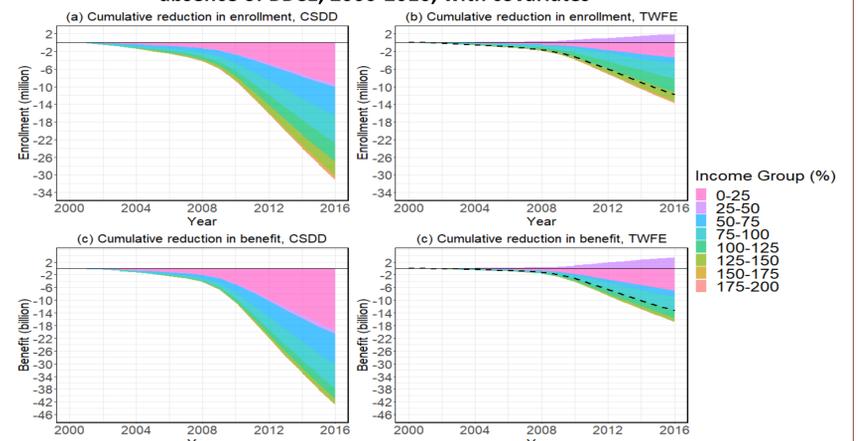


Figure (3) Simulated cumulative reductions in total SNAP enrollment and benefit in the absence of BBCE, 2000-2016, with covariates



## Discussion and Conclusion

- The average impact of BBCE on SNAP participation (state level per capita) is around 18%.
- The impact shows an increased pattern as BBCE is implemented longer.
- Caseloads comprising individuals who are marginally (in)eligible for SNAP benefits under the federal regulations tend to experience a higher impact.
- The impacts on SNAP participation coming from low-income group can be interpreted as the impacts on the take-up rate, as most of the households in this income level are qualified for SNAP before BBCE's eligibility expansion.
- Since the number of the base caseloads is considerably lower than those among low-income households, the larger impacts of BBCE among relatively high-income households do not necessarily translate into a high number increase in the number of caseloads.
- The simulated cumulative reductions in SNAP caseloads would be 31.29 million by CSDD and 11.91 million by TWFE, 31 with a difference of almost 20 million between 2001 and 2016.
- The simulated cumulative reductions in SNAP benefit expenditures would be 43.12 billion dollars by CSDD and 13.28 billion dollars by TWFE, with a difference of almost 30 billion dollars.