# Examining SNAP and TANF Caseload Trends, Responsiveness, and Policies during the COVID-19 Pandemic

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**Abstract**

TANF and SNAP cases increased by 3.4 million between March and June 2020, their largest quarterly increase ever. Relative to the unemployment shock size, I find SNAP caseloads were less responsive during the pandemic relative to the Great Recession, however TANF caseloads showed a greater responsiveness. Examining the interaction of the pandemic UI expansions with SNAP and TANF, I find UI policies combined to increase SNAP cases by 5 percent and TANF cases by 3 percent. States which adopted pandemic-friendly policies experienced larger TANF and SNAP caseload growth, especially in states with less restrictive pre-pandemic policies.

JEL Classification Codes:H0, H53, I3.

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# I Introduction

Between March and June 2020, Temporary Assistance for Needy Families (TANF) and the Supplemental Nutrition Assistance Program (SNAP) together surged by 3.4 million caseloads, their largest quarterly gain ever. This caseload surge was incited by the labor market upheaval stemming from the COVID pandemic, however numerous new pandemic programs and policies combined with pre-existing policies also contributed to this rise. This paper explores the state-level TANF and SNAP caseload trends and variation during the COVID pandemic and analyzes how labor market conditions, unemployment insurance, and pandemic policies affected the pandemic caseload response.

As two primary means-tested social safety net programs, understanding the SNAP and TANF caseload response provides insight to policymakers about the demand for relief during the pandemic and provide policy evaluation for potential future emergencies. To document SNAP and TANF trends and the effects of pandemic policy innovations, I collect monthly reports from thirty-four state administrative agencies, covering 90 percent of the US population, through November 2020. I begin by providing a descriptive analysis of the SNAP and TANF response over the course of the pandemic. Then, to compare the pandemic caseload response relative to prior economic contractions, I estimate the caseload response relative to state-level unemployment shocks. Lastly, I evaluate the effects of unemployment insurance (UI) pandemic programs and SNAP and TANF policies on the pandemic caseload response.

I find a swift and large caseload response to the COVID-19 crisis. Compared to March 2020, TANF and SNAP caseloads rose 10 and 18 percent by June or an estimated 96,000 and 3.3 million new caseloads, respectively. This expansion ended in July as TANF caseloads declined through November returning to prior levels. SNAP caseloads remained steady between June and November, appearing unresponsive to the large unemployment rate reduction during this time.

Many state agencies adapted SNAP and TANF policies to the unique pandemic challenges. A central goal has been trying to reduce face-to-face interactions and administrative burdens. Important SNAP policy changes include extending certification periods, waiving interview requirements, and using periodic reporting procedures. State-level TANF pandemic policy responses has been more varied but many states have changed policies such as extending re-certification periods, exempting work requirements, suspending in-person interviews, and disregarding enhanced unemployment benefits for program eligibility. Understanding the effect these policy changes have on program participation could be highly beneficial to administrators and policymakers.

In response to the pandemic, the Families First Coronavirus Response Act includes a SNAP emergency allotment which provides the maximum benefit to all recipients. Simulating the effects of this policy based on 2018 data, I estimate the emergency allotment provides an additional $343 or a 44 percent benefit increase to the average SNAP case. The unprecedented increase to SNAP benefits during the pandemic, far greater than the 14 percent maximum benefit increase during the Great Recession, greatly increased the value of SNAP participation particularly among households near the SNAP income eligibility threshold. The Act also included a Pandemic Electronic Benefit Transfer, or "P-EBT" payment, providing households with children eligible for the National School Lunch Program and at home from school the SNAP benefit equivalent of the school lunch program, worth $5.70 per child per school day.

In contrast, no federal emergency TANF funds have been provided during the pandemic. However, the block grant system provides states with wide flexibility on spending priorities. Since currently only a fifth of TANF expenditures are used on basic cash assistance, more funds could be diverted to assistance to meet demand as needed.

I measure the safety net caseload response relative to the labor market shock during the pandemic by regressing within-state changes in the unemployment rate

on TANF and SNAP caseloads. I find that during the pandemic, each percentage point increase in the unemployment rate is associated with a 1.1 percentage point increase in TANF and a 1.2 percentage point increase in SNAP. This responsiveness is smaller than estimates from prior recessions in percentage terms but slightly higher in levels.

UI has been the primary focus for pandemic relief with 28 million initial claims filed between March and July 2020.[1] Through the Coronavirus Aid, Relief, and Economic Security (CARES) Act signed in March 2020, UI benefits were extended, expanded, and augmented through the Pandemic Emergency Unemployment Assistance Compensation (PEUC), Pandemic Unemployment Assistance (PUA), and Pandemic Unemployment Compensation (PUC) programs. The severe drop in labor demand during the pandemic (Forsythe et al., 2020) justifies this focus as UI targets assistance to workers negatively affected by the crisis. Han et al. (2020) use monthly Current Population Survey data to show that these UI enhancements effectively reduced poverty during the pandemic and find that a majority of households losing employment were covered by UI although delays in processing and receipt of benefits in many states may have negatively affected recipients.

The spillover effects of the higher UI benefits and wider UI eligibility on other safety net participation is both currently unknown and of interest to policymakers. Higher UI payments could increase households income above SNAP or TANF eligibility thresholds, reducing participation. However, expanding UI eligibility to the long-term unemployed and self-employed could reduce labor supply and increase TANF and SNAP income eligibility. Utilizing cross-state variation in the deployment of these programs, I find that the combined effects of the PEUC and the PUA increased SNAP participation by 5 percent while increasing TANF participation by 2 percent.

Lastly, I investigate SNAP and TANF caseload responses to program policy

[1]Total claims include both the Pandemic Unemployment Assistance program and traditional UI claims.

changes. I begin by creating a pandemic policy index for both programs based on a set of six relevant SNAP and TANF pandemic policies I find that in months where states adopted all six policies, TANF and SNAP caseloads were 22 and 12 percent higher compared to states that adopted none of the policies. Similar to prior work (Dickert-Conlin et al., 2020; Ratcliffe et al., 2008; Ziliak, 2015b; Ganong and Liebman, 2018), this finding suggests a large participation response to state policies and reflects the benefits of adapting policies for unusual circumstances. Analyzing states separately by pre-pandemic program leniency, I find states that had more lenient or generous eligibility and benefit policies prior to the pandemic increased the effectiveness of pandemic policies.

# II Program Overview

SNAP and TANF are two of the primary means-tested social safety net programs able to quickly respond to economic shocks as both provide benefits within a month from application. Other social safety net programs are not designed for rapid assistance because benefits are either provided annually (Earned Income Tax Credit), the application process is lengthy (Supplemental Security Income), or the program is rationed (Housing Assistance and Subsidized Childcare). Many of the households that these programs target have few financial resources, making rapid assistance extremely valuable when economic hardship hits.

SNAP is a federal program offering food vouchers to low-income households. SNAP has a standardized benefit formula set at the federal level but states have some policy discretion on setting implementation and eligibility policies.[2] Stacy et al. (2018) document a comprehensive list of state SNAP policies through 2014. Some of this state policy variation, including asset tests, length of certification period, and fingerprint requirements, are further explored by Geller and Isaacs (2019).

[2]Hawaii and Alaska are the only two states that have slightly higher SNAP benefits than other states.

Many of these policy differences have been shown to have a significant effect on SNAP caseloads (Ganong and Liebman, 2018; Schwabish, 2012; Ziliak, 2015b; Ratcliffe et al., 2008; Dickert-Conlin et al., 2020). SNAP cases have more than doubled since 2000 resulting from a combination of policy changes, such as broad-based categorical eligibility and able-bodied adults without dependents eligibility, and state economic conditions (Dickert-Conlin et al., 2020; Ziliak, 2015b). In 2018, 19.7 million households participated in SNAP, averaging $255 in benefits per month.

As a means-tested program, SNAP is designed to be counter-cyclical, helping to offset negative economic shocks. As incomes decrease more households become eligible for SNAP, and negative income shocks among SNAP participants are partially mitigated by the SNAP benefit formula. Prior work such as Bitler and Hoynes (2016) and Ziliak et al. (2003) use state-level variation to find that SNAP caseloads responded to a one percentage point unemployment rate shock by increasing caseloads 3.4 and 2.3 percent. Ganong and Liebman (2018) expand on this by disentangling the SNAP caseload response to labor market conditions from state SNAP policy variation using county-level data, developing a SNAP policy index, and instrumenting for unemployment rate changes. They find that a much greater SNAP response where each percentage point increase in the local unemployment rate increases caseloads by 15 percent. More recent work by Bitler et al. (2020) finds that each percentage point increase in the unemployment rate increased SNAP expenditures by 4.2 percent throughout the 2000s. Moffitt and Ziliak (2020) combine historical data from the Annual Social and Economic Supplement of the CPS with the COVID Impact Survey data to provide an early look into the COVID safety net response and find no evidence of a TANF response but document a sizable early increase in SNAP participation during the pandemic.

TANF is a block grant program providing cash assistance primarily to single-parent families and was created as part of the 1996 Personal Responsibility and Work Opportunity Reconciliation Act. In 2019, there were 1.1 million TANF cases. As reported in Hembre (2020), between 2009 and 2016 the average TANF family

received $918 in monthly income, with $398, or 43 percent, coming from TANF cash assistance. Combined state and federal TANF expenditures total $31 billion, though states have wide discretion on spending priorities and in 2019 only 21 percent of TANF funds were spent on basic (cash) assistance.[3] TANF caseloads and benefits, both statutory and effective, have declined steadily since its creation (Hembre, 2020; Ziliak, 2015a). Relative to its predecessor, Aid to Families with Dependent Children (AFDC), TANF imposed additional requirements and restrictions such as lifetime benefit limits and work requirements, which have contributed to decreased participation (Chan, 2018, 2013; Grogger, 2004).

Historically, TANF (and AFDC) caseloads were quite responsive to unemployment shocks (Klerman and Haider, 2004; Figlio et al., 2000; Blank, 2001). One concern of conditional program eligibility on a work requirements is that the policy might reduce program effectiveness during economic contractions when work is more difficult to obtain. Recent research by Bitler and Hoynes (2016), Bitler et al. (2020), and Moffitt (2013) examine the safety net caseload response during the Great Recession and find that the TANF response was smaller than during prior contractions. There is no comparable infectious disease pandemic in recent history, but during a pandemic the cost of work requirements are likely much higher as many day-cares and schools are closed and family members are reluctant to provide childcare assistance due to infection risk.

# III Data

Between March and April 2020, the COVID pandemic ravaged the labor market, causing a ten percentage point increase in the national unemployment rate. Both labor supply and demand dried up quickly.

To measure and evaluate the safety net response to the COVID pandemic, I collect data on TANF and SNAP caseloads from state agencies. After surveying all TANF

[3] `https://www.acf.hhs.gov/ofa/data/tanf-financial-data-fy-2019`

and SNAP state agency websites, I find thirty-four that provide monthly reports for both programs through at least October 2020. Because more populous states are more likely to provide caseload data, this sample covers 90 percent of the US population. State agencies vary in the availability of historical caseload data. Most states provide at least three years of caseload history. To capture longer-run trends and seasonal dynamics, I append federally reported caseload data from the Department of Agriculture and the Administration for Children and Families for data prior to 2017.[4] The estimation sample includes observations between January 2014 and November 2020.

UI was the primary pandemic safety-net response conduit with a three-pronged approach, the PUC, the PUA, and the PEUC. The PUC provided a $600 federal supplement to UI recipients between March 27 and July 26, 2020. This was a large supplement, as the average state maximum UI payment is $496 and Ganong et al. (2020) find this resulted in three-quarters of eligible workers having wage replacement rates above 100 percent. The PUA extended UI eligibility to the self-employed, independent contractors, and "gig" workers who are usually ineligible for UI benefits, while the PEUC provided an additional thirteen weeks of unemployment benefits to unemployed workers who had exhausted standard benefits.

These UI expansions have a theoretically ambiguous spillover effect on TANF and SNAP participation. Increased access to UI through extending benefit length or covering workers previously ineligible for UI may reduce labor supply among UI-eligible households especially for those receiving greater UI benefits than their prior labor income. This reduced labor supply may increase the number of households income-eligible for SNAP and TANF and increase program participation. However, both SNAP and TANF typically include UI income in their income determination process, and increased UI income could make some

[4]Consistency between state and federal caseload reporting is high, but some discrepancies arise. To ensure continuity across data sources, the federal data series is scaled to so that the final observation matches the adjacent state agency observation if a discrepancy occurs upon switching to state data.

households income-ineligible for TANF or SNAP.

While the pandemic legislation was passed quickly, delays in UI benefit distribution and application backlogs caused significant delays in many states. Households that suddenly needed income support may have applied for TANF and SNAP either while waiting for UI benefits to arrive or to complement UI. To test whether COVID UI policies affected TANF and SNAP caseloads, I use variation across time and states in UI program processing. To measure PUA and PEUC availability, for each state and month I calculate the fraction of weeks where any initial PUA and continuing PEUC claims were filed. As an alternative measure, I also calculate the cumulative fraction of claims filed between March and November 2020.

The PEUC program does not report initial claims but only continuing claims, since recipients previously received UI. To proxy for initial PEUC claims I first difference continuing claims across months, bottom coding initial claims at zero.[5]

Though available beginning at the end of March, I find that only six state states processed PUA claims for more than two weeks in April 2020. By May, twenty-three of thirty-four states filed PUA claims every week, and by June all states but one filed initial PUA claims every week. Figure 1 displays the cumulative fraction of PUA and PEUC initial claims by state and month through November 2020. Substantial variation exists across states in the implementation of these programs. For example, by May both Minnesota and Idaho had processed over 85 percent of total initial PUA claims they would receive while Florida and Georgia had processed none. Similarly, Washington had processed 87 percent of PEUC claims by May while thirteen states had not yet filed a PEUC claim. However, within-state variation between PUA and PEUC processing is minimal, limiting the ability to separately identify the effects of these two programs. The $600 UI supplement, PUC, was available for all states between April and July 2020. Because there is no state variation in the availability of this supplement I create a

[5]I also only consider claims through the first twenty-six weeks of the pandemic (September). PEUC claims spiked after this time, reflecting the pandemic-related unemployed. Including these claims would complicate inference as they are less reflective of UI processing times.

dummy variable equal to one between April and July 2020 to measure the effect of the PUC.

Many states have adapted to the COVID pandemic by modifying policies and procedures to provide greater assistance and to lessen the transmission risk by reducing personal interaction. To determine whether these policies affected program participation, I create separate COVID pandemic policy indices for SNAP and TANF, measuring policy adoption and availability. For SNAP, I include five COVID policy waivers: extending or adjusting certification periods, waiving initial and re-certification interviews, waiving face-to-face interviews, using telephonic signature requirements, and re-certifying households through periodic reporting procedures.[6] For TANF, I use a similar set of policies: waiving in-person interviews, suspending or exempting work requirements, automatically extending or re-certifying eligibility, adjusting time limits, and excluding PUC, PUA, or PEUC income for eligibility criteria.[7] [8]

Potential program participants in states lacking an online application submission option may be less likely to apply during the pandemic. To investigate whether online applications affected the pandemic caseload response, I surveyed TANF state agency websites in April 2020 to find which states offered online applications. Twelve states did not have an online application available including seven states in my estimation sample. SNAP has greater online availability, due to the Food Security and Rural Investment Act of 2002, which mandated that states with a web page make an online application available (Schwabish, 2012). While all states currently have an online SNAP application available, three states do not have an online submission option available.[9] I include online application or submission options as a sixth input to the pandemic policy measure.

[6]These policies and implementation dates are taken from `https://www.cbpp.org/sites/default/files/atoms/files/3-31-20fa.pdf`.

[7]Congress directed all states to exclude the Economic Impact Payment as TANF income.

[8]TANF COVID policy details are taken from `https://www.americanprogress.org/issues/poverty/reports/2020/12/17/493861/states-can-use-tanf-immediately-help-struggling-residents/`.

[9]`https://www.cbpp.org/research/food-assistance/snap-online-a-review-of-state-government-snap-web`

For each of the six TANF and SNAP policies I create dummy variables equal to 1 for months policy was available during the pandemic. Because many states implemented multiple policies within a short time frame, it could be difficult to isolate the effect of each policy simultaneously with statistical precision, so I also create a summary policy measure for each program. These summary COVID policy measures also address concerns about attenuation bias from measurement error. Measurement error is a concern for three reasons. One reason is that there may be a lag between legislative adoption dates and implementation dates. Another is that these are not uniform policies across states. For example, some states automatically extended TANF re-certification periods by two months and others by six months.

For each state and program, the COVID policy measure is calculated as a mean of the six program policy indicators:

$$\overline{Prog\ \text{COVID}}_{it} \equiv \frac{1}{6} \sum_{p} Prog\ \text{COVID}_{pit}$$

where $p$, $i$, and $t$ refer to the policy, state, and date, respectively, and *Prog* is either TANF or SNAP. For SNAP policies, each individual policy variable, $\text{SNAP COVID}_{pit}$ ranges between 0 and 1, representing the fraction of months between April and November that the policy was in effect. For TANF policies, each policy variable is a dummy for whether the state ever adopted the policy prior to November 2020.[10] The summary measures, $\overline{\text{TANF COVID}}_{it}$ and $\overline{\text{SNAP COVID}}_{it}$, range between 0 and 1 and reflect the fraction of the six policies adopted by the state in each month.

Pre-existing program policies related to eligibility, procedures and benefits may also contribute to pandemic program responsiveness and take-up. To examine state program differences, I utilize the TANF policies reported in the Welfare Rules Database and the SNAP policy index created by Stacy et al. (2018). I focus on six important TANF policies to create a pre-pandemic TANF policy index: time limits,

[10]Month of policy adoption for TANF is not available. Instead the status as of November 2020 is used.

benefit amounts, asset limits, vehicle exemptions, diversion programs, and income disregards. For each policy I create a binary indicator equal to 1 if the state policy is either more generous or less restrictive.[11] To compare pandemic caseload responsiveness based on pre-existing policies, I split the TANF sample by states at the median value, four, when summing these policy indicators. For SNAP, Stacy et al. (2018) track SNAP state policies related to eligibility, transaction costs, and stigma associated with SNAP participation between 1996 and 2014. Aggregating these policies into a single policy index provides a useful indicator of state SNAP policy restrictiveness. I similarly divide states into above- and below-median SNAP policy index scores when examining pandemic responsiveness.

# IV COVID-19 Pandemic Caseload Trends

Figure 2 displays changes in monthly TANF and SNAP caseloads between March 2019 and November 2020. The dark line displays the monthly sample average while each thin grey line represents a state in the sample. Between March and June of 2020, both TANF and SNAP experienced the largest quarterly caseload increase ever. TANF caseloads rose by 86,327 (10 percent) over this quarter while SNAP caseloads rose 3.0 million (18 percent). Assuming a similar percentage change among out-of-sample states, this predicts a national increase of 96,000 and 3.36 million TANF and SNAP caseloads, respectively.

This initial pandemic caseload increase was widespread. Of the thirty-four states in my sample, twenty-eight increased TANF cases and thirty-two increased SNAP cases during the first three pandemic months. Variation in TANF caseload growth through November 2020 ranges between -25 percent and 47 percent. This is nearly

[11] Specifically, the indicator is equal to 1 if the state time limit is no shorter than the federal time limit, maximum benefits are above the median state benefit level, liquid assets limits are greater than $2,000, the vehicle exemption allows at least one car per adult, a diversion program exists, and if the earned income disregard is at 50 percent of income or 50 percent of the 3-person maximum benefit level.

double SNAP variation which ranges from -5 percent to 32 percent.

One concern in state-level SNAP caseload reports is the potential for including P-EBT only cases. Adjustments to initial reports indicate April cases were over-reported by 5 percent due to this error but that the national SNAP increase, excluding P-EBT cases, was 3.21 million in the first quarter of the pandemic similar to my estimate of 3.36 million.[12] P-EBT misreporting may still introduce some error into my estimates.

SNAP caseloads leveled off after June but fell for TANF. By November, average TANF caseloads had returned to pre-pandemic levels while SNAP caseloads declined only 3 percent from their June peak. This caseload decline coincided with a steep fall in the unemployment rate after April. TANF cases may also have declined because several states directed COVID-related cases to short-term (less than four months) TANF diversion programs, which may be included in some state reports, as a survey of state TANF administrators revealed (Shantz et al., 2020). Other TANF policies, such as binding time limits, work requirements, and sanctions may also have forced participants off of TANF.

Figure 3 plots the per capita change in SNAP and TANF caseloads during the nine pandemic months relative to the prior nine months, revealing the scale and correlation between the TANF and SNAP pandemic caseload responses. The dotted line represents an equivalent proportional response between the two programs. States above this line experienced a greater percentage increase in TANF cases relative to SNAP cases. SNAP overshadows TANF in absolute terms. The average state added 6.5 SNAP cases per thousand people during the pandemic, while adding only 0.1 TANF cases per thousand people.

The SNAP and TANF eligibility overlap can lead to program complementarities. For instance, qualifying for TANF provides categorical SNAP eligibility. Since TANF and SNAP both target low-income households one would expect a correlation between the two programs caseloads. Figure 3 displays a weak

[12]https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap

correlation of 0.16 between state pandemic caseload changes, though this correlation was stronger at 0.30 during the initial response phase through June 2020. Focusing on pandemic policies, states in red are those that had an above-median difference in their SNAP pandemic policy index relative to the TANF pandemic policy index. On average, states with relatively more SNAP pandemic policy adjustments had similar changes in TANF cases but an additional 2 more SNAP cases per thousand.

These data patterns reveal large differences across states in the social safety net pandemic response, but these states also experienced differing levels of economic hardship and pandemic policy responses. Figure 4 displays TANF caseload responses grouped by pandemic policy responses with solid lines representing states that adopted the policy and the dotted lines indicating states that did not implement the policy. Similarly, Figure 5 displays SNAP caseload responses grouped by states which implemented SNAP policies for more than half of the pandemic period (black), less than half the pandemic period (grey), and never adopted (dotted). Because of selection issues and collinearity of policy adoption, it is difficult to draw strong conclusions from these figures. But, with the exception of SNAP periodic reporting adjustments, states that adopted each COVID policy for both TANF and SNAP experienced a greater relative caseload change between March and November 2020. For TANF, the largest disparity in caseload changes is between states that exempted work requirements, suspended work requirements, and had an online application available. For SNAP, the largest caseload differences arise for states that suspended the initial certification and automatically re-certified cases.

Diving the aggregate policy measures, $\overline{\text{TANF COVID}}_{it}$ and $\overline{\text{SNAP COVID}}_{it}$, into low, medium and high groupings (with high meaning the state had the most COVID policy adjustments), Figure 6 presents a clearer picture of how pandemic policy adoption affected TANF and SNAP caseloads. The left panel of Figure 6 shows a clear separation of state caseloads based on pandemic policy response. By November 2020, states that adopted the fewest COVID adjustment policies had 14

percent lower caseloads relative to March 2020, while states with the most COVID policy adjustments had 13 percent greater TANF caseloads. While all policy groups increased SNAP caseloads, states with the fewest pandemic policy adjustments increased caseloads by 3 percent, while states with moderate or high pandemic policy adjustments increased caseloads by 11 percent.

# V Methodology

To gauge the quality of a net one must compare the force exerted upon it against the cushion it provides. Similar to prior work including Ganong and Liebman (2018), Bitler and Hoynes (2016), Hardy et al. (2018), Ziliak et al. (2000), and Blank (2001), I measure the social safety net response in relation to unemployment rate changes during the pandemic. Prior work, such as Bitler and Hoynes (2016), has found that while historically TANF (and its predecessor AFDC) provided a buffer to low-income households during periods of reduced labor demand, during the Great Recession TANF provided little increased assistance to states with high unemployment rates. This finding confirmed worries that TANF policies such as time limits and work requirements reduced the counter-cyclical benefits of TANF.

Following Bitler and Hoynes (2016), I measure the responsiveness of the safety net during the COVID pandemic by estimating the following equation:

$$y_{it} = \beta_0 + \beta_1 UR_{it} \times \text{Pre-Pandemic}_t + \beta_2 UR_{it} \times \text{Pandemic}_t + \alpha_i + \alpha_i t + \eta_y + \psi_m + \epsilon_{it} \quad (1)$$

where subscript $i$ refers to state, $t$ refers to date (in months), and $UR_{it}$ is the state unemployment rate (divided by 100).[13] The outcome variable, $y_{it}$, is either TANF or SNAP caseloads divided by state population in thousands or log caseloads per capita. The variable $\text{Pandemic}_t$ is a dummy variable equal to 1 between February and November 2020, and the variable Pre-Pandemic is equal to 1 for all months

[13]Monthly unemployment rate data are provided by the Department of Labor.

prior to February 2020. The coefficient of interest, $\beta_2$, represents the effect of unemployment rate changes on caseloads per capita during the pandemic time period, while $\beta_1$ provides a comparison to $\beta_2$ during the period prior to the pandemic.

Equation (1) includes state fixed effects ($\alpha_i$) and a state linear time trend $\alpha_i t$, along with year and month fixed effects $\eta_y$ and $\psi_m$ to capture annual trends and seasonal caseload variation. The state fixed effects control for permanent differences in programs and economic conditions by state while the state linear time trends capture cross-state differences in caseload trends. Each regression is weighted by state population and robust standard errors are clustered at the state level.

Similar to prior work such as Bitler and Hoynes (2016), Ganong and Liebman (2018), Bitler et al. (2020), and Ziliak et al. (2000), I utilize the unemployment rate as an indicator of macroeconomic conditions when measuring the pandemic caseload response. Changes in the unemployment rate are a direct measure of change in unemployed households that are likely eligible for SNAP and potentially eligible for TANF. Unemployment rate change can also be a proxy variable for other changes in eligibility, such as income loss or labor force participation. It is possible that the relationship between the unemployment rate and program eligibility changed during the pandemic as reports of furloughs or temporary hours reductions were common and new government programs, such as the Paycheck Protection Program, may have kept workers employed while reducing household income.

To explore the effects of UI pandemic programs and SNAP and TANF pandemic polices on caseloads, I modify Equation (1) to include a vector of policies variables, $X_{it}$:

$$y_{it} = \beta_0 + \beta_1 UR_{it} \times \text{Pre-Pandemic}_t + \beta_2 UR_{it} \times \text{Pandemic}_t + \beta_3 X_{it} + \alpha_i + \alpha_i t + \eta_y + \psi_m + \epsilon_{it} \tag{2}$$

Depending on specification, $X_{it}$ includes indicators for PUA, PEUC, and PUC availability or implementation rate, the TANF or SNAP policy index,

$\overline{\text{TANF COVID}}_{it}$ and $\overline{\text{SNAP COVID}}_{it}$, or their policy components TANF Policy$_{pit}$ and SNAP Policy$_{pit}$.

# VI Results

Table 1 displays results from estimating Equation (1). The outcome variable for Columns (1) and (3) is caseloads per capita (in thousands) while Columns (2) and (4) use the log of caseloads per capita to reflect percentage changes. For each percentage point increase in the unemployment rate during the pandemic, I find that TANF cases increased by 3.96 cases per thousand people while SNAP caseloads rose 78.89 cases per thousand. Relative to overall program participation, these effects translate into a percent impact of 1.07 and 1.19 respectively. This is very similar to the log specification findings of 0.98 percent and 1.18 percent increases in caseloads per percentage point increase in unemployment. For both TANF and SNAP, these coefficient estimates are smaller than the unemployment rate effect in the pre-pandemic period (2014-2019). However, I can not reject the hypothesis that the unemployment rate coefficients are statistically different from each other in any specification. Subsequent specifications maintain the levels outcome specification.

Relative to the Great Recession, the positive and significant TANF response is surprising and encouraging considering the estimates reprted by Bitler and Hoynes (2016) that TANF cases were unresponsive to unemployment during the Great Recession and the initial findings of Moffitt and Ziliak (2020) that reported a limited TANF pandemic caseload response using the COVID Impact Survey. Because of larger state variation in policies and administration, the TANF pandemic caseload response was much more diffuse relative to SNAP. TANF is a small program compared to historical norms, but its positive response to the pandemic in many states may have had an especially high value for recipients as it targets cash assistance to very low income households.

Adding over 3 million SNAP cases in a quarter was unprecedented. But relative to

the size of the unemployment shock, the percent impact has been about a third as large as the 3.4 percent impact estimated by Bitler and Hoynes (2016) during the Great Recession. This differential response could be attributed to several causes. Pre-pandemic SNAP levels are higher than the pre-Great Recession period. While the SNAP percent impact is smaller than before, the response in levels is actually greater. Bitler and Hoynes (2016) report that each percentage point increase in unemployment increased SNAP by 66.8 cases per thousand people; below my estimate of 79.[14] The most surprising trend during the pandemic period is that SNAP cases only slightly declined as the unemployment rate dropped eight percentage points between April and November 2020. The asymmetric SNAP responsiveness to unemployment movements is potentially related to pandemic policies. The automatic extensions and altered re-certification procedures may have led income-ineligible households to continue receiving benefits. The pandemic emergency allotments also changed labor market disincentives for SNAP recipients. By providing maximum SNAP benefits to all recipients, the emergency allotments created a large benefit cliff from exceeding SNAP income eligibility thresholds. Another factor influencing the relationship between unemployment and SNAP cases is that more unemployed workers may have surpassed SNAP income eligibility thresholds due to the PUA, PUC, and PEUC programs.

To investigate the role of the pandemic-expanded UI benefits on SNAP and TANF caseloads, Table 2 reports coefficients from estimating Equation 2, including controls for UI pandemic programs and benefits. All specifications include state weekly maximum UI benefits and a dummy for the PUC supplement availability between April and July 2020. Columns (1) and (3) include monthly dummy variables for if the state processed any initial PUA claims or PEUC claims while Columns (2) and (4) use the cumulative PUA and PEUC measures that reflect state-level claims processing variation. For TANF, I find that providing PEUC benefits had a statistically significant effect of 0.27 more caseloads per capita (7.4

[14]My comparison converts recipients per capita reported in Bitler and Hoynes (2016) to caseloads per capita at a rate of 2.2 people per case, the 2009 average.

percent), while SNAP had 10.8 fewer caseloads per capita (16.4 percent). Similar effect sizes are found using the cumulative policy measures.

The positive PEUC effect on TANF caseloads may be caused by the labor supply disincentive from this UI benefit extension. However, the magnitude is small at one-fortieth the negative PEUC effect on SNAP participation. The PEUC reducing SNAP caseloads may be attributed to long-term unemployed workers being less likely to qualify or need SNAP assistance while still receiving UI benefits. A similar rationale explains why the $600 PUC supplement has a negative, though smaller, effect on TANF and SNAP caseloads.[15]

While unemployment benefit duration was previously extended during the Great Recession, the PUA expansion of UI to self-employment and contract workers is a pandemic policy innovation. I find that states that offered PUA benefits had a small and statistically insignificant negative effect on TANF caseloads but a large and statistically significant positive effect on SNAP caseloads of 15.5 per thousand people (23 percent). However, many states began processing PUA and PEUC simultaneously, which makes separately identifying their effects difficult. Combined, the PUA and PEUC effects are positive for TANF and SNAP at 5.8 percent and 7.1 percent. This large effect implies that offering UI benefits to previously ineligible workers may have had a large labor supply disincentive effect during the pandemic, increasing their program participation rates and overshadowing the potential substitution effects of SNAP. Particularly during the pandemic, a high labor supply elasticity may reflect the high dis-utility of working paired with a high marginal utility of income and be welfare-enhancing.

Table 3 reports estimates of TANF pandemic policy responses on caseloads. In Column (1), adopting all TANF pandemic policies, $\overline{\text{TANF Policy}}_{it}$, raises caseloads by 0.81 (22 percent) more per capita (in thousands) compared to a state without

[15]Both PEUC and the PUC are included as countable income for SNAP eligibility. Though conditional on qualifying for SNAP, these payments do not affect benefit levels due to the pandemic emergency allotment provision (`https://www.cbpp.org/research/economy/pandemic-unemployment-insurance-provisions-what-they-mean-for-access-to-snap`).

any of the policies. Column (2) includes the individual TANF pandemic policies. As discussed earlier, the policy adoption collinearity complicates identification of individual policies, but among TANF policies, I find adjusting time limits to the most predictive pandemic policy that increased caseloads. States that suspended or ignored TANF limits increased caseloads by 0.56 per capita, or 15 percent relative to the sample mean.

Columns (3) and (4) of Table 3 separate the TANF pandemic caseload response by pre-pandemic TANF policy generosity. Less generous or restrictive pre-existing pandemic policies may have deterred households that would have otherwise participated in TANF during the pandemic. Comparing the caseload response to pandemic policies by preexisting TANF restrictiveness in Columns (3) and (4), the pandemic policy response is concentrated among less restrictive policy states. Alternatively, the TANF responsiveness to the unemployment rate is concentrated in more restrictive policy states. More restrictive policies may indicate stricter eligibility requirements, so conditional on an unemployment shock, more families could become newly eligible for TANF compared to less restrictive states.

SNAP pandemic policy responses are reported in Table 4. As shown in Column (1), adopting all SNAP pandemic policies, $\overline{\text{TANF Policy}}_{it}$, increases caseloads by 8.04 (13 percent) per capita (in thousands) relative to not adopting any of the policies. This suggests that pandemic policy adoption helped facilitate SNAP participation during the pandemic. Dissecting SNAP pandemic policies in Column (2), suspending the initial interviews and having an online application submission option are the two largest and statistically significant policies for increasing SNAP caseloads during the pandemic.

Comparing Columns (3) and (4) in Table 4, the caseload response to pandemic policies was 30 percent greater in states with more lenient pre-pandemic SNAP policies. Similarly, the SNAP caseload response to unemployment shocks during the pandemic is 33 percent greater in these more lenient SNAP policy states. Together, these results suggest that SNAP application costs and eligibility policies played an

important role in aiding households affected by the pandemic gain SNAP benefits.

# VII Conclusion

This paper presented statistics on TANF and SNAP caseload growth from thirty-four states during the first nine months of the COVID pandemic. Following a historic initial rise in caseloads for both programs at the outset of the COVID pandemic, SNAP caseloads leveled off after June 2020 while TANF cases returned to pre-pandemic levels. Investigating the caseload dynamics relative to pandemic policy changes and UI interactions, I find that states that began the PUA and PEUC programs earlier also experienced greater caseload increases. This positive association implies that SNAP and TANF acted as complements with UI during the pandemic more than substitutes. I also find that COVID-friendly policies such as automatic re-certifications, suspended interviews, exempting work requirements, and online applications played an important role in explaining the cross-state caseload response variation.

Relative to the size of the labor market shock, the pandemic caseload response was lower for SNAP but greater for TANF compared to the Great Recession in percentage impact, though the response was greater for both programs in per capita levels. The estimated relationship between the unemployment rate and caseloads suggests that for each percentage point increase in the unemployment rate, TANF caseloads increased by 1.1 percent and SNAP caseloads increased by 1.2 percent.

The economic shock during the pandemic provided an extraordinary test of the social safety net. This paper illuminates how TANF and SNAP provided vital assistance to low-income households, primarily those with children, during the pandemic. This assistance is especially valuable during the health crisis since the sharp reduction in labor demand and childcare or schooling arrangements has limited the ability for adults to support their families through labor supply. Understanding the safety net response to COVID is immediately valuable to

policymakers currently debating continued policy modifications to these programs as the pandemic continues.

The relevance of TANF as a safety net program has dissipated over time. Policies enforcing lifetime benefit limits and work requirements have contributed to the a 70 percent case decline since 1996 (Chan, 2018; Grogger, 2004; Swann, 2005), while the erosion of effective benefits (Hembre, 2020; Ziliak, 2007) has reduced the appeal of participation. Though its role has diminished, TANF remains an important program because it targets the lowest income households and provides cash, as opposed to in-kind transfers. Cash may be especially important during the pandemic, as households with children may have to invest in remote learning materials and personal health safety measures among other essential expenses. States varied widely in their pandemic policy adoption and this paper shows these policies played an important role in the caseload response.

While this study documents the safety net response to the COVID pandemic, many aspects deserve continued exploration. One important question is studying the participation response and welfare consequences of the large expansion of SNAP benefits through the emergency allotments, P-EBT, and the more recent 15 percent increase in maximum benefits (Consolidated Appropriations Act of 2021). Since SNAP benefits are indexed to inflation, this large increase in SNAP benefits provides a unique experiment on the value of SNAP benefits.

The COVID pandemic provided an extraordinary test to our social safety net. This paper shows that the safety net responded positively, quickly adapting policies to accommodate pandemic challenges and in turn experiencing its largest expansion on record. The brief resurgence of TANF as a pandemic cushion, though small in absolute terms, was encouraging while the SNAP expansion has clearly helped to ease the financial consequences of the pandemic for many low-income families.

# References

**Bitler, Marianne and Hilary Hoynes**, "The more things change, the more they stay the same? The safety net and poverty in the Great Recession," *Journal of Labor Economics*, 2016, *34* (S1), S403–S444.

**Bitler, Marianne P, Hilary W Hoynes, and John Iselin**, "Cyclicality of the US Safety Net: Evidence from the 2000s and Implications for the COVID-19 Crisis," *National Tax Journal*, 2020, *73* (3), 759–779.

**Blank, Rebecca M**, "What Causes Public Assistance Caseloads to Grow?," *Journal of Human Resources*, 2001, pp. 85–118.

**Chan, Marc K**, "A dynamic model of welfare reform," *Econometrica*, 2013, *81* (3), 941–1001.

_ , "Measuring the effects of welfare time limits," *Journal of Human Resources*, 2018, *53* (1), 232–271.

**Dickert-Conlin, Stacy, Katie Fitzpatrick, Brian Stacy, and Laura Tiehen**, "The Downs and Ups of the SNAP Caseload: What Matters?," *Applied Economic Perspectives and Policy*, 2020.

**Figlio, David N, Craig Gundersen, and James P Ziliak**, "The effects of the macroeconomy and welfare reform on food stamp caseloads," *American Journal of Agricultural Economics*, 2000, *82* (3), 635–641.

**Forsythe, Eliza, Lisa B Kahn, Fabian Lange, and David Wiczer**, "Labor Demand in the time of COVID-19: Evidence from vacancy postings and UI claims," *Journal of Public Economics*, 2020, *189*, 104238.

**Ganong, Peter and Jeffrey B Liebman**, "The decline, rebound, and further rise in SNAP enrollment: Disentangling business cycle fluctuations and policy changes," *American Economic Journal: Economic Policy*, 2018, *10* (4), 153–76.

_ , **Pascal Noel, and Joseph Vavra**, "US unemployment insurance replacement rates during the pandemic," *Journal of Public Economics*, 2020, *191*, 104273.

**Geller, Daniel and Julia Isaacs**, "Exploring the Causes of State Variation in SNAP Administrative Costs," *Contract*, 2019.

**Grogger, Jeffrey**, "Time limits and welfare use," *Journal of Human Resources*, 2004, *39* (2), 405–424.

**Han, Jeehoon, Bruce D Meyer, and James X Sullivan**, "Income and Poverty in the COVID-19 Pandemic," Technical Report, National Bureau of Economic Research 2020.

**Hardy, Bradley, Timothy Smeeding, and James P Ziliak**, "The changing safety net for low-income parents and their children: Structural or cyclical changes in income support policy?," *Demography*, 2018, *55* (1), 189–221.

**Hembre, Erik**, "TANF Effective Benefit Guarantees, Tax Rates, and Child-Only Penalties, 2000-2016," *National Tax Journal*, 2020, *73* (2), 401–428.

**Klerman, Jacob Alex and Steven J Haider**, "A stock-flow analysis of the welfare caseload," *Journal of Human Resources*, 2004, *39* (4), 865–886.

**Moffitt, Robert A**, "The Great Recession and the social safety net," *The Annals of the American Academy of Political and Social Science*, 2013, *650* (1), 143–166.

_ **and James P Ziliak**, "COVID-19 and the US Safety Net," *Fiscal Studies*, 2020, *41* (3), 515–548.

**Ratcliffe, Caroline, Signe-Mary McKernan, and Kenneth Finegold**, "Effects of food stamp and TANF policies on food stamp receipt," *Social Service Review*, 2008, *82* (2), 291–334.

**Schwabish, Jonathan**, "The impact of online Food Stamp applications on participation," in "Annual Meeting of the Association of Public Policy and Management.(November 8, 2012)" 2012.

**Shantz, Katie, Heather Hahn, Mary Nelson, Matt Lyons, and Ann Flagg**, "Changes in State TANF Policies in Response to the COVID-19 Pandemic," Technical Report, Urban Institute 2020.

**Stacy, Brian, Laura Tiehen, and David Marquardt**, "Using a Policy Index To Capture Trends and Differences in State Administration of USDAs Supplemental Nutrition Assistance Program," 2018.

**Swann, Christopher A**, "Welfare reform when recipients are forward-looking," *Journal of Human Resources*, 2005, *40* (1), 31–56.

**Ziliak, James P**, "Making Work Pay Changes in Effective Tax Rates and Guarantees in US Transfer Programs, 1983–2002," *Journal of Human Resources*, 2007, *42* (3), 619–642.

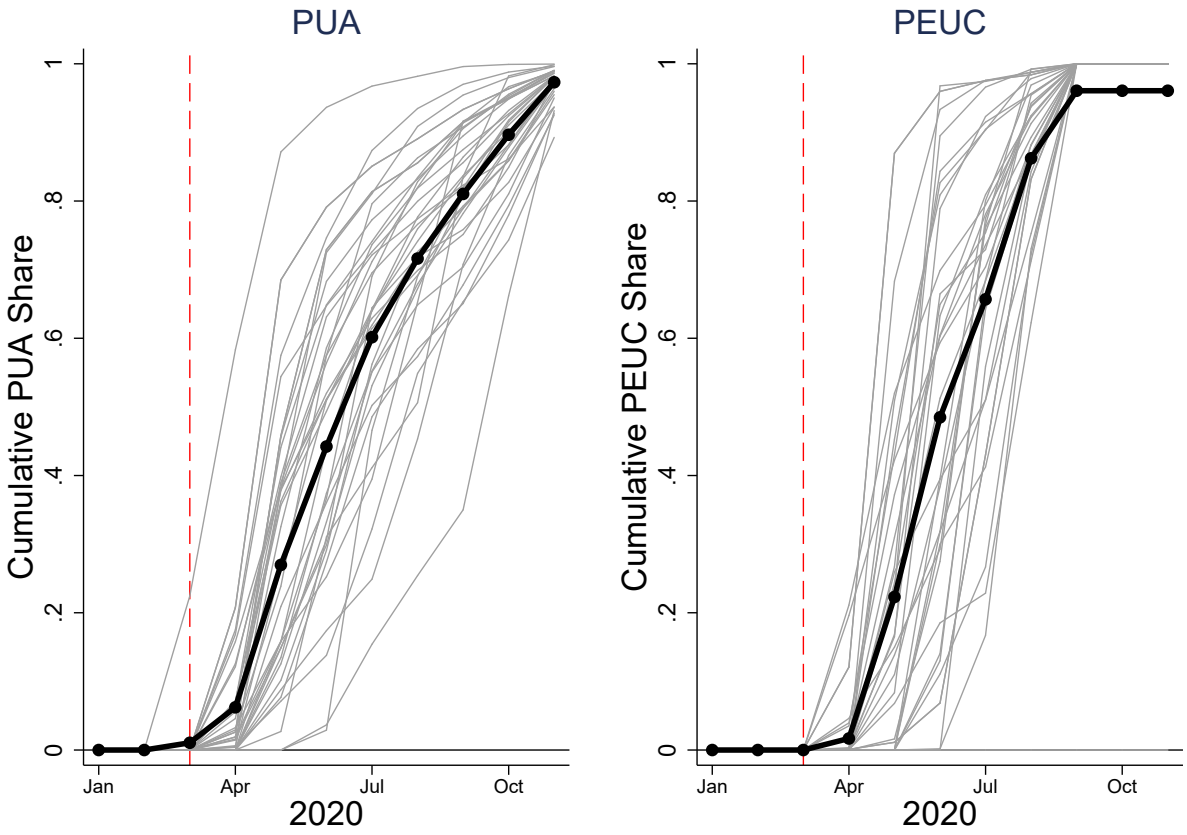
_ , "Temporary assistance for needy families," in "Economics of Means-Tested Transfer Programs in the United States, Volume 1," University of Chicago Press, 2015, pp. 303–393.

_ , "Why are so many Americans on food stamps?," *SNAP matters: How food stamps affect health and well-being*, 2015, p. 18.

_ **, Craig Gundersen, and David N Figlio**, "Food stamp caseloads over the business cycle," *Southern Economic Journal*, 2003, pp. 903–919.

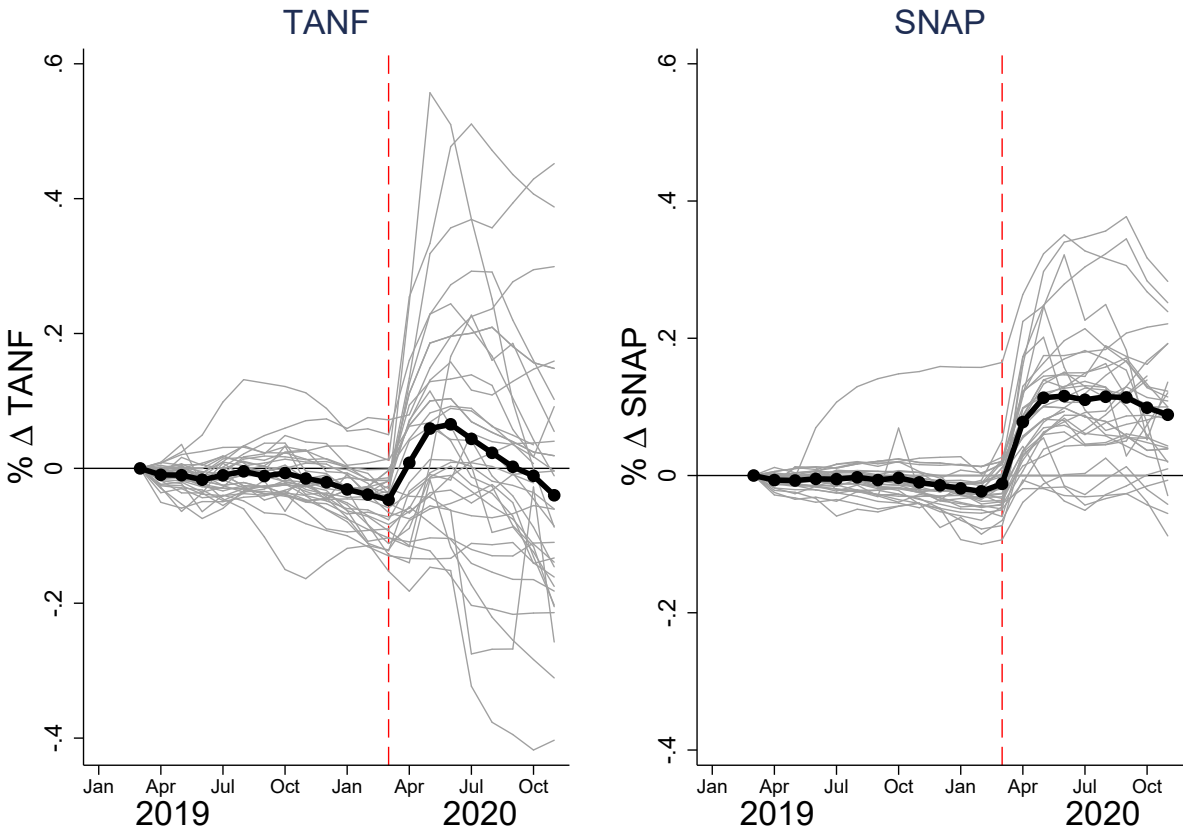
_ **, David N Figlio, Elizabeth E Davis, and Laura S Connolly**, "Accounting for the decline in AFDC caseloads: Welfare reform or the economy?," *Journal of Human Resources*, 2000, pp. 570–586.

Figure 1: Cumulative Share of PUA and PEUC Claims



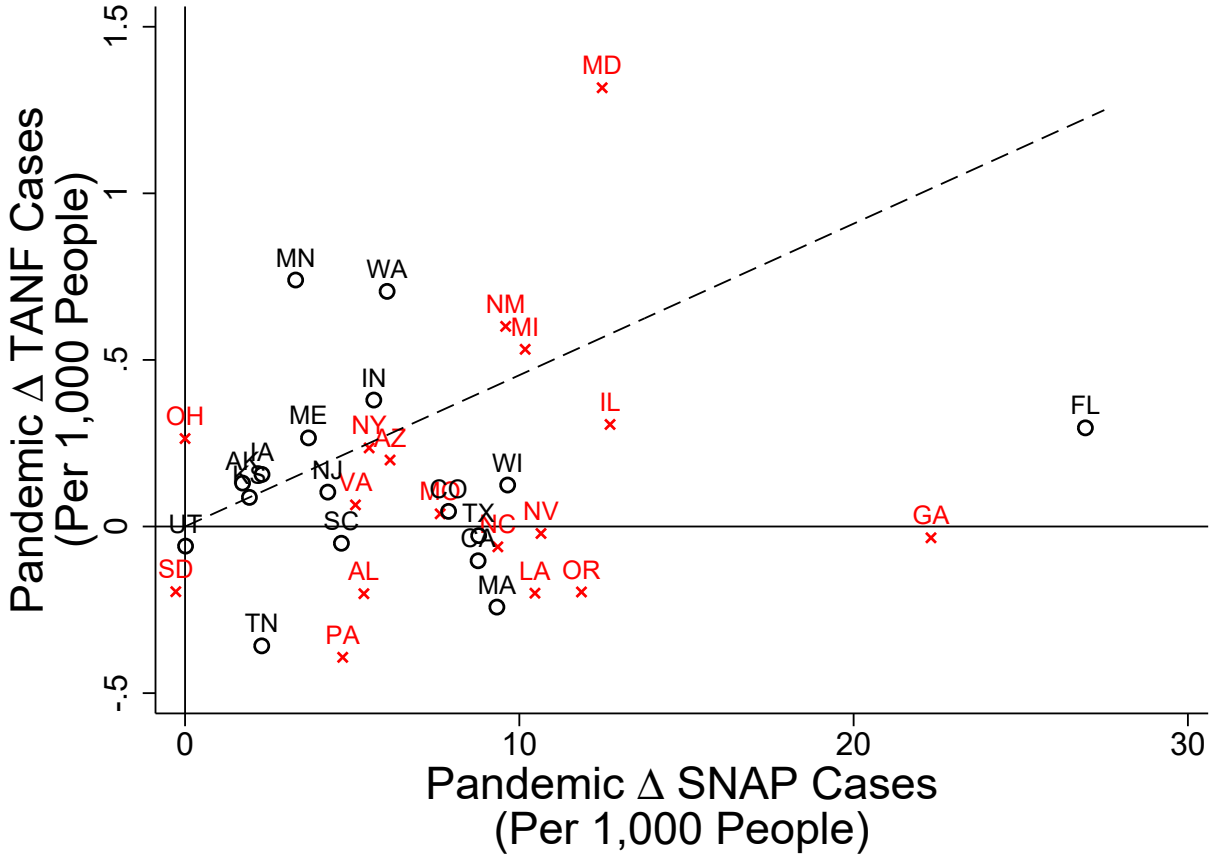

**Source:** Department of Labor.
**Note:** This figure displays the cumulative share of PUA and PEUC initial claims between March and November 2020. PEUC initial claims only counted through standard UI duration of 26 weeks after onset of pandemic (September 2020).

Figure 2: TANF and SNAP Caseloads Trends



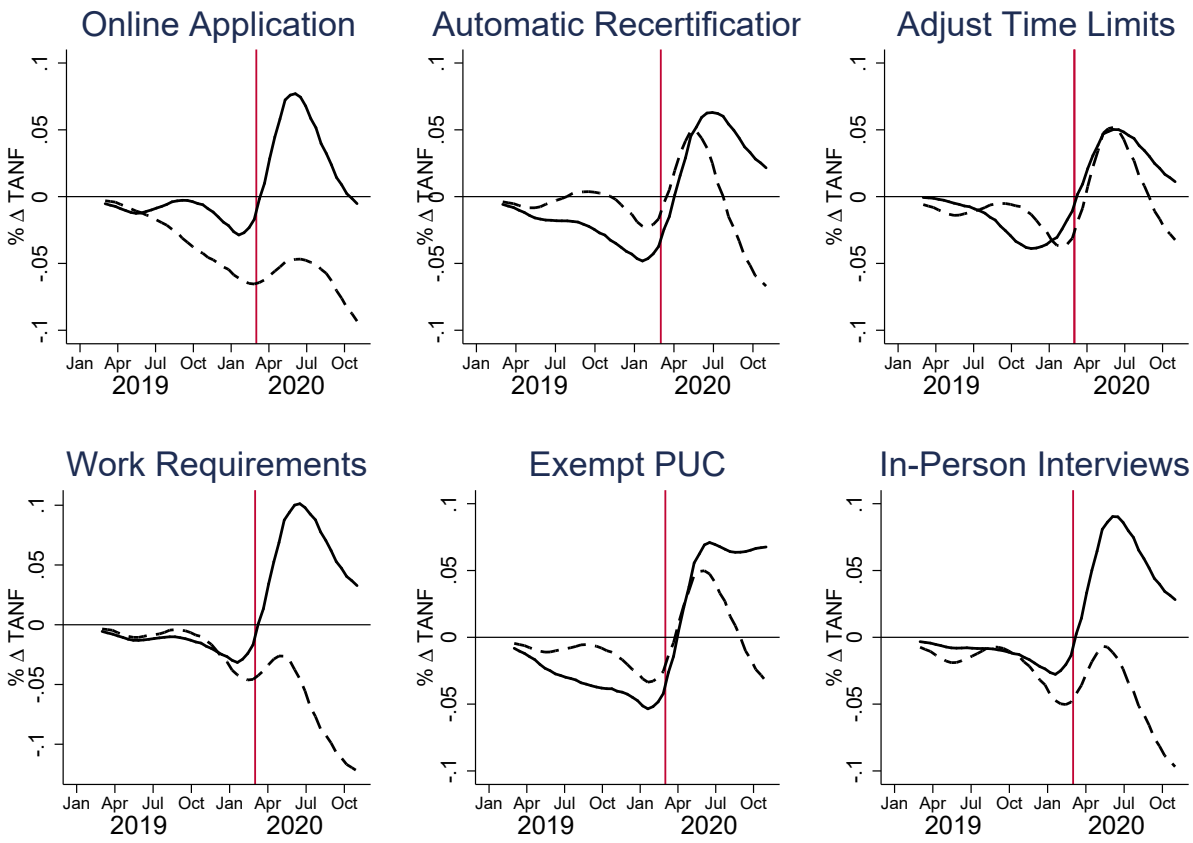

**Source:** State TANF and SNAP agencies.
**Note:** This figure displays the percentage change in monthly TANF and SNAP caseloads relative to March 2019 through November 2020. Each grey line represents a state. The black line is the sample average.

Figure 3: TANF and SNAP Per Capita Pandemic Caseload Response



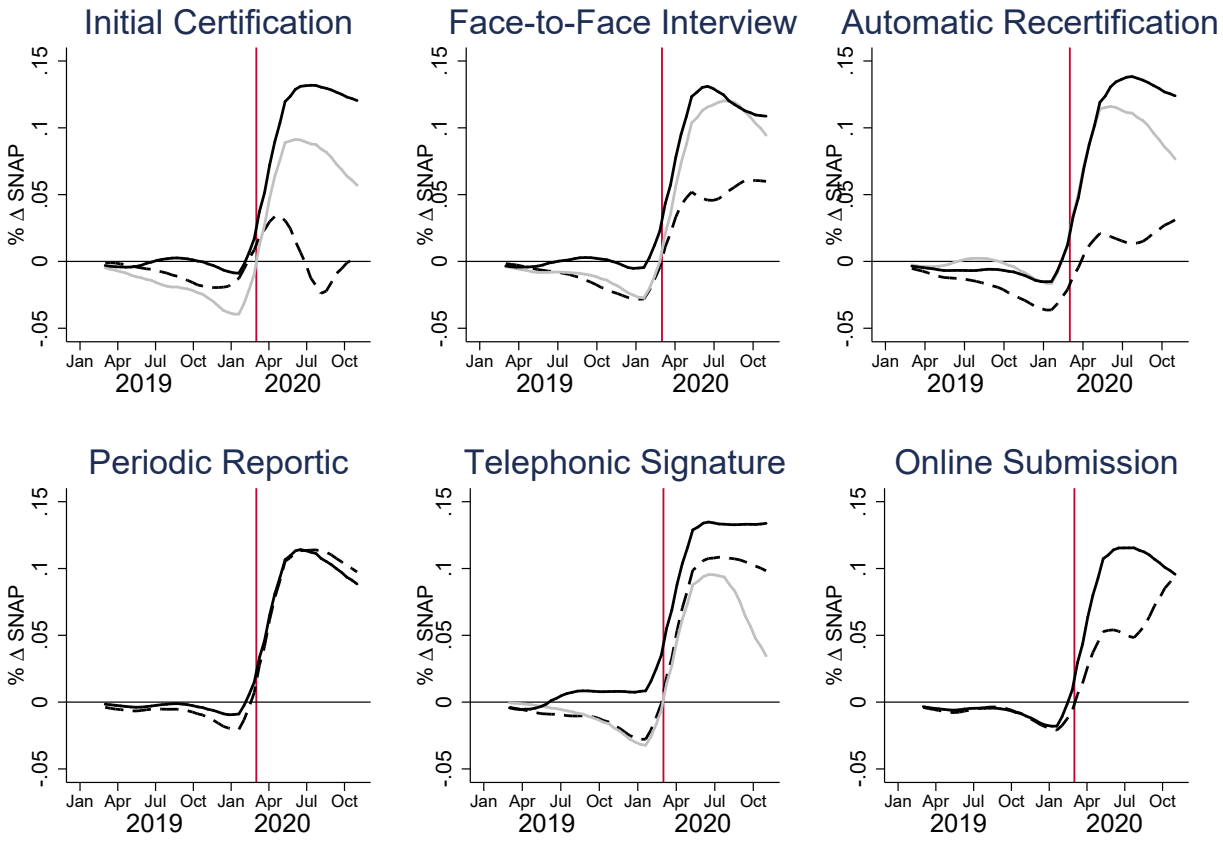

**Source:** State TANF and SNAP agencies, Center for American Progress, and Center for Budget and Policy Priorities.
**Note:** This figure displays the state-level per capita change in TANF and SNAP caseloads. Pandemic period is April-November 2020 compared to August 2019-March 2020 average. Black circles represent states that had a greater than median change in TANF COVID policies relative to SNAP COVID polices.

Figure 4: TANF Caseload Trends and Pandemic Policies



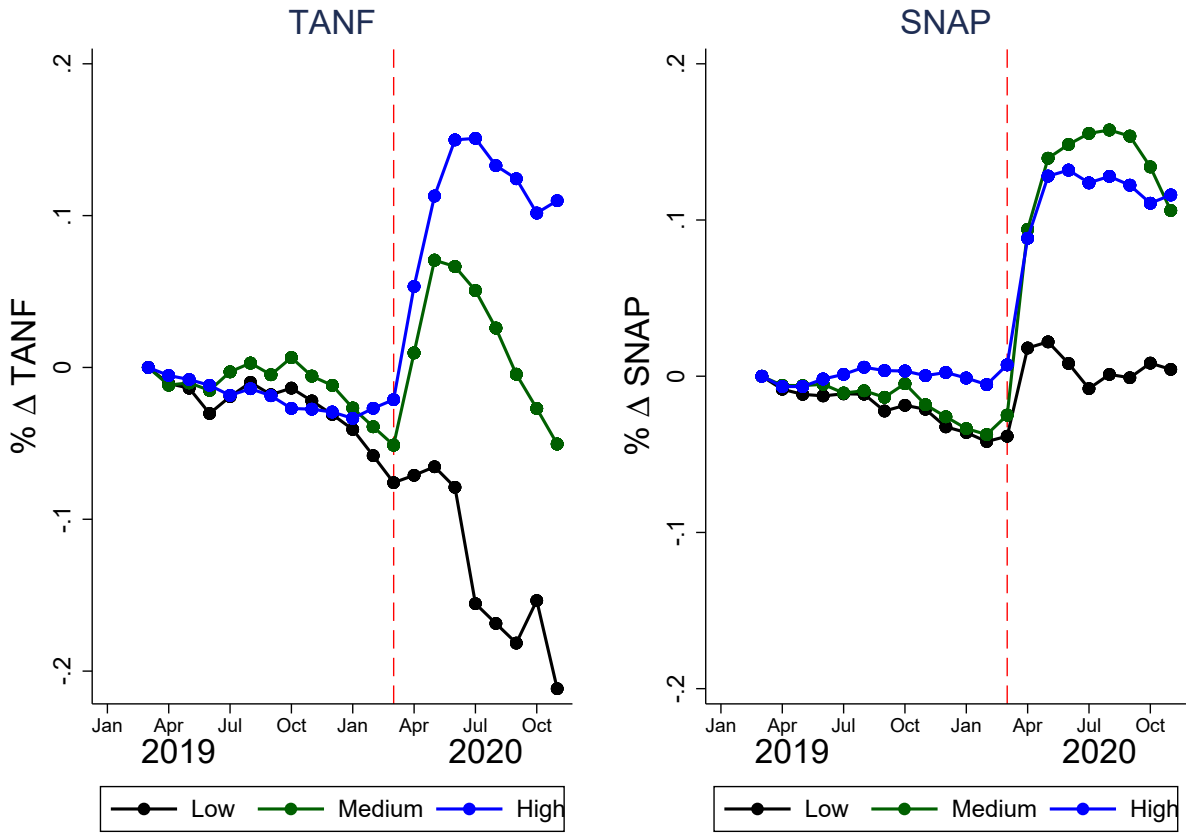

**Source:** State TANF agencies, Center for American Progress.
**Note:** This figure displays the average percentage change in TANF cases between March 2019 and November 2020 split by TANF pandemic policies. The solid line represents states that adopted the policy while the dotted line are states that did not adopt the policy. The policies include having an online application, automatic re-certification extensions of two to six months, adjusting or suspending time limits, suspension or good-cause exemptions for work requirements, excluding federal PUC payments from income eligibility, and waiving in-person interviews. The red line represents the beginning of the COVID pandemic in March 2020.

Figure 5: SNAP Caseload Trends and Pandemic Policies




**Source:** State SNAP agencies, Center for Budget and Policy Priorities.
**Note:** This figure displays the average percentage change in TANF cases between March 2019 and November 2020 split by SNAP pandemic policies. The solid black line represents states that adopted the policy for more than half the pandemic, the grey line represents states which adopted the policy for less than half the pandemic, and the dotted line are states that did not adopt the policy. The policies include waiving initial and re-certification interviews, waiving face-to-face interviews, extending certification periods, use periodic reporting, adapting telephonic signature requirements, and having an online application submission. The red line represents the beginning of the COVID pandemic in March 2020.

Figure 6: TANF and SNAP Caseloads Trends, by Pandemic Policy Index




**Source:** State TANF and SNAP agencies, Center for American Progress, and Center for Budget and Policy Priorities.
**Note:** This figure displays the average percentage change in TANF and SNAP cases between March 2019 and November 2020 split by state pandemic policy index level. The solid black line represents states that adopted the fewest pandemic policies, the green line represents states a moderate number of pandemic policies, and the blue line represents states that adopted the most pandemic policies. The dotted red line represents the beginning of the COVID pandemic in March 2020.

Table 1: Effect of Unemployment Rate on TANF and SNAP Caseloads

| | TANF | | SNAP | |
|---|---|---|---|---|
| | Level | Ln | Level | Ln |
| | (1) | (2) | (3) | (4) |
| Unemployment Rate (Pre-Pandemic) | 6.2993 | 1.0201 | 98.4516*** | 1.3772*** |
| | (3.7545) | (0.7562) | (29.4795) | (0.3757) |
| Unemployment Rate (Pandemic) | 3.9609*** | 0.9763*** | 78.8901*** | 1.1822*** |
| | (1.1181) | (0.2695) | (13.4204) | (0.1967) |
| Constant | -5.2705*** | 2.7827*** | 76.8546*** | 3.8691*** |
| | (0.8926) | (0.1925) | (7.5165) | (0.0959) |
| % Impact UR (Pandemic) | 1.0783 | 0.8875 | 1.1949 | 0.2852 |
| Outcome Mean | 3.6734 | 1.1001 | 66.0211 | 4.1454 |
| Observations | 2,780 | 2,780 | 2,780 | 2,780 |

* p<0.10, ** p<0.05, *** p<0.010

**Note:** This table represents results from estimating Equations (1). Sample period is January 2014 to November 2020. All specifications include state, month, year and linear state time trends. Columns (1) and (3) use the caseloads per capita (in thousands) as the outcome variable. Columns (2) and (4) use the log of caseloads per capita.

**Source:** State TANF and SNAP agencies.

Table 2: Effect of UI Programs on TANF and SNAP Caseloads

| | TANF | | SNAP | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Unemployment Rate (Pre-Pandemic) | 8.0403** | 8.0130** | 88.4336*** | 94.0076*** |
| | (3.9110) | (3.9054) | (23.6589) | (25.1727) |
| Unemployment Rate (Pandemic) | 4.5210** | 4.3280* | 59.8058*** | 80.1677*** |
| | (2.2079) | (2.1361) | (19.0799) | (25.6212) |
| Weekly Max UI Benefit ($00s) | -0.4355 | -0.4276 | 6.7898 | 7.4881 |
| | (0.6972) | (0.6959) | (5.1601) | (5.4490) |
| PEUC | 0.2703** | | -10.8407* | |
| | (0.1146) | | (5.5219) | |
| PUA | -0.0564 | | 15.5277*** | |
| | (0.1512) | | (4.3959) | |
| PUC | -0.1467 | -0.0842 | -1.6370* | -0.0444 |
| | (0.1201) | (0.1439) | (0.9621) | (1.4576) |
| PEUC (Cumulative) | | 0.3527** | | -10.5478* |
| | | (0.1616) | | (5.8890) |
| PUA (Cumulative) | | -0.1359 | | 15.9929*** |
| | | (0.2347) | | (5.1035) |
| Constant | -4.5844** | -4.7856*** | 56.2455*** | 56.8310*** |
| | (1.7779) | (1.7308) | (14.0003) | (14.5116) |
| Outcome Mean | 3.6734 | 3.6734 | 66.0211 | 66.0211 |
| Observations | 2,780 | 2,780 | 2,780 | 2,780 |

* p<0.10, ** p<0.05, *** p<0.010

**Note:** This table represents results from estimating Equation (2). Sample period is January 2014 to November 2020. All specifications include state, month, and year fixed effects and linear state time trends. PUA and PEUC are dummy variables equal to one if the state processed any initial program claims in the month. PUC is a dummy variable equal to one between April and July 2020. The cumulative PUA and PEUC variables represent the cumulative fraction of initial program claims processed by the program.

**Source:** State TANF and SNAP agencies, Department of Labor.

Table 3: Effect of TANF Pandemic Policies on Caseloads

| | Full Sample | | Lower Pre-Policy | Higher Pre-Policy |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| TANF COVID | 0.8072*** | | 0.0227 | 0.9934*** |
| | (0.2452) | | (0.2970) | (0.1862) |
| Work Requirement | | -0.0268 | | |
| | | (0.1359) | | |
| In-Person Interview | | 0.2398 | | |
| | | (0.1448) | | |
| Re-certification | | -0.1842 | | |
| | | (0.1561) | | |
| Exclude PUC | | 0.1391 | | |
| | | (0.1855) | | |
| TANF Online | | 0.1055 | | |
| | | (0.0955) | | |
| Time Limit | | 0.5569*** | | |
| | | (0.1716) | | |
| Unemployment Rate (Pre-Pandemic) | 5.6968* | 6.0615* | 7.1380* | 5.8829 |
| | (3.2115) | (3.2655) | (3.7749) | (3.9552) |
| Unemployment Rate (Pandemic) | 1.4474 | 1.4244 | 3.5140* | 0.7787 |
| | (1.3702) | (1.5270) | (1.8996) | (1.5926) |
| Constant | -5.0597*** | -6.0881*** | 5.4317 | -4.6256*** |
| | (1.7190) | (1.8433) | (7.1410) | (1.1426) |
| TANF Mean | 3.28 | 3.28 | 2.52 | 3.69 |
| Observations | 2780 | 2780 | 9910 | 1789 |

* p<0.10, ** p<0.05, *** p<0.010

**Note:** This table represents results from estimating Equation (2) on TANF caseloads. Sample period is January 2014 to November 2020. All specifications include state, month, and year fixed effects and linear state time trends. Control variables include maximum UI weekly benefits, and UI program indicator variables.
**Source:** State TANF and SNAP agencies, Center for American Progress, Center for Budget and Policy Priorities, Welfare Rules Database.

Table 4: Effect of SNAP Pandemic Policies on Caseloads

| | Full Sample | | Lower Pre-Policy | Higher Pre-Policy |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| SNAP COVID | 8.0631* | | 7.4779* | 9.7925 |
| | (4.3447) | | (3.9152) | (6.4499) |
| Re-certification | | 2.4696 | | |
| | | (1.7767) | | |
| Face-to-Face Interview | | -1.1570 | | |
| | | (1.2251) | | |
| Telephonic Signature | | -0.7235 | | |
| | | (2.3133) | | |
| Periodic Reporting | | -4.4910 | | |
| | | (2.8400) | | |
| Initial Certification | | 5.4879* | | |
| | | (2.8333) | | |
| SNAP Online | | 4.7735** | | |
| | | (1.8715) | | |
| Unemployment Rate (Pre-Pandemic) | 79.8825*** | 125.2187*** | 115.0657*** | 31.1475 |
| | (24.7791) | (37.9616) | (29.3613) | (30.8981) |
| Unemployment Rate (Pandemic) | 36.7503 | 24.7464 | 16.5493 | 22.4347 |
| | (22.8093) | (22.1057) | (21.1401) | (26.1861) |
| Constant | 51.6116*** | 9.9259 | -110.9918** | 58.5004*** |
| | (14.6903) | (29.7367) | (46.3279) | (13.9591) |
| SNAP Mean | 64.05 | 64.05 | 64.05 | 64.05 |
| Observations | 2,772 | 2,772 | 1,215 | 1,557 |

* p¡0.10, ** p¡0.05, *** p¡0.010

**Note:** This table represents results from estimating Equation (2) on SNAP caseloads. Sample period is January 2014 to November 2020. All specifications include state, month, and year fixed effects and linear state time trends. Control variables include maximum UI weekly benefits, and UI program indicator variables. SNAP policy index from Stacy et al. (2018).

**Source:** State TANF agencies, Center for American Progress, Center for Budget and Policy Priorities.