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Coverage, Counter-cyclicality and Targeting of Work Requirement Waivers in the Supplemental Nutrition Assistance Program

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ABSTRACT

Non-disabled, working age adults without children are required to work 20 hours per week in order to maintain eligibility for the Supplemental Nutrition Assistance Program. However, states may waive the work requirement for areas that meet conditions reflective of a weak labor market. We construct a dataset with the waiver status of each United States county for every month from 1997–2023 and evaluate waiver coverage, counter-cyclicality and targeting. Waiver coverage has grown over time and in December 2023, when the national unemployment rate was 3.5 percent, waivers covered 29 percent of the U.S. population. In terms of counter-cyclicality, a county's probability of receiving a waiver increases by 3.1 percentage points for every one percentage point increase in its unemployment rate. In terms of targeting, counties with an unemployment rate below 5 percent received 25 percent of waivers in the average month from 1997–2023. We simulate the effects on waiver eligibility of counterfactual regulations finalized in 2019—but never implemented—by the U.S. Department of Agriculture. Altogether, the 2019 rule would have decreased waiver eligibility in all months, increased the responsiveness of waivers to county unemployment rates, and increased the share of waivers targeted to high unemployment counties.

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I. Introduction

The Supplemental Nutrition Assistance Program (SNAP)—called the Food Stamp Program until 2008—is among the United States' largest safety net programs, providing food assistance to over 42 million Americans in an average month at an annual cost of $113 billion in 2023 (USDA 2024). Aside from public health insurance, SNAP is the only means-tested entitlement program available to working-age, non-disabled individuals who do not work, and especially for those without children, may be their primary or only source of income. Its protection against income loss comes with the cost of discouraging work, since as a means-tested program SNAP benefits phase out with earnings and are eventually eliminated once income exceeds the eligibility threshold. Concerns about work disincentives in safety net programs led Congress to pass the Personal Responsibility and Work Opportunity Reconciliation Act in 1996, which most notably replaced the Aid to Families with Dependent Children (AFDC) program with the Temporary Assistance for Needy Families (TANF) program and imposed work requirements, time limits, and other provisions to encourage work among benefit recipients. Although the most transformative changes were reserved for TANF, the 1996 law also instituted a time limit on SNAP benefits for "able-bodied adults without dependents" or ABAWDs, currently defined as non-disabled individuals aged 18-54 without dependent children in their household. ABAWDs can only receive SNAP benefits for three months in a three-year period unless they work or engage in certain work-related activities for at least 20 hours per week. We refer to this provision as the ABAWD work requirement.

One particular aspect of the ABAWD work requirement has sparked continued policy debate since its inception—the ability of states to waive work requirements for areas when the labor market is deemed sufficiently weak. The 1996 law allowed waivers for areas with an unemployment rate that exceeded 10 percent or were otherwise determined to "not have a sufficient number of jobs to provide employment for the individuals" (Food and Nutrition Service 2024b). The Food and Nutrition Service (FNS) within the United States Department of Agriculture (USDA) operationalized the lack of a sufficient number of jobs criterion through regulation that allowed for several further conditions to trigger eligibility for a waiver, such as a state being eligible for Extended Unemployment Benefits (EB) or being the subject of a study finding a lack of jobs in the area (Food and Nutrition Service 2024b). Another condition allows

for a waiver if an area's unemployment rate is at least 20 percent higher than the national unemployment rate over the past 24-month period. Critics of this provision argue that areas with low absolute unemployment rates can qualify as long as the national unemployment rate is even lower. The regulation also allows states to arbitrarily group contiguous counties together for purposes of qualifying for a waiver, a practice we refer to as grouping. Critics worry that a low-unemployment county that could not qualify for a waiver on its own could be grouped with a high-unemployment county, and if as a combined area their unemployment rate is 20 percent higher than the national unemployment rate, both counties qualify for a waiver. In 2019, California waived 52 out of 58 of its counties in this manner, despite a state unemployment rate of 4.1 percent and a national unemployment rate of 3.7 percent. Among the waived counties were Napa County (unemployment rate of 2.9 percent) and Imperial County (unemployment rate of 20.7 percent).

To address concerns that the ABAWD work requirement was insufficiently robust because of these regulations, the FNS published a final rule in 2019 revising the criteria by which states could waive the SNAP work requirement (Food and Nutrition Service 2019). Challenges in court, followed by an injunction due to the onset of the COVID-19 pandemic, delayed the rollout of the regulation. Then in October 2020, the United States District Court for the District of Columbia vacated the final rule, pointing to procedural concerns with the rulemaking process and the lack of evidence for parts of the rules it deemed "arbitrary and capricious" (Howell 2020). The USDA decided against appealing the ruling and reverted to the previous ABAWD rule (Food and Nutrition Service 2021). However, future administrations or Congress could revisit these changes, making it important to provide evidence on the existing regulation and the effects of these specific proposed reforms.

We inform the policy debate over potential changes to the regulations concerning ABAWD work requirement waivers by assembling a complete dataset of waivers issued to each county in the United States from 1997-2023, allowing us to evaluate how waivers have been applied historically under the existing regulations.

We first document historical waiver coverage at the national level. Waiver coverage was low and unresponsive to the business cycle through the early 2000s, before expanding and then becoming

more responsive to the business cycle in conjunction with the Great Recession.[1] However, waivers remained elevated through 2019 even as the national unemployment rate reached historically low levels. Subsequently, Congress suspended work requirements nationwide from April 2020 through June 2023 in response to the COVID-19 pandemic.

We then evaluate the responsiveness of counties' waivers to changes in their own unemployment rate, finding that a one percentage point increase in a county's unemployment rate is associated with a 3.1 percentage point increase in the probability of receiving a waiver, when controlling for county and time fixed effects. In terms of targeting, we find that 25 percent of waived counties in the average month have an unemployment rate of less than 5 percent, approximately the natural rate of unemployment as estimated by the Congressional Budget Office during our study period. The natural rate of unemployment is intended to represent the long-run unemployment rate that can be achieved apart from changes due to fluctuations in aggregate demand in the economy.

Next we evaluate how eligibility for waivers would have differed under the alternative regulations included in the 2019 final rule by FNS. Had these rule changes taken effect, they would have eliminated state-wide waivers when a state is eligible for EB, prohibited states from grouping counties together for purposes of qualifying for a waiver, instituted a 6 percent unemployment rate floor, and granted waivers to qualifying Labor Market Areas instead of individual counties. Altogether, we find that the rule changes would have decreased waiver eligibility, increased counter-cyclicality and increased targeting to the highest unemployment counties. In evaluating the impact of each reform individually, eliminating state-wide waivers under EB has the largest impact on increased counter-cyclicality, and prohibiting grouping has the largest impact on increased targeting. These two provisions are both impactful in reducing waiver eligibility, with the elimination of the EB criterion preventing waivers from reaching 100 percent coverage during recessions and the prohibition on grouping reducing waiver eligibility throughout our study period.

Previous research has studied the SNAP work requirement for ABAWDs in depth, focusing on the extent to which waivers reduce employment and increase SNAP caseloads. Employment

[1] The absence of a waiver does not necessarily mean that ABAWDs were subject to a work requirement, especially in the early years after the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. The FNS engaged in little enforcement of the work requirement and states could use future year exemptions to essentially avoid implementing the ABAWD work requirement altogether. FNS ended the use of future year exemptions in 2007. See Food and Nutrition Service (2007).

effects tend to be modest while caseload effects are substantial (e.g., Harris 2021; Han 2022; Gray et al. 2023), although data limitations involving SNAP participation and waiver coverage make the precise results uncertain. Furthermore, Dodini, Larrimore, and Tranfaglia (2024) find that waiver expirations lead individuals to seek out credit, likely as a means of maintaining consumption levels when losing SNAP benefits. Less research has evaluated the conditions under which waivers are implemented and how specific aspects of the waiver policy affect coverage. Most of the existing analysis of this question came in response to the FNS rule in 2019. Kwon, Joo, and Waxman (2020) provide several examples of areas that unsurprisingly would have lost waiver eligibility due to the stricter regulations. Evaluating the same regulation change, Bauer, Parsons, and Shambaugh (2019) and Bauer, Parsons, and Shambaugh (2020) simulate counties' eligibility for waivers under various criteria, including existing regulations as well as proposed and final regulations issued by FNS in 2018 and 2019, although they do not model the effect of prohibiting states from grouping counties in order to qualify for a waiver. In addition, they do not report how actual waiver coverage has evolved over time, evaluate the targeting of waivers, nor evaluate counter-cyclicality based on variation within counties over time. Our contributions are to construct the entire history of actual waiver coverage at the county-month level (i.e., not just eligibility for waivers), document how waiver coverage has evolved at the national level over the 1997-2023 period, rely on within-county variation in waiver receipt to evaluate counter-cyclicality (as opposed to relying only on national-level aggregates), report a measure of targeting, and show how specific regulatory changes would affect waiver eligibility, counter-cyclicality, and targeting.

A broader literature has evaluated the counter-cyclicality of safety net and social insurance programs, with a focus on caseloads and benefit outlays. Studies consistently document an especially strong positive association between a state's unemployment rate and SNAP caseloads and spending (Ziliak, Gundersen, and Figlio 2003; Bitler and Hoynes 2010; Bitler and Hoynes 2016; Ganong and Liebman 2018; Hardy, Smeeding, and Ziliak 2018; Bitler, Hoynes, and Iselin 2020; Hembre, Moffitt, and Ziliak 2023). Many of these studies compare SNAP with other programs, typically finding even more counter-cyclicality for Unemployment Insurance and less for other programs like cash welfare, Medicaid and refundable tax credits. In addition to evaluating the counter-cyclicality of ABAWD work requirement waivers in their own right, our findings also inform one mechanism for the strong relationship between SNAP caseloads and the

unemployment rate. As the unemployment rate rises, areas are more likely to qualify for a waiver which in turn increases the number of individuals eligible for SNAP.

This paper proceeds as follows: Section II describes the SNAP ABAWD waiver policy in detail. Section III describes our data and methodology. Section IV documents the national trend in waiver receipt and evaluates the coverage, counter-cyclicality and targeting of waivers. Section V simulates how regulatory changes would affect waiver eligibility along the same three measures. Section VI discusses the results. Section VII concludes.

II. Background

The modern Food Stamp program began as a pilot in the early 1960s, allowing eligible individuals to purchase stamps that could be redeemed for food of a greater value.[2] The 1964 Food Stamp Act, passed into law at the outset of President Johnson's War on Poverty, converted the pilot into a permanent program that over the next decade was extended throughout the country. The federal government funded the benefits while both the federal and state governments were responsible for administrative costs. Notable reforms since then include eliminating the requirement for recipients to purchase food stamps (1977), introducing Electronic Benefit Transfer (EBT) cards for recipients to more easily access and use their benefits (finalized in 2002), and renaming the Food Stamp Program as SNAP (2008).[3] Under current standards, households are eligible for SNAP if their income is no higher than 130 percent of the federal poverty line for their household size, or in those states that confer broad-based categorical eligibility, 200 percent of the poverty line.[4] The amount of SNAP benefits depends on household income, with each additional dollar of earned income generally reducing the SNAP benefit by $0.24, however, the benefit reduction rate differs by household depending on other deductions.[5] The maximum monthly SNAP benefit in Fiscal Year 2025 was $292 for an individual living alone and $975 for a family of four.

[2] An earlier version of the Food Stamp Program was in place from 1939 until 1943, at which time it was ended due to improving economic conditions and declining food surpluses (Food and Nutrition Service 2024a).
[3] For a detailed history of SNAP, see Food and Nutrition Service (2024a).
[4] Household net income, once accounting for deductions, must also be less than 100 percent of the federal poverty line in order to be eligible, with exceptions for households with elderly or disabled members.
[5] For example, earned income does not reduce SNAP benefits initially until the standard deduction and other applicable deductions are reached. Also, the interaction of earned income with the excess shelter cost deduction can produce a higher benefit reduction rate.

The 1996 Personal Responsibility and Work Opportunity Reconciliation Act instituted work requirements for so-called ABAWDs, non-disabled individuals aged 18-49 who do not have dependent children.[6] The age range of ABAWDs was later expanded in 2023 to include individuals aged 18-54, while at the same time exempting homeless individuals, veterans, and individuals aging out of foster care (McHenry 2023). The original 1996 law required ABAWDs to work at least 20 hours per week, or else be limited to three months of SNAP receipt during any three-year period. However, it also allowed states to waive the ABAWD work requirement in areas that (i) had an unemployment rate of at least 10 percent, or (ii) did "not have a sufficient number of jobs to provide employment for the individuals" (Kasich 1996). Although the first of the two criteria for waiving the ABAWD work requirement—having an unemployment rate greater than 10 percent—was clearly defined in the statute, the FNS within USDA was tasked with operationalizing the second criterion. Through regulation the FNS determined that an area is eligible for a waiver due to a lack of a sufficient number of jobs if that area meets any of the following criteria:

> *[1] Is designated as a Labor Surplus Area (LSA) by the Department of Labor's Employment and Training Administration (ETA); [2] is determined by the Department of Labor's Unemployment Insurance Service as qualifying for extended unemployment benefits; [3] has a low and declining employment-to-population ratio; [4] has a lack of jobs in declining occupations or industries; [5] is described in an academic study or other publications as an area where there are lack of jobs; [6] has a 24-month average unemployment rate 20 percent above the national average for the same 24-month period* (Food and Nutrition Service 2024b).[7]

State agencies that administer SNAP can request waivers from the ABAWD work requirement, by submitting evidence to the FNS that a given area meets at least one of the criteria for a waiver. States are permitted to apply for waivers for any geographical unit of their choosing. Many states seek waivers for the entire state, while others seek to waive specific counties, cities, or towns. States are also permitted to group contiguous areas and seek a waiver under a single

[6] SNAP caseworkers can exempt an individual from the work requirement if they are deemed to be obviously unfit for work due to a mental or physical health issue, even if the individual does not receive disability-related assistance. Moreover, if a recipient is not obviously unfit for work, the caseworker can exempt them from the work requirement if they have written documentation of a work-limiting health issue from a medical professional (USDA 2015).
[7] Numbers 1-6 are added for emphasis and clarity.

justification criterion. Therefore, a state could combine a low-unemployment county with a neighboring high-unemployment county, and obtain a waiver for both counties as long as the combined area meets at least one waiver criterion.

Allowing waivers in areas with an unemployment rate at least 20 percent higher than the national unemployment rate, what we call the "20 percent rule," in combination with the ability of states to group contiguous counties into a single area, has in some cases been used to waive large portions of states even when economic conditions are strong. For example, in 2018 California formed one combined area containing 55 of its 58 counties, which had a two-year average unemployment rate of 5.9 percent, exactly 20 percent higher than the national unemployment rate over the same period of 4.9 percent.

In response to an Executive Order from then President Donald Trump to review agency regulations in support of improving economic mobility among participants, the FNS published a final rule in December 2019 tightening the criteria by which states could waive the ABAWD work requirement. Critics had argued previously that the ABAWD work requirement was insufficiently applied, and therefore, ineffective in combatting SNAP's work disincentives (Haskins 2015; Doar 2017). The purpose of the new rule was to define more narrowly the conditions that satisfied a state's claim of insufficient jobs, in response to concerns that states had exploited the existing criteria to waive areas that arguably had sufficient jobs (Food and Nutrition Service 2019):

> *Over the years, States have taken advantage of these weaknesses to request and qualify for waivers of the ABAWD time limit in areas where it is questionable as to whether the statutory conditions for approval as outlined in section 6(o)(4) of the Act, an unemployment rate over 10 percent or a lack of sufficient jobs, are present. This manipulation is demonstrated by the fact that currently about half of the ABAWDs on SNAP live in waived areas, despite low unemployment levels across the majority of the country*.

The final rule maintained the statutory criterion of an area's unemployment rate exceeding 10 percent, but it modified the criteria determining a lack of a sufficient number of jobs as well as the definition of an "area." Specifically, it revoked EB eligibility as a criterion, imposed a 6 percent unemployment rate floor in order to qualify under the 20 percent rule, and it prohibited

states from combining geographic areas to qualify as a single entity. Instead, states could only seek waivers for Labor Market Areas (not counties), which are metropolitan areas, micropolitan areas, or other collections of counties. Labor Market Areas are intended to represent regions in which residents can commute to any job without changing their residence. The rule also restricted the other criteria for qualifying for a waiver—a low and declining employment-to-population ratio, a lack of jobs in declining occupations or industries, or an academic study demonstrating a lack of sufficient jobs in the area—to areas for which standard data to assess the unemployment rate based criteria are unavailable. Designation as a Labor Surplus Area was eliminated as a criterion, because Labor Surplus Areas are defined as having an unemployment rate of at least 6 percent and that exceeds the national unemployment rate by 20 percent, which is redundant in light of the revised 20 percent rule that has the same conditions.

The final rule was scheduled to take effect on April 1, 2020. However, challenges in court led to an injunction before it could take effect, and then on October 18, 2020, the rule was vacated by the United States District Court for the District of Columbia, based on the court's view that the final rule made unsupported changes relative to the proposed rule, and that some of the substantive aspects of the regulation were either unsupported by the law or "arbitrary and capricious" (Howell 2020). In 2021, the FNS under the Biden Administration decided against pursuing the rule change, and the policy was retained in its original form (Food and Nutrition Service 2021).

On two occasions Congress enacted legislation that suspended the ABAWD work requirement for the entire country. In response to the Great Recession, the American Recovery and Reinvestment Act of 2009 waived the work requirement for the entire country from April 1, 2009 to September 30, 2010. During this time, states were not required to submit documentation or supporting evidence to receive a waiver from the federal government, though states were allowed to continue enforcing a work requirement if they chose. In response to the COVID-19 pandemic and the associated economic shutdown, Congress again suspended the SNAP work requirement as part of the Families First Coronavirus Response Act of 2020. Work requirements were suspended nationwide from April 2020 through June 2023, when the public health emergency was lifted, although states could still choose to implement the work requirement during this period provided they could offer ABAWDs an employment and training opportunity.

III. Data and Methodology

In this section we describe the creation of our monthly, county-level dataset of ABAWD waivers. Then we describe our approach for assessing the coverage, counter-cyclicality and targeting of waiver receipt. Finally, we describe our approach for simulating eligibility for waivers under existing and counterfactual regulations.

Data

We assembled a dataset that contains every United States county's monthly waiver status from January 1997 through December 2023, based on the waiver requests submitted to and approved by the FNS over this time period. We requested and received from the FNS the universe of 1,169 waiver response forms for the years 1997 to 2023.[8] Each waiver specifies the area(s) to be waived, the justification for waiving each area, and the time period for the waiver. These requests are then approved, denied, or modified by the FNS. Lacking a single source that catalogs each state's complete historical waiver information, previous researchers have mostly focused on assembling waiver data from FNS documents over a shorter time period (Harris 2021; Han 2022).[9] The only source that we identified containing all states' complete waiver history is Center on Budget and Policy Priorities (2019); however, their publicly available waiver data only extend through 2019, are available only at the annual rather than monthly level, and are not available to other researchers in a usable format.

Our approach to assembling a county-month level dataset was to manually catalog each state's waiver response forms from 1997 to 2023 as maintained by the FNS. The formatting of the waiver response forms varies substantially over time, and forms often include unique information that specifically relate to states' waiver requests, precluding automation of the data assembly process. From each form we recorded the state applying for the waiver, the areas being

[8] We requested and received these data in 2023 before all states had submitted their FY2023 waivers. However, we since updated our data to include the waiver decisions publicly available on the FNS website from FY2023. As part of the Fiscal Responsibility Act of 2023 (FRA), the FNS was required to make all waiver requests and decisions public, which are now available on their website. However, we began data collection prior to the passage of the FRA.

[9] In Appendix Figure A1, we show that waiver coverage based on the Harris (2021) data is almost identical to waiver coverage based on the data we assembled over the years in which Harris (2021) data are available, providing validation of both waiver datasets. In 2016 and 2017, our data covers a slightly greater share of the population than Harris's data. One possible reason could be that we convert town and city waivers to the county-level, which were increasingly used by states beginning in 2016.

waived, and both the implementation and expiration date of the waiver.[10] States apply for waivers at varying geographic units—the entire state, a single county, a single town or city, or a collection of counties, towns or cities.[11] We converted all waivers to the county level. For waivers implemented at the state level, we counted all of the state's counties as waived during the period in which the state-wide waiver was in effect. For waivers implemented at the town or city level, we counted a county as being waived if more than half of the county's population was covered by a waiver. We combined our monthly, county-level waiver data with monthly county-level unemployment data from the Bureau of Labor Statistics (BLS) and annual county-level population estimates from the U.S. Census Bureau.

Evaluating historical waiver receipt

We evaluate waivers on the basis of three measures—coverage, counter-cyclicality, and targeting. Coverage is simply the share of counties, weighted by county population, that receive a waiver in a given month. We follow the literature in measuring counter-cyclicality, determining the extent to which counties are more or less likely to receive a waiver when their unemployment rate changes. We estimate models of the form

$$W_{j,t} = \beta U_{j,t} + \sigma_j + \mu_t + \varepsilon_{j,t} \quad (1)$$

where $W_{j,t}$ is a binary variable equal to one if county j in year-month t receives a waiver, and $U_{j,t}$ is the county unemployment rate. We also include fixed effects for counties, σ_j, and each year-month, μ_t. The coefficient β measures the responsiveness of waivers to the unemployment rate, i.e., counter-cyclicality. β is identified based on changes in the waiver status over time within each county, after adjusting for time-variant national factors such as macroeconomic conditions and programmatic changes that affect the propensity to receive waivers over time, and allows us to focus strictly on the responsiveness of waivers to local economic conditions. We also report results that do not include national time effects, and in sensitivity analysis include lags and leads of the county unemployment rate.

[10] In some cases, FNS did not explicitly mention an implementation date, so in those cases we assumed that the state applied for a one-year waiver.
[11] States can also request waivers for Native Reservations, though we do not include such waivers in our analyses.

We measure targeting based on the distribution of unemployment rates among counties that receive waivers—higher unemployment rates connote more targeting. Formally, Policy A is more targeted than Policy B if for any unemployment rate $\bar{u}$, the share of waived counties with an unemployment rate that is less than $\bar{u}$ is lower under Policy A than under Policy B, or in other words, Policy A exhibits first order stochastic dominance over Policy B. We also consider weaker forms of comparison, namely, the mean unemployment rate among waived counties and the share of waived counties with an unemployment rate below 5 percent, approximately the natural rate of unemployment during the 1997-2023 period we study.[12]

Simulating waiver eligibility under counterfactual regulations

After evaluating actual waivers issued, we evaluate how counterfactual regulatory changes would affect eligibility for waivers, on the basis of the same three measures of coverage (but in this case focusing on the share of counties eligible for a waiver instead of actually receiving one), counter-cyclicality and targeting. Our simulations focus on eligibility for waivers as opposed to waiver receipt. Simulating waiver receipt would require additional assumptions about take-up, and historical levels of take-up are likely uninformative about future take-up rates when any new regulations would take effect. The propensity of states to seek waivers has grown over time, likely because states became more proficient at applying the work requirement (therefore necessitating a waiver during certain times) and enforcement of ABAWD work requirements by the FNS became stronger. Additionally, waiver requests can fluctuate with respect to state leadership, suggesting that observed past waiver receipt is not necessarily a good proxy for waiver receipt in the future.

In order to simulate how regulatory changes would affect eligibility for waivers, we first simulate eligibility under the existing regulations. It is straightforward to determine the eligibility of each individual county based on its own economic characteristics, including whether its unemployment rate is at least 10 percent or is at least 20 percent above the national unemployment rate (the 20 percent rule). However, it is difficult to simulate grouping under existing regulations in a way that reflects actual state behavior because each state has discretion in how to group areas and uses grouping methods according to its own goals. Therefore, rather

[12] The natural rate of unemployment gradually fell from 5.3 percent in 1997Q1 to 4.4 percent in 2023Q4 (CBO 2024).

than attempting to replicate grouping under existing regulations reflective of actual state behavior, we specify an algorithm by which we assume states group counties in an attempt to cover a larger share of their population. In this way, our algorithm intends to reflect the extent of waivers made possible under grouping, even if not all states engage in such behavior.

Our grouping algorithm forms groups of counties that qualify for a waiver based on having a group unemployment rate of at least 10 percent, or 20 percent above the national unemployment rate. The algorithm proceeds by first identifying the highest unemployment county in the state, and iteratively adding the next highest unemployment county that is contiguous to the existing group of counties. Once there exists no contiguous county that can be added and still allow the full group to qualify for a waiver, the first group is finalized. The algorithm then identities the highest unemployment county in the state not contained in the first group, and proceeds in the same fashion. Groups are formed until there exists no remaining county in the state that qualifies for a waiver. We apply this same algorithm to all states in all years. Appendix B contains a full description of our grouping algorithm and validates it against examples of actual instances of state grouping.

After assigning eligibility to counties grouped together, we assign eligibility to remaining individual counties with an unemployment rate of at least 10 percent or at least 20 percent higher than the national unemployment rate.[13] We also assign eligibility to all counties in a state that is eligible for EB.[14] In order to determine whether a state was eligible for EB, we rely on the complete history of "Trigger Notice" reports produced weekly by the Department of Labor, which detail whether a given state was eligible for EB during each week. If a state was eligible for EB for any week in a given month, we assume that they are eligible for an ABAWD waiver

[13] In order to calculate an area's (individual county or group of counties) unemployment rate, we follow guidance from USDA (2021). We divide the sum of the area's number of unemployed individuals by the sum of the area's labor force over the entire period. For the 20 percent rule, the period is the preceding 24 months. For the 10 percent rule, the period is the preceding 12 months. Notably, areas are also able to qualify for a waiver under the 10 percent rule if the area has a recent three-month unemployment rate of at least 10 percent or a historical seasonal unemployment rate over 10 percent. However, the regulation does not provide a clear definition for "recent" nor what constitutes a historical seasonal unemployment rate, so we only simulate eligibility using the preceding 12-month period.

[14] In the aftermath of the Great Recession, several states were made eligible for state-wide waivers under the Emergency Unemployment Compensation (EUC) program, which expired in 2013. States are also eligible for waivers if they qualify for traditional Extended Unemployment Benefits (EB), which are available at any time a state meets a specific set of unemployment criteria. We include states eligible under EUC or EB in the same group. To determine whether a given state is eligible under EB or EUC, we rely on data from the Department of Labor (2013; 2024).

during that month. We do not simulate eligibility based on being a Labor Surplus Area because any such area will qualify under the 20 percent rule. We also do not simulate eligibility based on the other criteria because they are rare and qualification under those criteria are not readily observable.

We assume that states make their grouping decisions in January of each year, and that waivers are requested for 12 months. For any county not eligible as part of a group in January, we evaluate whether they become eligible on their own in each month, and if so, assume they receive a waiver that extends for 12 months. If a county that is not part of the group becomes eligible for a waiver as part of a group the following January, they are assigned eligibility via the group for the full calendar year. Our approach is consistent with the ABAWD regulations, which direct waivers to remain in effect for 12 months except in special circumstances (USDA 2001).

We provide two baseline policies based on existing regulations—one that applies the universal federal waivers that Congress enacted during the Great Recession and COVID-19 recession, and one that does not. From the baseline policy that excludes federal waivers, we incrementally add specific rule changes to the simulation. First, we revoke the eligibility of any county that qualified on the basis of belonging to a state that was eligible for EB. We restore eligibility if the county is in an eligible group of counties (as determined by the previously described algorithm) or is otherwise an individual county eligible under the 20 percent rule or if it had an unemployment rate of at least 10 percent. Second, we prohibit states from grouping counties. To do so we revoke eligibility from any county that was eligible as a group of counties, and restore eligibility only if it was also eligible as an individual county. Third, we revoke eligibility from any county that qualified under the 20 percent rule but had an unemployment rate below 6 percent. Fourth, we change the geographic unit eligible for waivers from the county to the Labor Market Area. Each Labor Market Area with an unemployment rate of at least 10 percent, or that satisfies the 20 percent rule and has an unemployment rate of at least 6 percent, is deemed eligible for a waiver.

This complete package of reforms matches the reforms included in the 2019 final rule published by the FNS, and can thus inform the effects those reforms as a whole, if implemented, would have on waiver coverage, counter-cyclicality, and targeting. Recognizing that the order in which the specific rule changes are applied affect their importance in changing counties' eligibility

statuses, we also show how reversing only a single change at a time would affect eligibility, taking the 2019 final rule as a baseline. This places the changes on an equal footing in evaluating their marginal importance. The one difference with the 2019 rule is that we retain the county, instead of the Labor Market Area, as the geographic area eligible for waivers. The importance of grouping would likely be smaller with Labor Market Areas.

Finally, we simulate additional rule changes aimed at tightening the connection between waiver eligibility and economic conditions that were not included in the 2019 final rule—namely, changing the time periods over which unemployment rates are calculated for purposes of determining eligibility under the 20 percent rule. Under existing regulations and the 2019 final rule, an area's 24-month average unemployment rate is compared to the 24-month average unemployment rate for the United States as a whole. We simulate shortening the period for the area's unemployment rate to 12 months, 6 months, 3 months, and 1 month. Next, we lengthen the 24-month period for calculating the United States unemployment rate, to 36 months, 48 months, and 60 months. These reforms may allow waiver eligibility to respond more quickly to a spike in an area's unemployment rate, while allowing waiver eligibility to remain high if an economic downturn persists.

IV. Evaluating historical waiver receipt

Figure 1 reports for each month from January 1997 through December 2023, the population-weighted share of counties covered by an ABAWD work requirement waiver (solid line, left axis) and the national unemployment rate (dashed line, right axis). Recessions, as defined by the National Bureau of Economic Research, are shaded in grey.

During the first decade of the waiver policy, there was little connection between waiver coverage and the unemployment rate. In the first year of the policy in 1997, almost no counties received waivers. Then from 1998 through 2003, around 17 percent of (population-weighted) counties were covered by a waiver with little change over time even as the national unemployment rate declined and then suddenly spiked during the 2001 recession. In 2004, the share of counties covered by a waiver jumped to about 30 percent, at the same time that the national unemployment rate was falling, and remained relatively stable through 2007. In 2007, more counties had a waiver than any previous year, even though the national unemployment rate was near the decade low of 5 percent.

The lower waiver coverage and lack of connection with the business cycle in the early years of the program may have reflected implementation issues, limited knowledge of work requirements and waivers, or a general lack of enforcement of work requirements by the FNS.[15] Also affecting waiver coverage was a separate policy that gave states the ability to exempt 15 percent of their ABAWDs from the work requirement, initially allowing states to apply future exemptions to current years (Food and Nutrition Service 2024c).[16] Until the practice of overusing future exemptions was ended by FNS in 2007, states could have used their 15 percent exemptions to avoid implementing the ABAWD work requirement altogether and therefore, eliminate their need to apply for waivers (Food and Nutrition Service 2007). Because of these and other factors affecting the ABAWD work requirement, areas without a waiver were not necessarily imposing the ABAWD work requirement.

Starting in 2008, at the onset of the Great Recession, waiver coverage responded sharply to the spike in the national unemployment rate.[17] Between May 2008 and February 2009, the share of counties with a waiver increased from 34 to 59 percent. Then from April 2009 to September 2010, the federal government waived all ABAWDs from the work requirement.[18] After the national waiver expired, most states continued to qualify for and receive a statewide waiver due to relatively high unemployment rates and because many states qualified for EB.[19] The majority of counties were waived until the end of 2015, but beginning in January 2016, the share of counties waived dropped by 32 percentage points in a single month. This sudden decline

[15] Personal correspondence with several state-level SNAP administrators indicated that many states did not enforce the ABAWD work requirements, and that the Department of Agriculture did not enforce the policy. As a result, many states did not apply for waivers prior to the Great Recession, even though they may have been effectively waiving the work requirement for ABAWDs during that time.

[16] Specifically, states are able to exempt up to 15 percent of the state's caseload that is "ineligible for program benefits because of the ABAWD time limit." Prior to 2008, states were able to apply exemptions for future years to the current ABAWD population. The Agriculture Improvement Act of 2018 reduced the exemption rate to 12 percent beginning fiscal year 2020, and the Fiscal Responsibility Act of 2023 further reduced the exemption rate to 8 percent beginning fiscal year 2024 (Food and Nutrition Service 2024c).

[17] The Great Recession also coincided with FNS's decision not to allow future exemptions to apply to current years, making waiver requests more likely.

[18] More precisely, the federal government did not require states to submit requests to the FNS in order to qualify a waiver. Therefore, the FNS has no record of whether a given state implemented waivers during these federal waiver periods. Hence, we code all counties as waived during these periods.

[19] States that qualified for Emergency Unemployment Compensation—a temporary program that provided additional unemployment benefits during the Great Recession—were eligible under the Extended Unemployment Benefits criterion.

occurred because the temporary Emergency Unemployment Compensation program—under which states had qualified under the EB criterion—expired.

From January 2016 until February 2020, the month prior to the onset of the COVID-19 pandemic, the national unemployment rate fell from 5.3 to 3.8 percent. However, the share of counties with a waiver fell only modestly, from 39 to 34 percent. It is notable that ABAWD work requirements were waived in over one third of U.S. counties at a time when the national unemployment rate was near its lowest level in 50 years in February 2020. These counterintuitive trends suggest two distinct possibilities—that certain areas have persistently high unemployment rates despite a relatively low national unemployment rate or that certain areas receive ABAWD waivers irrespective of their unemployment rates—which we can only distinguish between with our county-level analysis.

When the COVID-19 pandemic struck in March 2020, Congress waived the ABAWD work requirement nationwide for the duration of the public health emergency, unless states wished to implement the work requirement and were able to offer ABAWDs a SNAP employment and training opportunity.[20] As soon as the federal ABAWD waiver expired, the share of counties with a waiver fell from 100 percent in June 2023 to 44 percent in July 2023, which fell further to 29 percent in December 2023. This was the lowest share of counties with a waiver since 2007, and reflective of the historically low unemployment rates in 2023.

In summary, waiver coverage increased over time, and became more responsive to the business cycle, yet still remained relatively common in periods of low unemployment. However, the national trend does not capture whether waivers in a given county responded to changes in that county's economic conditions, as opposed to, for example, waivers being implemented in counties with stable economic conditions in the midst of changes in national economic conditions. In addition, the national trend does not indicate whether waivers were being allocated to the counties with the highest unemployment rates. We evaluate these two questions via county-level analysis of counter-cyclicality and targeting, respectively.

[20] To our knowledge, no states implemented the ABAWD work requirement during this time. The FNS did not track nor require documentation from states that implemented the ABAWD work requirement during the federal waiver period.

Table 1 reports results on county-level counter-cyclicality. Using a linear probability model, we regress an indicator for whether a waiver is in effect in a given county and month on the county unemployment rate during the same month. When excluding federal waiver periods and including county fixed effects but not time fixed effects (specification 3), a one percentage point increase in a county's unemployment rate corresponds with a 9.0 percentage point increase in the probability of a waiver. Once we control for time fixed effects (specification 4), the coefficient remains positive but smaller, with the probability of a waiver rising by 3.1 percentage points for each one percentage point increase in the county-level unemployment rate net of changes at the national level. Controlling for time fixed effects allows us to assess the probability of a waiver when the local unemployment rate changes net of any change in the national unemployment rate, implying counter-cyclicality at the local level. The relationships weaken somewhat when including federal waiver periods (specifications 1 and 2). However, we prefer to exclude federal waiver periods because those override the regulations which we are focused on evaluating.[21] In Appendix Table A1, we report results that include lags and leads of the county unemployment rate, affirming a relatively similar degree of counter-cyclicality. The sum of all coefficients on the contemporaneous and lagged unemployment rate is somewhat larger when including 6, 12 or 24 months of lags, and roughly the same when including 6 months of leads.

To place the results of our preferred specification 4 (without lags or leads) into context, an increase in the county unemployment rate from 4 percent—typically associated with a strong labor market with most unemployment due to unavoidable churn—to 10 percent—a high level that automatically make a county *eligible* for a waiver if sustained for 12 months—is associated with a 19 percentage point increase in the probability of a waiver. The larger association when excluding national time effects in specification 3 implies that much of the responsiveness of waivers to economic conditions is driven by changes at the national level, although a positive relationship between local conditions net of national conditions remains.

Counter-cyclicality measures whether the policy is responsive to changes in the unemployment rate over time. But we are also are interested in targeting—whether, given the total share of the

[21] During federal waiver periods, states could still implement the work requirement among ABAWDs for whom they had an available Employment and Training slot. However, because states were not required to submit requests for waivers, we are unable to determine which states, if any, continued enforcing the work requirement. Therefore, we assume that all states waived the work requirement during this time.

population-weighted counties waived, the areas that are waived are those with the highest rates of unemployment. Figure 2 (solid line) reports the share of waived counties with an unemployment rate at or below any given level, pooling across all months from 1997-2023 while excluding federal waiver periods. We see that among all waived county-months, 25 percent had an unemployment rate below 5 percent, approximately the natural rate of unemployment over the study period (represented by the vertical line at 5 percent in the figure). Waived counties had higher unemployment rates than counties overall, of which 49 percent had an unemployment rate below 5 percent. Among non-waived counties, 66 percent had an unemployment rate below 5 percent. At the same time, waivers could have been more targeted to high unemployment counties. The dashed blue line represents the distribution of waived counties assuming perfect targeting, that is, if the same number of population-weighted counties were covered by a waiver but only the highest unemployment rate counties were selected. Under perfect targeting no county with an unemployment rate below 5.5 percent would have been waived. In reality, such counties comprised 37 percent of all waived counties.

Appendix Figure A2 assesses targeting over time, by plotting the unemployment rate among all counties, waived counties, non-waived counties, and the set of counties with the highest unemployment rates and the same total population as the waived counties. Particularly in the early period, the unemployment rate among waived counties is below the unemployment rate among the highest unemployment counties, suggesting that waivers were not being allocated to the highest possible unemployment counties in a given month. Given that there were federal waivers following the Great Recession and COVID-19 recession, the unemployment rate of waived counties, the highest unemployment rate counties, and the unemployment rate of all counties was essentially the same during this time.[22] Some separation occurs after 2015 when statewide waivers expire. Thus, higher unemployment counties were more likely than lower unemployment counties to be waived in a given month, but some high unemployment counties still were not waived.

[22] When all counties receive waivers, it is impossible for there to be any separation between waived counties, all counties, and the highest unemployment counties. By construction, these are equivalent groups.

V. Simulating waiver eligibility under counterfactual regulations

In this section we simulate how waiver eligibility would change under counterfactual regulations put forth by the FNS in 2019. Figure 3 reports the population-weighted share of counties eligible for a waiver, simulated under existing and counterfactual policies in 1997-2023. Policy [0A] represents waiver eligibility under existing policy, including the federal waivers implemented by Congress from April 2009 to September 2010 and April 2020 to June 2023. Policy [0B] is based on existing regulations but does not reflect federal waivers implemented by Congress—in other words, this reflects how existing regulations would have been applied had a federal waiver not existed. These two series show that a high base rate of counties were eligible for waivers even when economic conditions were favorable.

The share of (population-weighted) counties eligible for a waiver never fell below 42 percent under existing regulations, even during historically low levels of national unemployment in 2019. Even from these high base levels, waiver eligibility increased during both the Great Recession and the COVID-19 recession. Under both Policy [0A] and Policy [0B], the share of counties eligible for a waiver spiked by over 51 percentage points from June to July 2008 in the midst of the Great Recession, reaching and remaining at 100 percent until 2013. For the first six months of 2014, waiver eligibility remained above 70 percent, but then eligibility fell to around 43 percent as fewer counties qualified for waivers under the EB criterion. Waiver eligibility again spiked back to 100 percent of counties in response to the COVID-19 recession in 2020. The share of counties eligible for a waiver remained at 100 percent until 2023 under Policy [0A] due to Congress' federal waiver. Waiver eligibility under existing regulations would have fallen more quickly after the COVID-19 recession had the federal waiver not existed under Policy [0B]. We do not see the same sharp increase in waiver eligibility during the 2001 recession under Policy [0A] or Policy [0B]; policies that were the same because there was no federal waiver in 2001. However, similar to the later recessions, waiver eligibility declined sharply within a couple of years after the 2001 recession.

From the Policy [0B] baseline, we provide a crosswalk to the full 2019 FNS rule, incrementally adding each rule change to the policy simulation as listed below.

- Policy [0A]: Existing rules with Congressional-legislated federal waivers
- Policy [0B]: Existing rules without Congressional-legislated federal waivers

- Policy [1]: Same as [0B], plus removes waiver eligibility conferred by EB eligibility
- Policy [2]: Same as [1], plus eliminates grouping
- Policy [3]: Same as [2], plus a 6 percent unemployment rate floor for counties to qualify for a waiver under the 20 percent rule
- Policy [4]: Same as [3], plus changes the area from the county to the Labor Market Area for determining waiver eligibility

As shown under Policy [1] in Figure 3, eliminating state eligibility for EB as a criterion substantially reduces waiver coverage starting in 2008, when all states became eligible for EB for a historically long duration. The share of counties eligible for a waiver under Policy [1] does not begin rising until after the Great Recession officially ends and even then rises by a much smaller 21 percentage points compared to Policy [0B], implying that the EB criterion accounted for the majority of the large increase in waiver eligibility during and after the Great Recession. This is because high unemployment levels triggered EB for an extended period and Congress expanded the lookback period for the EB program, which led to a historically long duration of EB after the Great Recession through December 2013 (Congressional Research Service 2014). EB accounted for an even larger share of the increase in waiver eligibility during and after the COVID-19 recession. Waiver eligibility temporarily rose by only 4 percentage points in 2020 under Policy [1], after removing the EB criterion.

Further removing grouping under Policy [2] substantially lowers the share of counties eligible for a waiver in all years, from around 45 percent to 23 percent during periods of low national unemployment. Waiver eligibility continues to rise in conjunction with the Great Recession and COVID-19 recession, except to a greater extent and with less delay compared to Policy [1].

Further imposing a 6 percent unemployment rate floor for counties to qualify for a waiver under the 20 percent rule, under policy [3], has a minor effect on eligibility except far into economic expansions. During three periods when the unemployment rate was low enough for the 6 percent floor to bind, including the periods leading up to the 2001 recession, the Great Recession, and the COVID-19 recession, adding the 6 percent floor reduced the share of counties eligible for a waiver to lower levels than Policy [2]. By adding the 6 percent floor, at the beginning of 2020, when the national unemployment rate fell to 4.0 percent, waiver eligibility falls to below 5 percent of population-weighted counties for the first time. These lower base levels of waiver

eligibility preceding recessions lead to larger increases in eligibility after recessions occur. The share of counties eligible rises by 33 percentage points in conjunction with the Great Recession.

Changing the area used to determine waiver eligibility from the county to the Labor Market Area under Policy [4] modestly reduces waiver eligibility levels, while preserving the magnitude and timing of increases in conjunction with recessions.

Comparing the share of counties eligible for a waiver under Policy [4] to the share eligible under Policy [0B] illustrates the total effect of the 2019 FNS final rule. Under the final rule, Policy [4], waiver eligibility levels would have been about 21 to 97 percentage points lower in all months between 1997 and 2023, with the largest differences occurring during the recovery from the Great Recession when EB enabled eligibility among 100 percent of counties. Waiver eligibility would still have risen following recessions, but periods of elevated waiver eligibility would have been shorter.

We next report how the same policy alternatives affect counter-cyclicality at the county level. Table 2 reports the coefficient on the county unemployment rate in a linear probability model in which the dependent variable is an indicator for whether a county is eligible for a waiver in a given month. We again focus on the specification including time fixed effects, specification (2), based on variation within a county over time after controlling for national time effects. This assesses the responsiveness of waiver eligibility to the county-level unemployment rate net of any changes to the national unemployment rate, for each policy alternative. Note that unlike Table 1, in which in certain specifications we estimated the counter-cyclicality of observed waiver receipt excluding federal waiver periods, Table 2 includes federal waiver periods in all specifications because we seek to simulate the effect of eliminating federal waivers on waiver eligibility.

Policy [0A], which reflects the existing regulation and federal waivers implemented by Congress, and Policy [0B], which reflects existing rules without the federal waivers, each exhibit a similar extent of counter-cyclicality. Under specification (2), a one percentage point increase in the unemployment rate increases the probability of waiver eligibility by 2.7 percentage points under Policy [0A] and 2.9 percentage points under Policy [0B].

The counter-cyclicality of the existing rule is strengthened by eliminating the EB eligibility criterion. When eliminating this criterion in Policy [1], the coefficient on unemployment in

specification (2) increases to 8.2 percentage points. It is notable that in specification (1) which excludes national time effects, the coefficient on unemployment decreases when eliminating the EB criterion. This is because waiver eligibility remained at 100 percent for an extended period of time during and after the Great Recession when unemployment rates were elevated as a result of EB consideration in Policy [0B], inducing an especially large negative association between unemployment rates and waiver eligibility. In other words, the EB criterion increases counter-cyclicality in specification (1) only because it allowed for universal waiver eligibility when unemployment rates were elevated everywhere. Once we control for national time effects, we see that the EB criterion made waiver eligibility less responsive to purely local shocks to county-level unemployment rates.

Eliminating the ability of states to group areas in Policy [2] further increases the coefficient to 8.8 percentage points. Adding a 6 percent unemployment rate floor in Policy [3] does not meaningfully affect the coefficient. However, changing the area to qualify for a waiver from the county to the Labor Market Area under Policy [4] reduces the coefficient to 8.1 percentage points. Overall, the 2019 FNS rule, reflected by Policy [4], would be more counter-cyclical than the existing rule, Policy [0B].

Finally, we evaluate the same policies with regard to their targeting of high unemployment counties. In Figure 4, we see that under the existing Policy [0A], 32 percent of counties eligible for a waiver across all months in our dataset have an unemployment rate below 5 percent. That share falls to 27 percent when disregarding the federal waivers in Policy [0B], but increases to 30 percent when eliminating the EB criterion in Policy [1]. Eliminating grouping in Policy [2] results in a drop to 14 percent of eligible counties with an unemployment rate below 5 percent, and a further decline to 10 percent when imposing a 6 percent unemployment rate floor under Policy [3]. When switching from the county to the Labor Market Area in Policy [4], the share of eligible counties with an unemployment rate below 5 percent increases to 11 percent. The unemployment rate distribution under the 2019 final rule first order stochastically dominates the distribution under the existing policy, i.e., for any given unemployment rate, the 2019 rule has a lower share of eligible counties with an unemployment rate below that level. In Appendix Figure A3, we report how targeting varies over time, finding that the reforms tend to increase the unemployment rate among waived counties further away from the national unemployment rate.

While the crosswalk from the existing waiver policy to the 2019 FNS rule allows us to determine the incremental impact of adopting each individual change on waiver coverage, counter-cyclicality and targeting, the importance of each change could be sensitive to the order in which we conducted the simulation. As a sensitivity check, we take Policy [3] as the baseline and simulate the effect of undoing one rule change at a time—removing the 6 percent unemployment rate floor, permitting grouping, or reinstating the EB eligibility criterion. We also report the effect of reinstating federal waivers relative to the Policy [3] baseline. This provides a more consistent comparison of the impact of each specific regulatory reform than the crosswalk analysis.

Figure 5 shows the effect on waiver eligibility over time. Removing the 6 percent unemployment rate floor would increase waiver coverage only when the national unemployment rate reached sufficiently low levels to be binding. Permitting grouping would increase the level of waiver eligibility coverage in all months but especially during periods of low national unemployment. Reinstating EB would allow waiver eligibility to reach 100 percent during the Great Recession and COVID-19 recession.

Table 3 reports county-level counter-cyclicality results, showing that reinstating the EB eligibility criterion would do the most to decrease the association between a county's waiver eligibility status and unemployment rate, while the effects of the other reforms are much smaller. This echoes the results from the crosswalk in Table 2 which similarly showed that the EB criterion had the largest impact on counter-cyclicality

Finally, in Figure 6, we see that undoing each reform individually would weaken targeting, but permitting grouping would weaken targeting the most. Overall, this analysis implies that eliminating the EB criterion and prohibiting grouping are the most impactful components of the 2019 FNS rule in altering waiver coverage, counter-cyclicality and targeting.

In the appendix, we simulate additional policy alternatives not part of the 2019 FNS rule change. We take Policy [4], the 2019 final rule, as the baseline, and change the period of time used to calculate the average unemployment rate for the Labor Market Area and the United States. Current regulations specify that states must rely on 24-month averages when comparing an area's unemployment rate to the national unemployment rate under the 20 percent rule. We first shorten the Labor Market Area's average unemployment rate period to the previous 12 months, 6

months, 3 months and 1 month, while continuing to calculate the national unemployment average based on the past 24 months. Then we lengthen the U.S. unemployment rate period to the previous 36 months, 48 months, and 60 months.

As shown in Appendix Figure A4, shortening the Labor Market Area period would increase the share of eligible counties more quickly and to higher levels during recessions than the 2019 final rule change alone. As shown in Appendix Figure A5, lengthening the U.S. period would increase the share of counties eligible for a waiver for longer periods following recessions. Allowing a longer period of time for calculating the national unemployment rate average makes it easier to qualify for a waiver during a recession because the average will include more pre-recession months with a lower unemployment rate. At the county-level, the association between waiver eligibility and the unemployment rate modestly increases when shortening the Labor Market Area period and modestly decreases when lengthening the U.S. period (see Appendix Table A2). There would be little change in targeting (see Appendix Figure A6 and A7).

VI. Discussion

Waivers of the ABAWD work requirement are intended to protect ABAWDs from a loss in SNAP eligibility when it is difficult to obtain employment, and therefore difficult to satisfy the work requirement, in their local area. Allowing waivers in areas and during times with relatively strong economic conditions could be considered inconsistent with their original purpose. Evaluating how waivers have been applied historically informs their effectiveness in achieving that goal. We document the application of waivers over their entire history and evaluate their coverage, counter-cyclicality and targeting. The 1997-2023 period is particularly illuminating because it includes three separate recessions, including the two deepest recessions since the Great Depression, as well as periods of historically low levels of unemployment.

Waiver coverage expanded in response to the two major recessions included in our data period, but they persisted at relatively high levels even when economic conditions improved. Waivers covered the entire U.S. population after the Great Recession and COVID-19 recession began in part because Congress passed a federal waiver. Waiver coverage declined slowly in conjunction with the slow recovery from the Great Recession, but stalled slightly below 40 percent of population-weighted counties from 2016-2019, even as the U.S. unemployment rate reached historic lows around 3.5 percent. Across all months in our study, 25 percent of waived counties

had an unemployment rate below 5 percent, approximately the natural rate of unemployment during the 1997-2023 period we study. Thus, a substantial share of ABAWDs were not exposed to SNAP work requirements even when local and national labor market conditions were strong and unemployment levels largely reflected natural churn. In addition, we find a positive relationship between waivers and local economic conditions net of national level conditions, suggesting that even under existing regulations allowing waivers at the local level remains important. However, the relationship is relatively modest, as a 6 percentage point increase in a county's unemployment rate is associated with only a 19 percentage point increase in the likelihood of receiving a waiver.

These characteristics of historical waiver receipt are shaped not only by the regulations that determine eligibility but also individual state decisions to take advantage of waivers. Waiver coverage expanded in their first decade as regulations were finalized in 2001 and states developed their own strategies for seeking waivers. More recently, some states grouped counties into areas that allowed for increased coverage of counties with low unemployment rates that could not qualify on their own. In addition, Congress overrode the regulations two times by implementing a federal waiver of work requirements briefly after the Great Recession began and for three years after the COVID-19 recession began. Because historical waiver receipt is shaped by factors beyond the regulations defining eligibility, it is difficult to determine which specific regulations were most instrumental in determining waiver receipt, and thus how regulatory changes might affect waiver receipt in the future. In addition, ABAWDs were not necessarily always subject to the work requirement in areas without a waiver. Throughout the time period covered in our analysis, states could have used other ways to avoid implementing the ABAWD work requirement, including using the 15 percent exemption provision, lax implementation, or limited enforcement by the FNS. Nonetheless, our analysis shows how waivers have been utilized over time.

Our analysis of waiver eligibility allows us to abstract from implementation issues, assess the importance of specific aspects of the existing regulations in determining waiver eligibility, and simulate the impact of potential reforms, including the 2019 FNS rule. Our results are robust to the order in which we simulate specific reforms, with similar outcomes when layering each reform on top of the previous ones, or when modelling each change relative to the same policy baseline. Under both approaches, we find that the EB criterion and grouping are especially

consequential for waiver eligibility. The EB criterion has enabled universal eligibility in deep recessions and substantially reduces county-level counter-cyclicality. Congress, as opposed to local authorities, authorizes the EB program which may contribute to a lack of responsiveness of EB authorizations to changes in economic conditions at the local level, helping to explain why EB reduces the ABAWD policy's local-level counter-cyclicality to such a degree. Grouping enables substantially greater waiver coverage at all times but especially during periods of low national unemployment, and it substantially weakens targeting. The 2019 FNS rule, had it been implemented, would have revoked the EB criterion, prohibited grouping, imposed a 6 percent unemployment rate floor, and changed the geographic unit eligible for a waiver from the county to the LMA. Overall, implementation of this set of reforms would substantially reduce waiver eligibility in all months, increase county-level counter-cyclicality, and more strongly target counties with high unemployment rates.

While our results fill a gap in the literature by comprehensively evaluating historical waiver receipt and the effects of counterfactual regulatory reforms, they do not address the effect of waivers on participant outcomes or budgetary impacts. Previous research has found that waivers substantially increase SNAP receipt and may have somewhat modest employment effects among ABAWDs (e.g., Harris 2021; Han 2022; Gray et al. 2023). Thus, reforms that decrease waiver coverage are likely to reduce SNAP receipt and government spending. Employment effects of reduced waiver coverage may depend on the extent to which waivers are removed from counties with low unemployment rates where ABAWDs may be more likely to find employment in response to strengthened work incentives. At the same time, reforms that increase waiver coverage among counties with high unemployment rates may increase SNAP receipt with little or no disemployment effect if obtaining a job is unlikely for ABAWDs in a difficult labor market, regardless of SNAP work incentives.

VII. Conclusion

We build a county-level dataset with monthly SNAP ABAWD work requirement waivers from 1997-2023, providing a full accounting of how waiver coverage has evolved over time and in response to changing economic conditions. We also evaluate how regulatory reforms, in particular an attempted rule change in 2019, would affect waiver eligibility. By comparing the existing and counterfactual policies in terms of waiver coverage, counter-cyclicality, and

targeting, we provide the first comprehensive analysis of which regulatory provisions are most instrumental and the impact of potential reforms.

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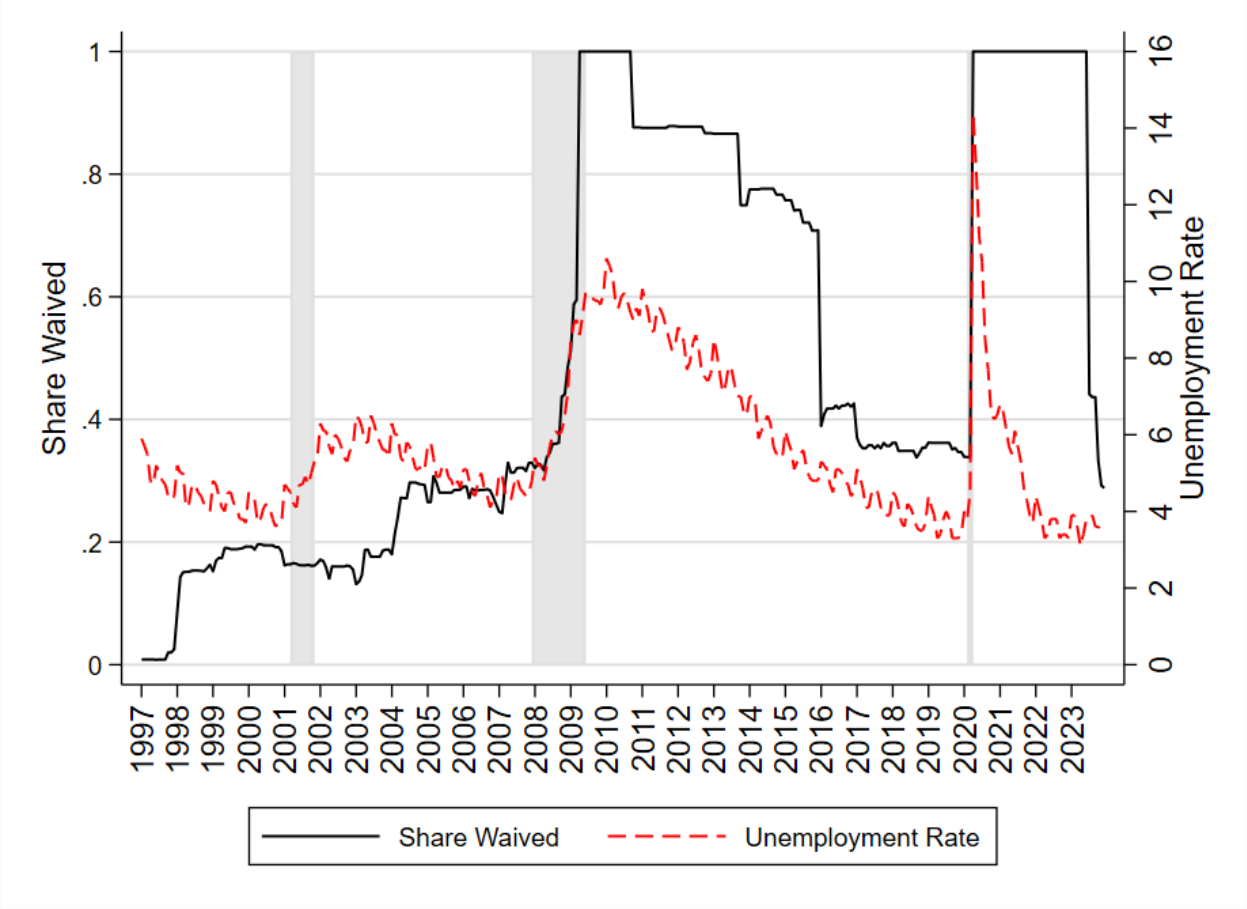
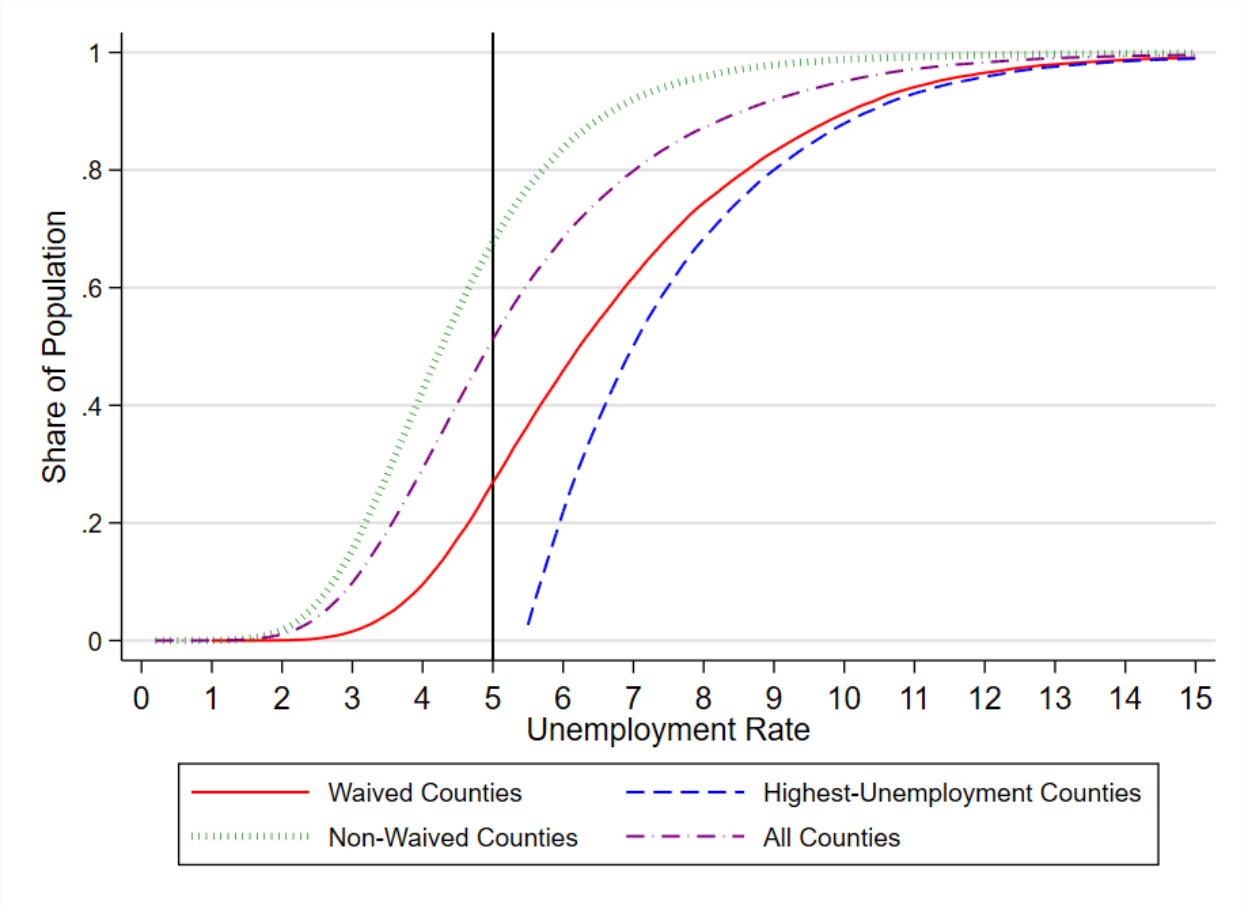
Figures and Tables

Figure 1. Population-weighted share of U.S. counties with work requirement waiver, and national unemployment rate, monthly, January 1997-December 2023



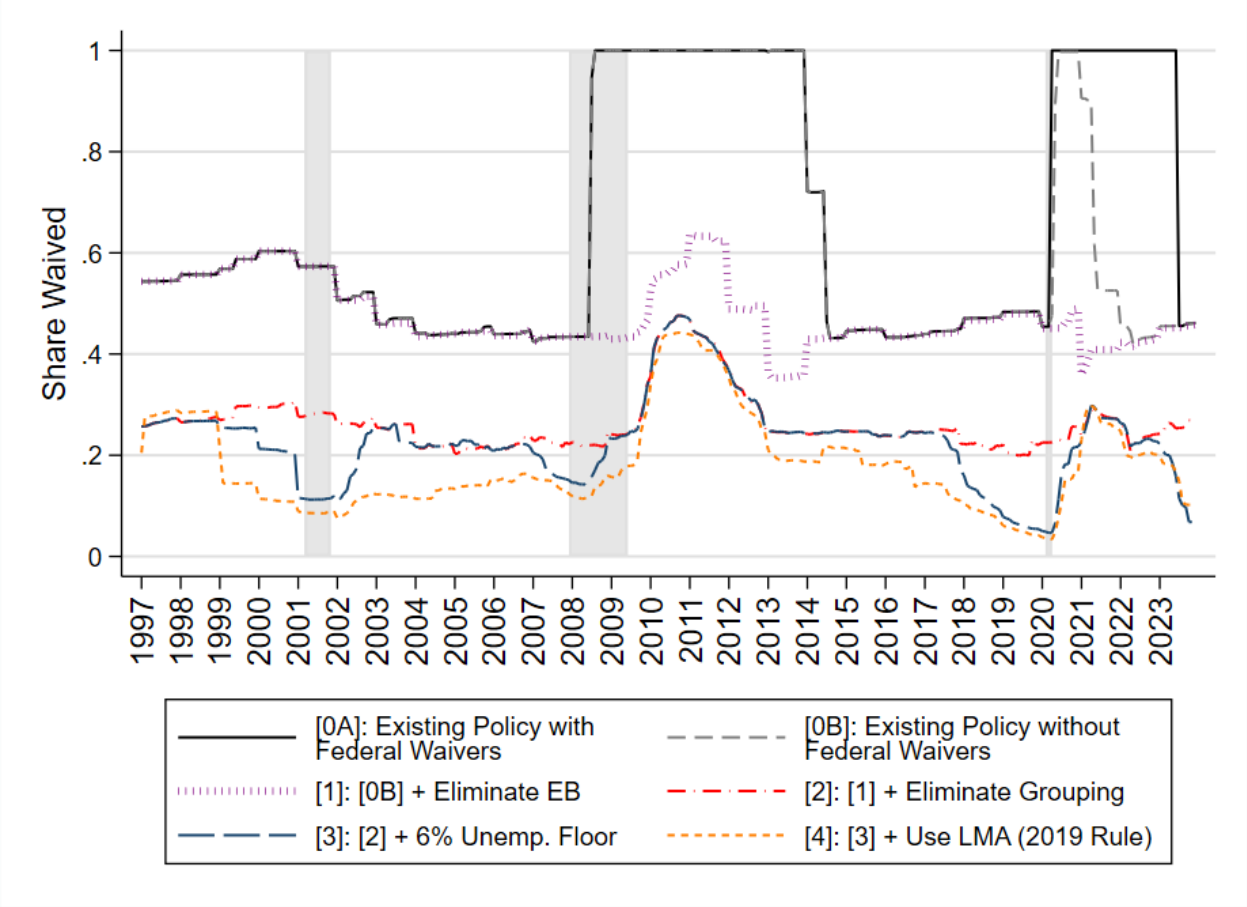
Notes: Figure reports share of population-weighted counties in the United States with a work requirement waiver in a given month. Grey shaded areas indicate recessions as defined by the National Bureau of Economic Research. All counties are counted as waived during federal waiver periods, even though it is possible that certain counties did not implement waivers during those times.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Authors' calculations.

Figure 2. Cumulative unemployment rate distribution in 1997-2023: waived counties and comparison groups



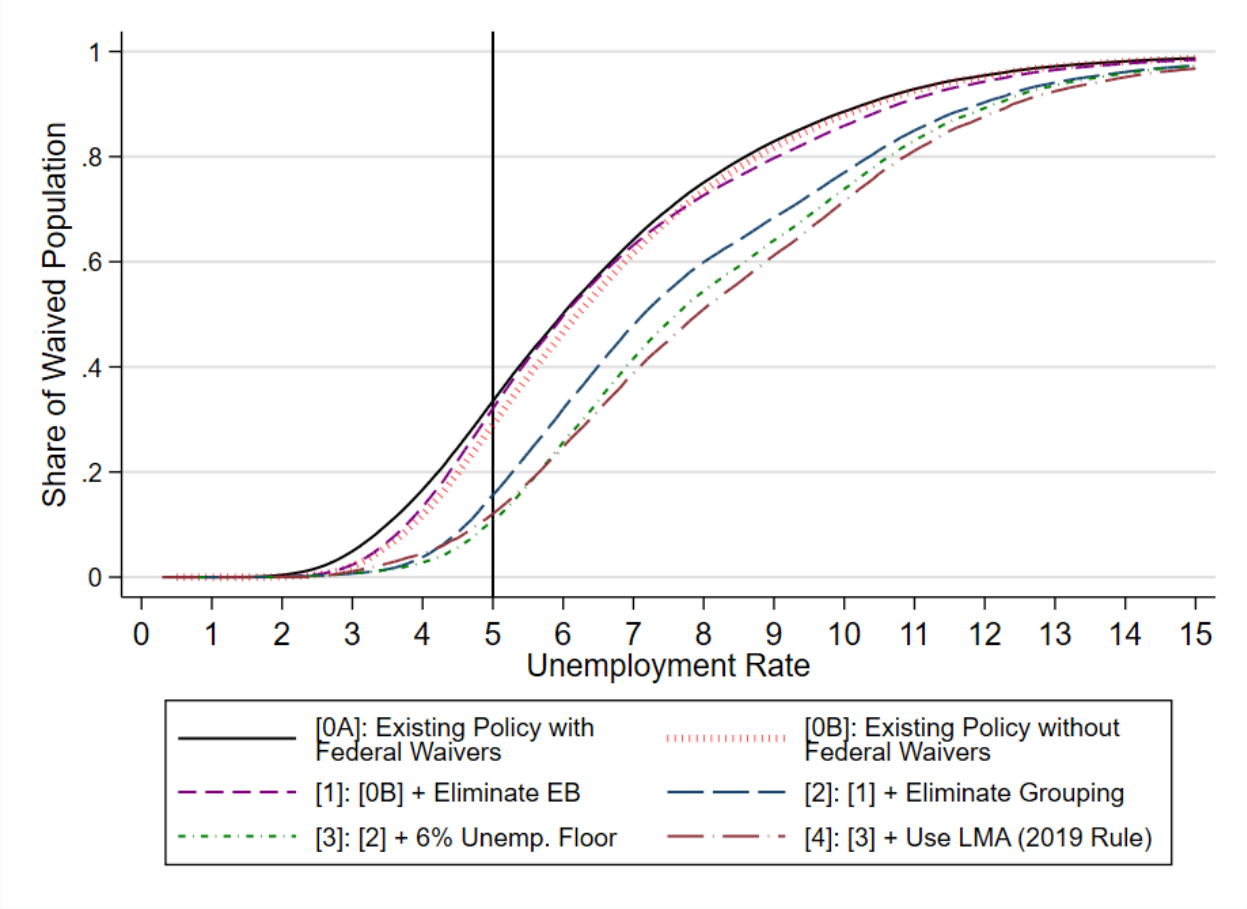
Notes: Figure reports, among various groups of county-months in 1997-2023, the population-weighted share with an unemployment rate equal to or below any given level. Waived counties include all county-months with a waiver. Highest-unemployment counties include the county-months with the highest rates of unemployment, whose total population equals the population of waived county-months. Non-waived counties include all county-months without a waiver. All counties include all county-months regardless of waiver status. Periods with federal waivers are omitted.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Authors' calculations.

Figure 3. Population-weighted share of U.S. counties eligible for a work requirement waiver, monthly, January 1997-December 2023: existing and counterfactual policies



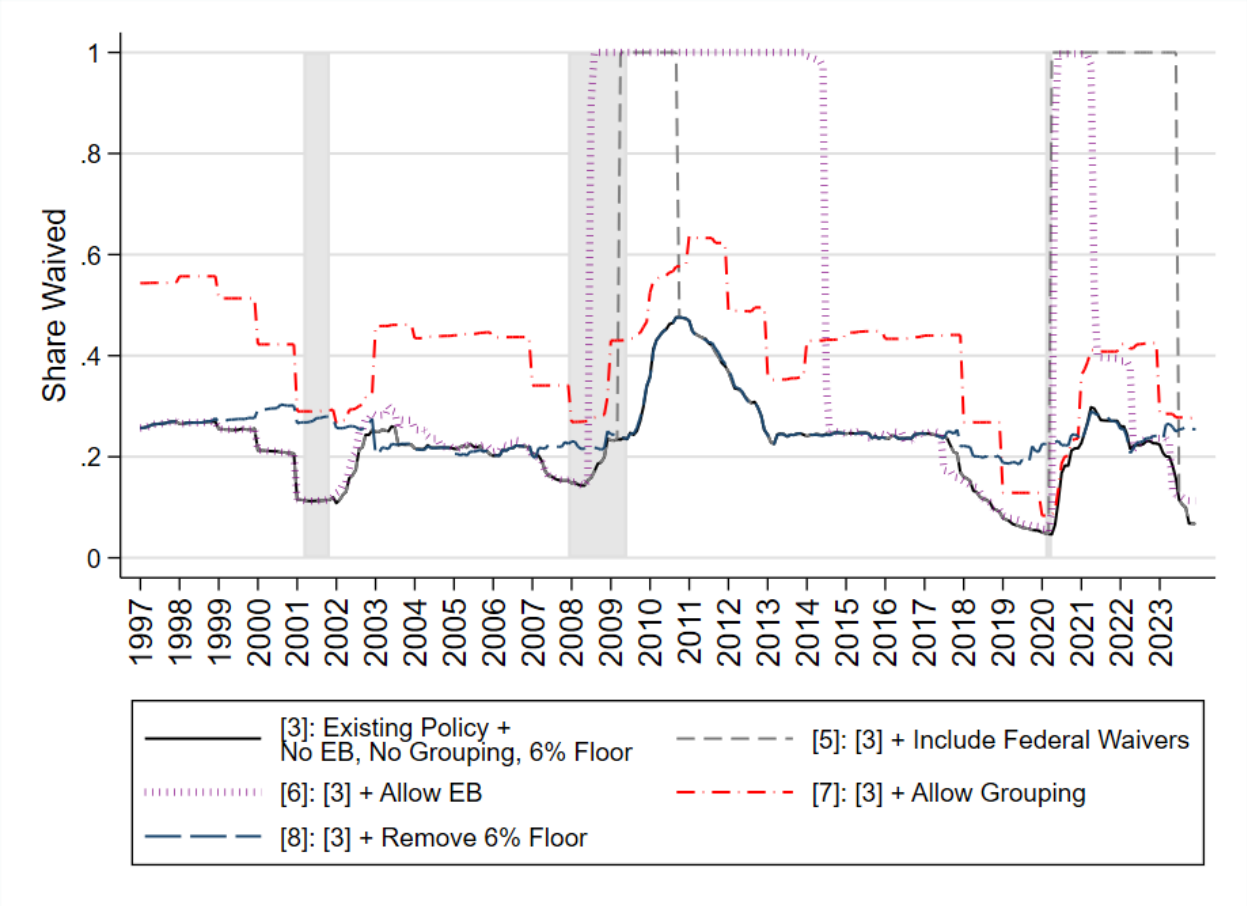
Notes: Figure reports share of population-weighted counties in the United States eligible for a work requirement waiver in a given month, as simulated under existing policy and counterfactual policies. Grey shaded areas indicate recessions as defined by the National Bureau of Economic Research. Policy [0A] refers to existing waiver policy as of 2024 with federal waivers. Policy [0B] refers to existing waiver policy without federal waivers. Policy [1] revokes eligibility for states eligible only based on eligibility for Extended Unemployment Benefits (EB). Policy [2] prohibits grouping of counties into a single area, and instead requires counties to be eligible on their own accord. Policy [3] imposes a 6 percent unemployment rate floor for any county eligible under the 20 percent rule. Policy [4] requires Labor Market Areas (LMAs) rather than counties to qualify for waivers. Policy [4] represents the major provisions of the 2019 final rule published by the Department of Agriculture, which was ultimately not put into effect. When simulating states' grouping, we exclude the District of Columbia, Hawaii, and Alaska.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

Figure 4. Cumulative unemployment rate distribution among counties eligible for a work requirement waiver in 1997-2023: existing and counterfactual policies



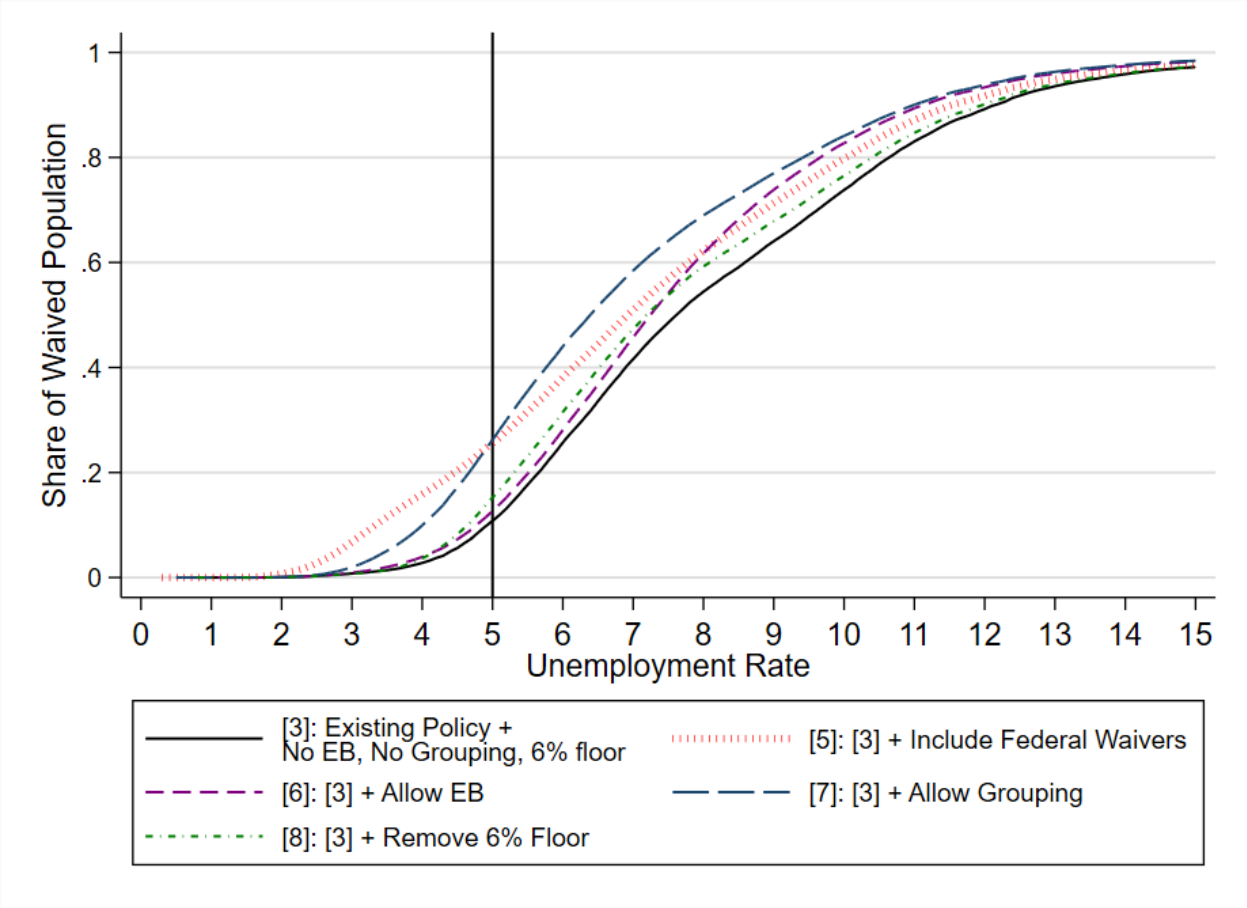
Notes: Figure reports, among county-months eligible for a work requirement waiver in 1997-2023, the population-weighted share with an unemployment rate equal to or below any given level, as simulated under the existing policy and counterfactual policies. Policy [0A] refers to existing waiver policy as of 2024 with federal waivers. Policy [0B] refers to existing waiver policy without federal waivers. Policy [1] revokes eligibility for states eligible only based on eligibility for Extended Unemployment Benefits (EB). Policy [2] prohibits grouping of counties into a single area, and instead requires counties to be eligible on their own accord. Policy [3] imposes a 6 percent unemployment rate floor for any county eligible under the 20 percent rule. Policy [4] requires Labor Market Areas (LMAs) rather than counties to qualify for waivers. Policy [4] represents the major provisions of the 2019 final rule published by the Department of Agriculture, which was ultimately not put into effect. When simulating states' grouping, we exclude the District of Columbia, Hawaii, and Alaska.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

Figure 5. Population-weighted share of U.S. counties eligible for a work requirement waiver, monthly, January 1997-December 2023: effect of reversing single policy change



Notes: Figure reports share of population-weighted counties in the United States eligible for a work requirement waiver in a given month, as simulated under counterfactual policies. Policy [3] revokes eligibility for states eligible only based on eligibility for Extended Unemployment Benefits (EB), prohibits grouping of counties into a single area, and instead requires counties to be eligible on their own accord, and imposes a 6 percent unemployment rate floor for any county eligible under the 20 percent rule. Policy [5] is the same as Policy [3] except it also reflects federal waivers. Policy [6] is the same as Policy [3] except it allows for the EB criterion. Policy [7] is the same as Policy [3] except it allows for grouping. Policy [8] is the same as Policy [3] except it removes the 6 percent unemployment rate floor. Grey shaded areas indicate recessions as defined by the National Bureau of Economic Research. When simulating states' grouping, we exclude the District of Columbia, Hawaii, and Alaska.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

Figure 6. Unemployment rate distribution among counties eligible for a work requirement waiver in 1997-2023: effect of reversing single policy change



Notes: Figure reports, among county-months eligible for a work requirement waiver in 1997-2023, the population-weighted share with an unemployment rate equal to or below any given level, as simulated under counterfactual policies. Policy [3] revokes eligibility for states eligible only based on eligibility for Extended Unemployment Benefits (EB), prohibits grouping of counties into a single area, and instead requires counties to be eligible on their own accord, and imposes a 6 percent unemployment rate floor for any county eligible under the 20 percent rule. Policy [5] is the same as Policy [3] except it also reflects federal waivers. Policy [6] is the same as Policy [3] except it allows for the EB criterion. Policy [7] is the same as Policy [3] except it allows for grouping. Policy [8] is the same as Policy [3] except it removes the 6 percent unemployment rate floor. When simulating states' grouping, we exclude the District of Columbia, Hawaii, and Alaska.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

Table 1. County-level association between waiver receipt and unemployment rate, 1997-2023

	(1)	(2)	(3)	(4)
Unemployment rate	0.0737	0.0196	0.0900	0.0312
	(0.0002)	(0.0003)	(0.0002)	(0.0003)
Exclude Federal Waiver Period	—	—	X	X
County Fixed Effects	X	X	X	X
Year-Month Fixed Effects	—	X	—	X
Observations	1,016,978	1,016,978	838,016	838,016

Notes: Table reports Ordinary Least Squares regression coefficients corresponding to the county unemployment rate. Standard errors in parentheses. Dependent variable is an indicator equal to one if a waiver is in effect in a given county and month. Federal waiver periods were April 2009 to October 2010 and April 2020 to June 2023. Observations are weighted by 2010 county populations.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Authors' calculations.

Table 2. County-level association between simulated waiver eligibility status and unemployment rate, 1997-2023, existing and counterfactual policies

	(1)	(2)
[0A]: Existing Policy with Federal Waivers	0.0629 (0.0002)	0.0267 (0.0003)
[0B]: Existing Policy without Federal Waivers	0.0737 (0.0002)	0.0288 (0.0003)
[1]: [0B] + Eliminate Extended Benefits	0.0245 (0.0002)	0.0824 (0.0003)
[2]: [1] + Eliminate Grouping	0.0360 (0.0001)	0.0882 (0.0002)
[3]: [2] + 6% Unemployment Rate Floor	0.0422 (0.0001)	0.0882 (0.0002)
[4]: [3] + Use LMA (2019 Rule)	0.0409 (0.0001)	0.0813 (0.0002)
County Fixed Effects	X	X
Year-Month Fixed Effects	—	X
Observations: County-months	1,016,474	1,016,474

Notes: Table reports Ordinary Least Squares regression coefficients corresponding to the county unemployment rate. Standard errors in parentheses. Dependent variable is an indicator equal to one if a county is eligible for a waiver in a given county and month. Observations are weighted by 2010 county populations. All models include county-year-months that can be mapped onto an existing Labor Market Area (LMA). When simulating states' grouping, we exclude the District of Columbia, Hawaii, and Alaska.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

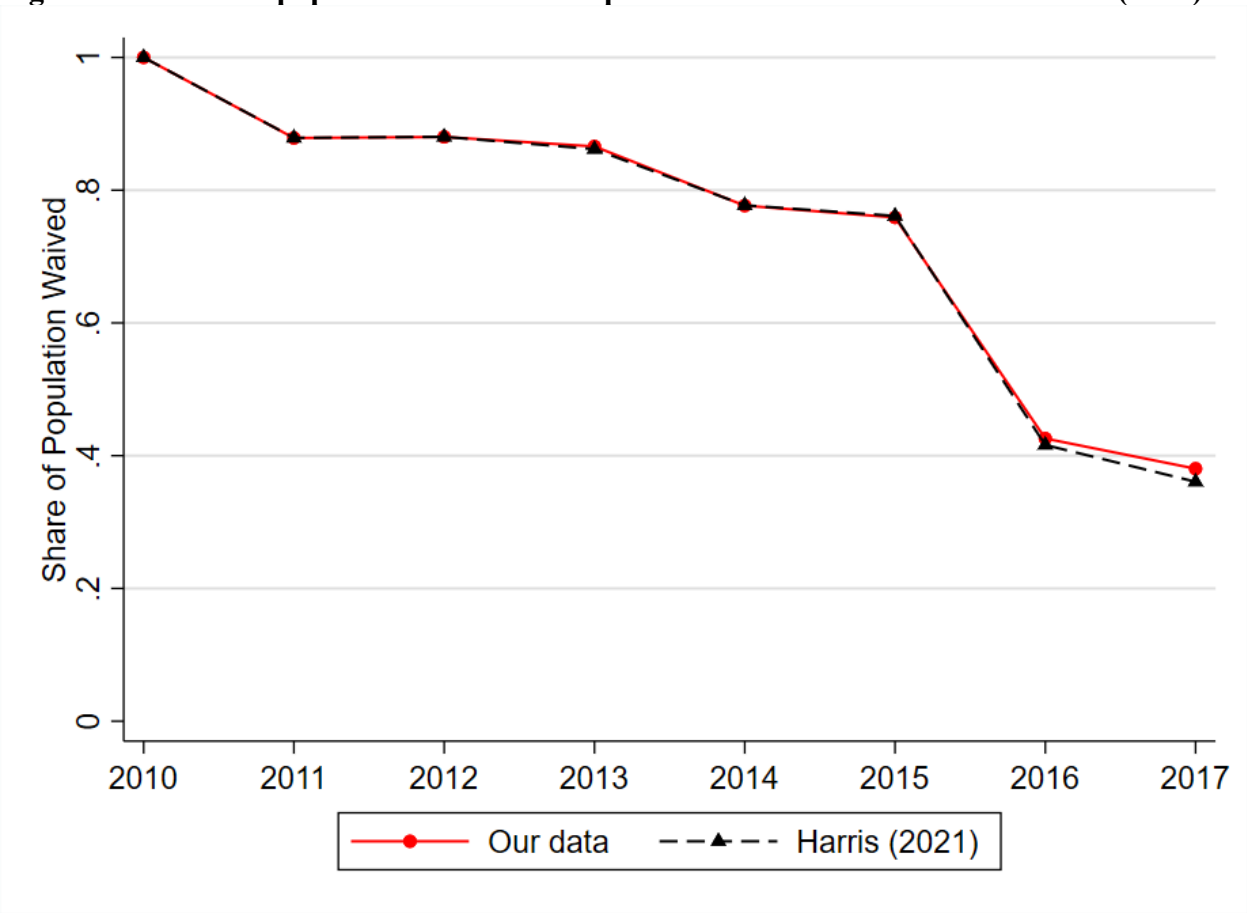
Table 3. County-level association between waiver status and unemployment rate, 1997-2023: effect of reversing single policy change

	(1)	(2)
[3]: Existing Policy + No EB, No Grouping, and 6 percent unemployment rate floor	0.0420 (0.0001)	0.0878 (0.0002)
[5]: [3] + Allow Federal Waivers	0.0639 (0.0002)	0.0658 (0.0002)
[6]: [3] + Allow EB	0.1164 (0.0002)	0.0359 (0.0002)
[7]: [3] + All Grouping	0.0341 (0.0002)	0.0820 (0.0003)
[8]: [3] + Remove 6% Unemployment Rate Floor	0.0369 (0.0001)	0.0889 (0.0002)
County Fixed Effects	X	X
Year-Month Fixed Effects	—	X
Observations	1,016,978	1,016,978

Notes: Table reports Ordinary Least Squares regression coefficients corresponding to the county unemployment rate. Standard errors in parentheses. Dependent variable is an indicator equal to one if a waiver is in effect in a given county and month. Observations are weighted by county population. All models rely on 2010 county populations for weights. All models include all county-year-months, even those that cannot be mapped onto an existing Labor Market Area (LMA). When simulating states' grouping, we exclude the District of Columbia, Hawaii, and Alaska. Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

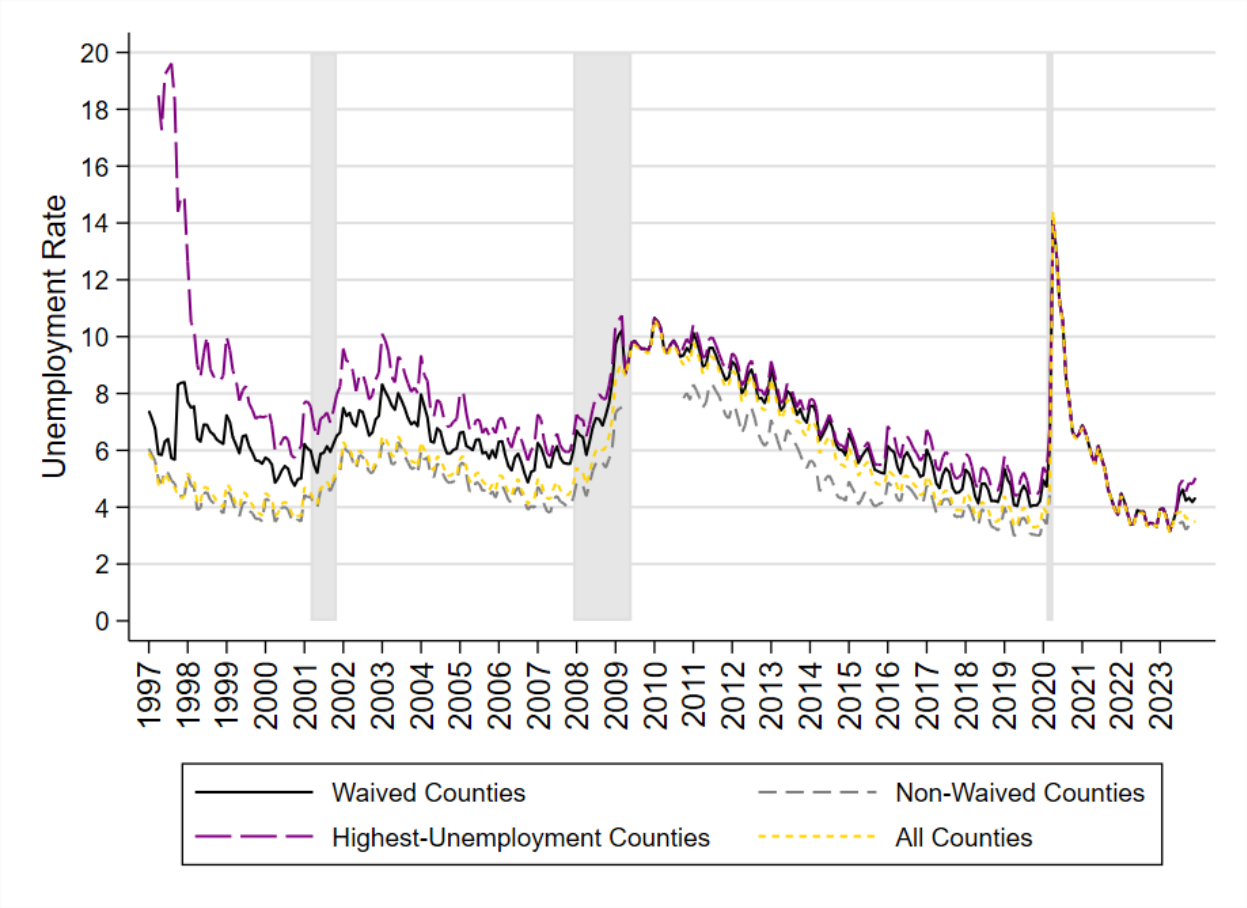
Appendix A. Appendix Figures and Tables

Figure A1. Share of population waived: comparison between our data and Harris (2021)



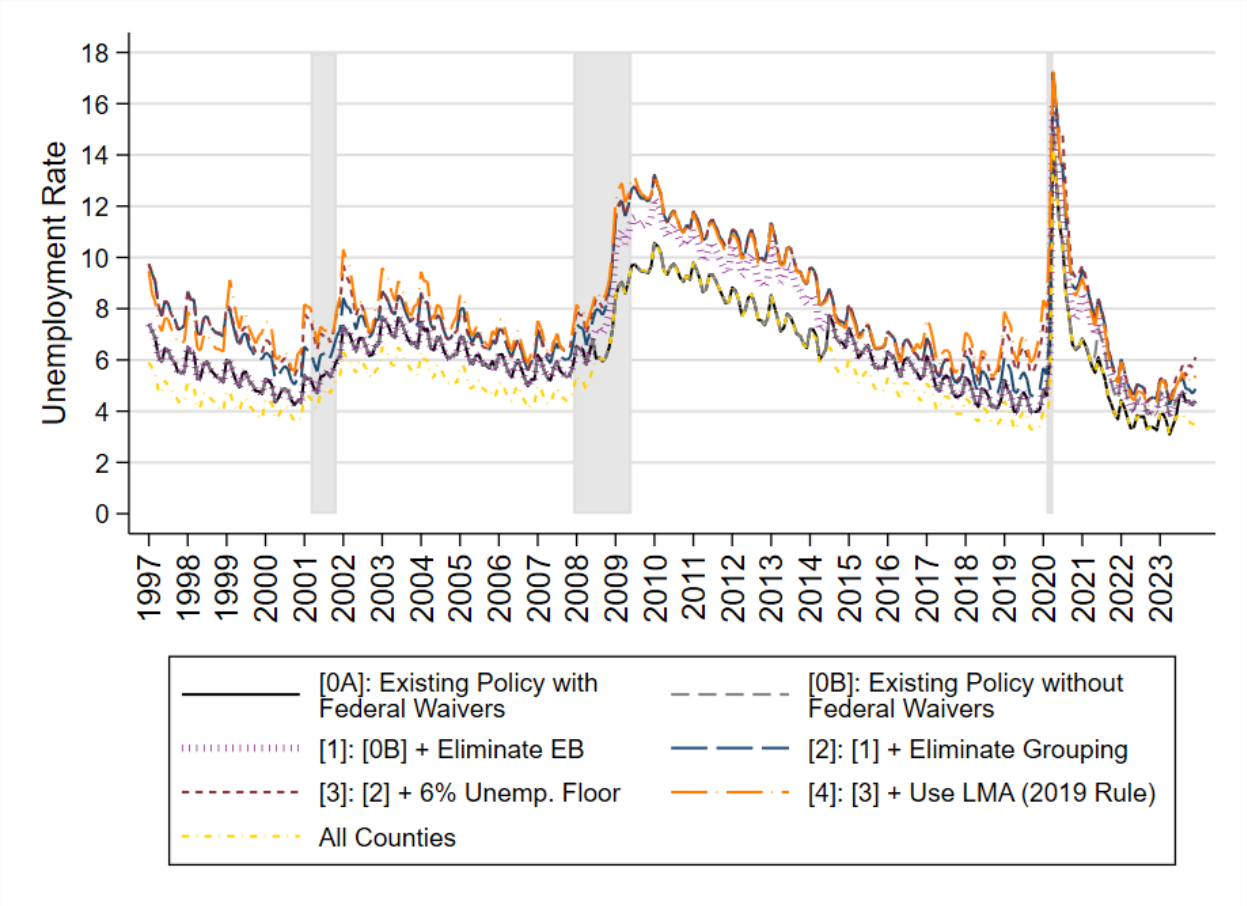
Notes: Figure reports share of the U.S. population that is waived according to our data collection and according to Harris (2021).
Sources: Harris (2021); United States Department of Agriculture; Authors' calculations.

Figure A2. Unemployment rate among various groups of counties, monthly, January 1997-December 2023: waived counties and comparison groups



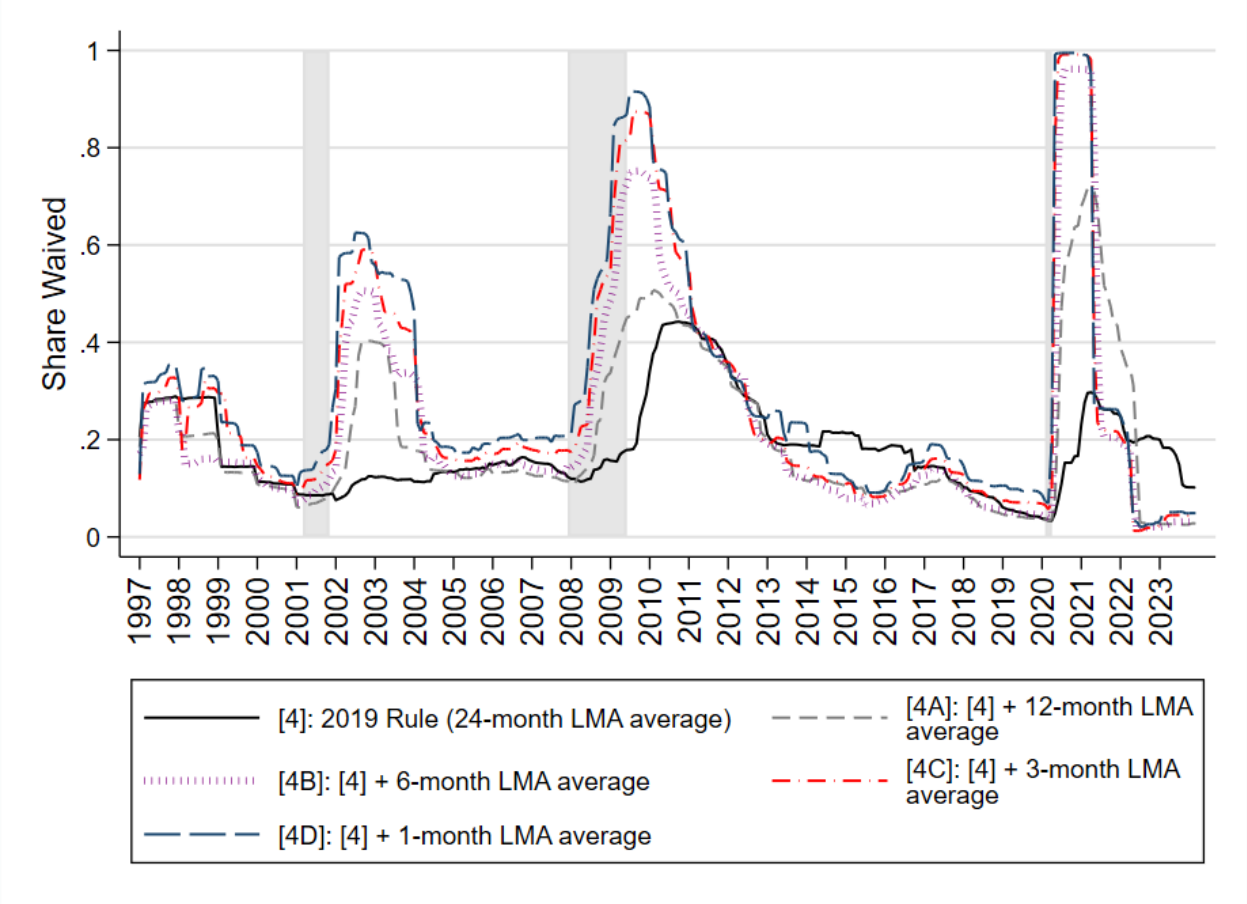
Notes: Figure reports the unemployment rate among various groups of counties in a given month. Waived counties include all counties with a waiver. Highest-unemployment counties include in a given month the counties with the highest rates of unemployment, whose total population equals the population of waived counties in that month. Non-waived counties include all counties without a waiver. All counties include all counties regardless of waiver status. Grey shaded areas indicate recessions as defined by the National Bureau of Economic Research.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Authors' calculations.

Figure A3. Unemployment rate among counties eligible for a work requirement waiver under existing and counterfactual policies, monthly, January 1997- December 2023



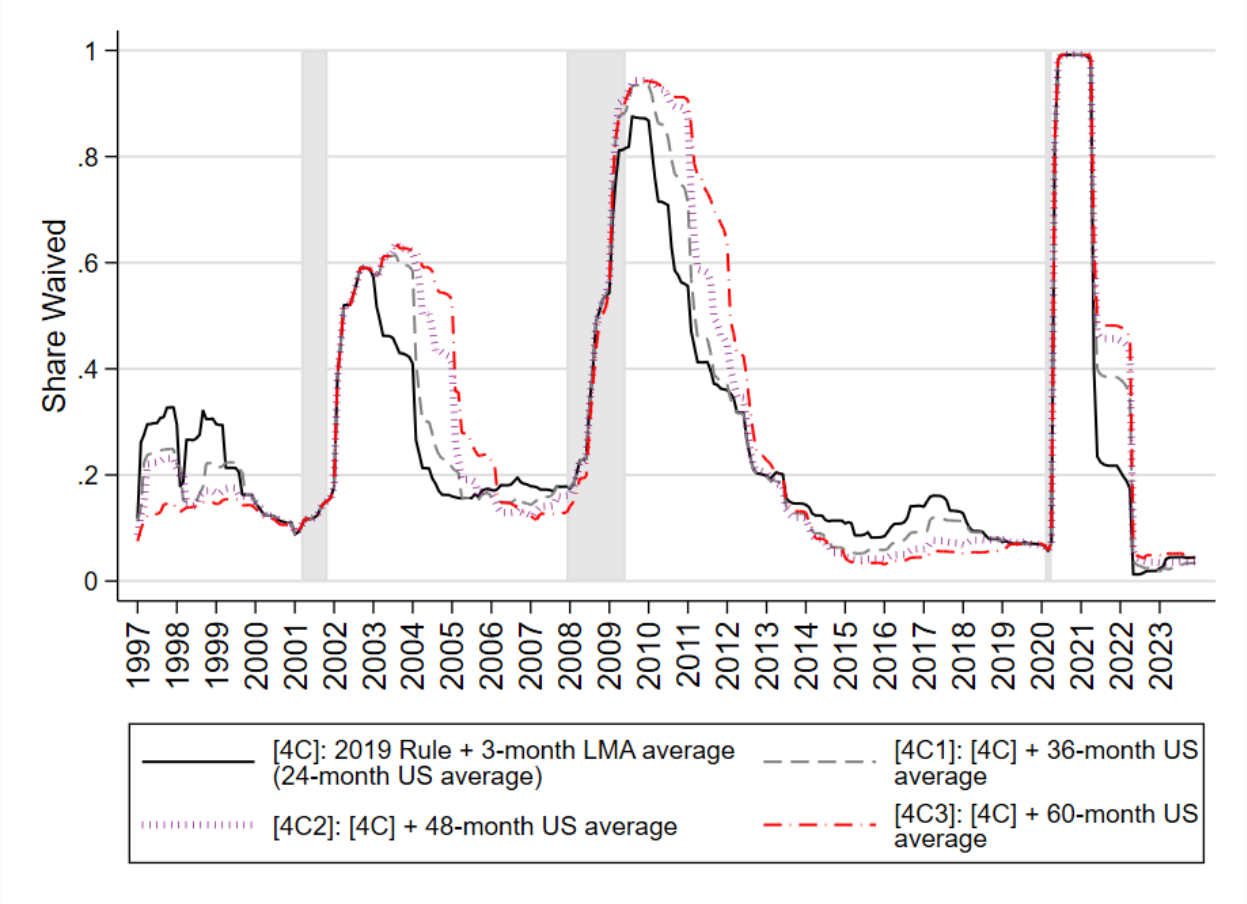
Notes: Figure reports the unemployment rate among counties eligible for a waiver in a given month, under existing and counterfactual policies. Grey shaded areas indicate recessions as defined by the National Bureau of Economic Research. Policy [0A] refers to existing waiver policy as of 2024 with federal waivers. Policy [0B] refers to existing waiver policy without federal waivers. Policy [1] revokes eligibility for states eligible only based on eligibility for Extended Unemployment Benefits (EB). Policy [2] prohibits grouping of counties into a single area, and instead requires counties to be eligible on their own accord. Policy [3] imposes a 6 percent unemployment rate floor for any county eligible under the 20 percent rule. Policy [4] requires Labor Market Areas (LMAs) rather than counties to qualify for waivers. Policy [4] represents the major provisions of the 2019 final rule published by the Department of Agriculture, which was ultimately not put into effect. When simulating states' grouping, we exclude the District of Columbia, Hawaii, and Alaska.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

Figure A4. Population-weighted share of U.S. counties eligible for a work requirement waiver, monthly, January 1997-December 2023: various periods for calculating Labor Market Area average unemployment rate



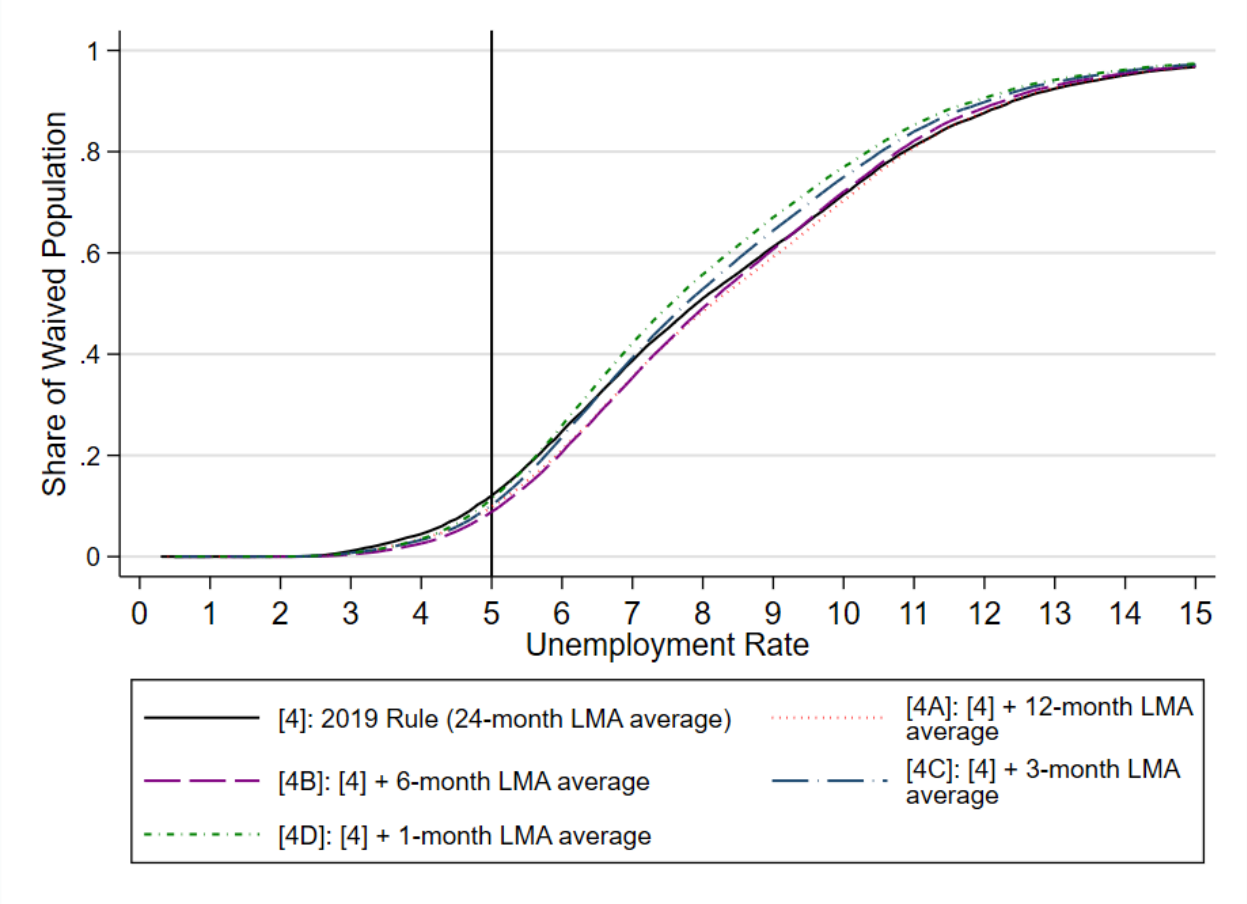
Notes: Figure reports share of population-weighted counties in the United States eligible for a work requirement waiver in a given month, as simulated under counterfactual policies with various periods for calculating Labor Market Area average unemployment rates for purposes of the 20 percent rule. Under the 2019 final rule, a 24-month average is used for the Labor Market Area unemployment rate. Each of the simulations eliminate Extended Unemployment Benefits criterion, prohibit grouping, impose a 6 percent unemployment rate floor for the 20 percent rule, and switch to the Labor Market Area as the geographic unit of analysis. Grey shaded areas indicate recessions as defined by the National Bureau of Economic Research.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

Figure A5. Population-weighted share of U.S. counties eligible for a work requirement waiver, monthly, January 1997-December 2023: various periods for calculating national average unemployment rate



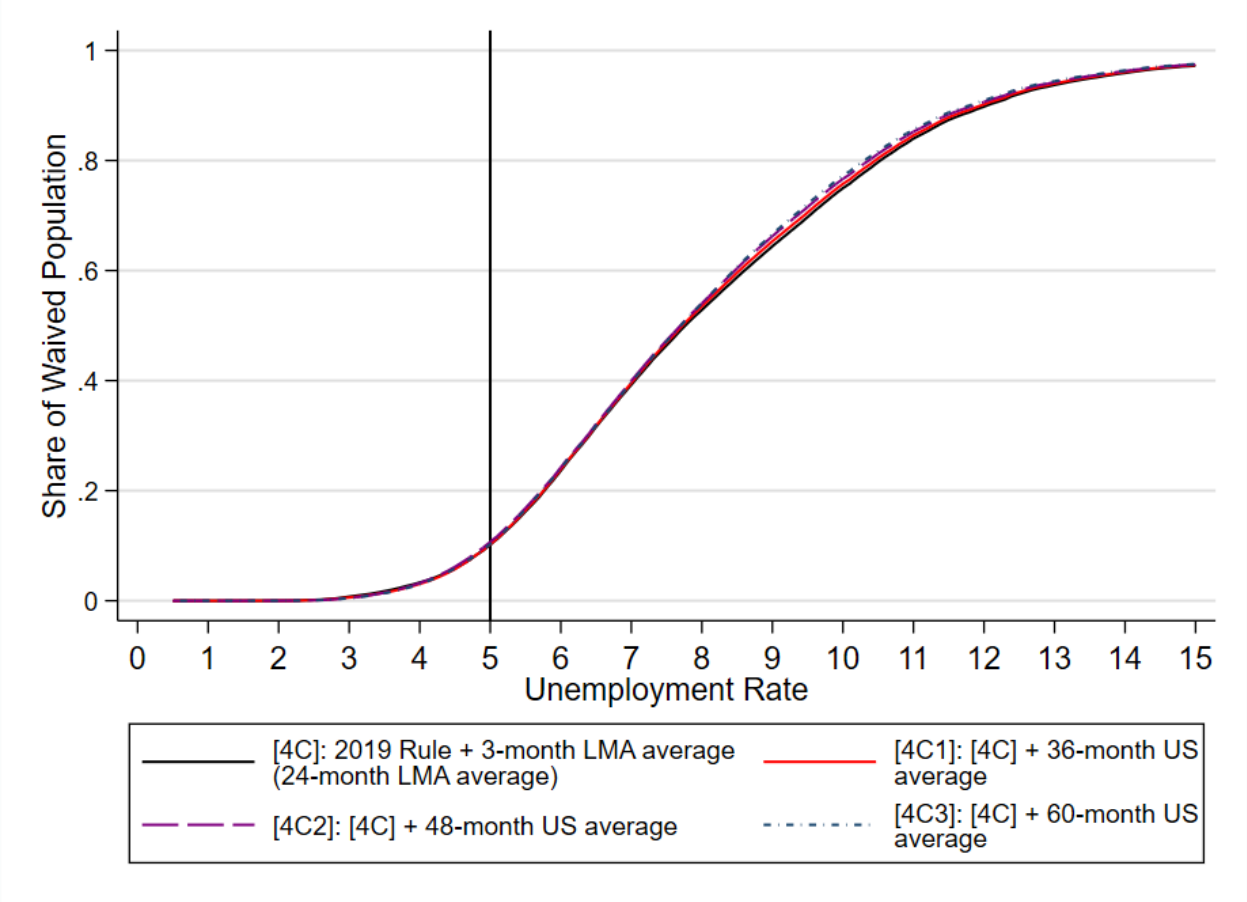
Notes: Figure reports share of population-weighted counties in the United States eligible for a work requirement waiver in a given month, as simulated under counterfactual policies with various periods for calculating U.S. average unemployment rates for purposes of the 20 percent rule. All policies shown in figure use a 3-month average Labor Market Area unemployment rate, differing from the 24-month average used in the 2019 final rule. Policy [4C] uses a 24-month average U.S. unemployment rate for purposes of the 20 percent rule, the same as used in the 2019 final rule. Each of the simulations eliminate Extended Unemployment Benefits criterion, prohibit grouping, impose a 6 percent unemployment rate floor for the 20 percent rule, and switch to the Labor Market Area as the geographic unit of analysis. Grey shaded areas indicate recessions as defined by the National Bureau of Economic Research.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

Figure A6. Cumulative unemployment rate distribution among counties eligible for a work requirement waiver in 1997-2023: various periods for calculating Labor Market Area average unemployment rate



Notes: Figure reports, among county-months with a work requirement waiver in 1997-2023, the population-weighted share with an unemployment rate equal to or below any given level, as simulated under counterfactual policies with various periods for calculating Labor Market Area average unemployment rates for purposes of the 20 percent rule. Under the 2019 final rule, a 24-month average is used for the Labor Market Area unemployment rate. Each of the simulations eliminate Extended Unemployment Benefits criterion, prohibit grouping, impose a 6 percent unemployment rate floor for the 20 percent rule, and switch to the Labor Market Area as the geographic unit of analysis.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

Figure A7. Unemployment rate distribution among counties eligible for a work requirement waiver in 1997-2023: various periods for calculating national average unemployment



Notes: Figure reports, among county-months with a work requirement waiver in 1997-2023, the population-weighted share with an unemployment rate equal to or below any given level, as simulated under counterfactual policies with various periods for calculating U.S. average unemployment rates for purposes of the 20 percent rule. All policies shown in figure use a 3-month average Labor Market Area unemployment rate, differing from the 24-month average used in the 2019 final rule. Policy [4C] uses a 24-month average U.S. unemployment rate for purposes of the 20 percent rule, the same as used in the 2019 final rule. Each of the simulations eliminate Extended Unemployment Benefits criterion, prohibit grouping, impose a 6 percent unemployment rate floor for the 20 percent rule, and switch to the Labor Market Area as the geographic unit of analysis. Grey shaded areas indicate recessions as defined by the National Bureau of Economic Research.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

Table A1. County-level association between waiver status and unemployment rate, including lags and leads of unemployment rates, 1997-2023

	(1)	(2)	(3)	(4)
Contemporaneous only	0.0737	0.0196	0.0900	0.0312
	(0.0002)	(0.0003)	(0.0002)	(0.0003)
Sum of contemporaneous and lags for 1-6 months	0.0908	0.0276	0.1032	0.0421
	(0.0002)	(0.0003)	(0.0002)	(0.0004)
Sum of contemporaneous and lags for 1-12 months	0.0994	0.0335	0.1027	0.0459
	(0.0002)	(0.0003)	(0.002)	(0.0004)
Sum of contemporaneous and lags for 1-24 months	0.1177	0.0506	0.1169	0.0580
	(0.0002)	(0.0003)	(0.0002)	(0.0004)
Sum of contemporaneous and leads for 1-6 months	0.0742	0.0261	0.0951	0.0375
	(0.0002)	(0.0003)	(0.0002)	(0.0004)
Exclude Federal Waiver Period	—	—	X	X
County Fixed Effects	X	X	X	X
Year-Month Fixed Effects	—	X	—	X
Observations	1,016,342	1,016,342	837,521	837,521

Notes: Table reports Ordinary Least Squares regression coefficients corresponding to the county unemployment rate, summed across all included lags and/or leads. Standard errors in parentheses. Dependent variable is an indicator equal to one if a waiver is in effect in a given county and month. Federal waiver periods were April 2009 to October 2010 and April 2020 to June 2023. Observations are weighted by 2010 county populations. All models only include counties with available data for the entire sample period.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Authors' calculations.

Table A2. County-level association between waiver eligibility status and unemployment rate, 1997-2023, existing and counterfactual policies

	(1)	(2)
[4]: 2019 Rule (24-month LMA average)	0.0409	0.0813
	(0.0001)	(0.0002)
[4A]: [4] + 12-month LMA average	0.0620	0.0973
	(0.0001)	(0.0002)
[4B]: [4] + 6-month LMA average	0.0787	0.0916
	(0.0001)	(0.0002)
[4C]: [4] + 3-month LMA average	0.0853	0.0894
	(0.0001)	(0.0002)
[4D]: [4] + 1-month LMA average	0.0875	0.0899
	(0.0001)	(0.0002)
[4C1]: [4C] + 36-month US average	0.0909	0.0814
	(0.0002)	(0.0002)
[4C2]: [4C] + 48-month US average	0.0959	0.0753
	(0.0002)	(0.0002)
[4C3]: [4C] + 60-month US average	0.1007	0.0708
	(0.0002)	(0.0002)
County Fixed Effects	X	X
Year-Month Fixed Effects	—	X
Observations: County-months	1,016,474	1,016,474

Notes: Table reports Ordinary Least Squares regression coefficients corresponding to the county unemployment rate. Standard errors in parentheses. Dependent variable is an indicator equal to one if a county is eligible for a waiver in a given county and month. Observations are weighted by county population. All models rely on 2010 county populations as weights. Under the 2019 final rule, a 24-month average is used for the Labor Market Area unemployment rate. Each of the simulations eliminate Extended Unemployment Benefits criterion, prohibit grouping, impose a 6 percent unemployment rate floor for the 20 percent rule, and switch to the Labor Market Area as the geographic unit of analysis.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Department of Labor; Authors' calculations.

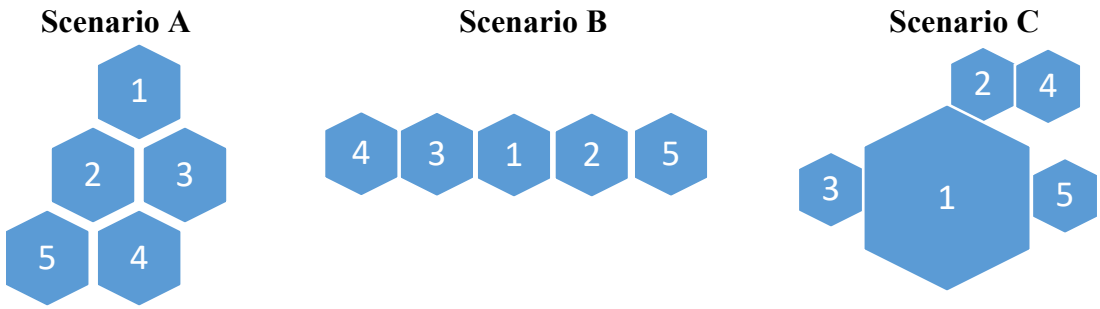
Appendix B. Grouping Algorithm Description

In this appendix, we describe our methodology for simulating waiver eligibility under policies that permit states to group contiguous counties into a single area.

There are many possible ways for a state to group counties, and maximizing the number of counties waived sometimes requires forming multiple groups. As an illustration, we consider three simple examples in Figure B1 below. In each of the three scenarios, we assume that there is a state with five counties, each with equal population. For each county $i \in \{1, 2, 3, 4, 5\}$, its unemployment rate is assumed equal to i. For simplicity, we assume that a county or group of counties must have an unemployment rate of at least 3.5 percent to qualify for a waiver. Figure B1 illustrates three different configurations of counties that would require different grouping strategies to maximize waiver coverage. Each hexagon represents a county, and all five hexagons represent all counties in one state. In Scenario A, the state would maximize waiver coverage by creating a single group consisting of counties 2, 3, 4, and 5. In this scenario, the group would be eligible for a waiver because its average unemployment rate is 3.5 percent. In Scenario B, the state would maximize waiver coverage by creating two groups, one that includes counties 2 and 5 and another that includes counties 3 and 4—both of which would have an average unemployment rate of 3.5 percent. Lastly, in Scenario C, the state could only waive counties 4 and 5 separately, and could not group any counties that would individually be ineligible for a waiver. Therefore, even in this simple example of a five-county state, waiver coverage could be maximized by creating zero, one, or two contiguous groups of counties depending on the configuration of counties within the state.

In each of these examples, determining the grouping strategy that maximizes waiver coverage is relatively straightforward, because it is possible to test all of the possible combinations of contiguous counties that could qualify for a waiver, and select the grouping strategy that maximizes waiver coverage. However, in reality, states contain dozens or even hundreds of counties, each with a unique set of borders. Therefore, it is not practical to test all possible combinations of contiguous counties to determine the state's grouping strategy that maximizes waiver coverage. Instead, we develop an algorithm that can be applied to all states to simulate grouping. While it does not necessarily maximize waiver coverage in all scenarios, we view it as a natural approach that states seeking to waive a large number of counties might implement.

Figure B1. Hypothetical Grouping Decisions



Notes: Each scenario depicts an arrangement of counties within a given state. County numbers 1 through 5 also represent the counties' unemployment rates, such that County 1 has an unemployment rate of 1 percent, County 2 has an unemployment rate of 2 percent, etc. In order to qualify for a waiver, a county—or group of contiguous counties—must have an unemployment rate of 3.5 percent or higher.

The algorithm proceeds as follows:

(i) Identify the highest unemployment county in the state. If its unemployment rate is less than the threshold, the group is empty and the algorithm ends. Otherwise, include the county as the first member of the first (and current) group and proceed to step (ii).

(ii) Add to the current group the highest unemployment rate county that meets all of the following conditions: (a) is contiguous to the current group, (b) is not a member of the current or any former group, and (c) when added to the group, the group average unemployment rate is weakly greater than the threshold. Then repeat step (ii). If no such county exists, proceed instead to step (iii).

(iii) Create a new group by identifying the highest unemployment county in the state that is not part of any already-formed group. If its unemployment rate is less than the threshold, the subsequent group is empty, and the algorithm ends. If its unemployment rate is greater than the threshold, return to step (ii).

The algorithm attempts to form the first group beginning with the highest unemployment county in the state, and incrementally adds to the group the contiguous county with the highest unemployment rate until doing so would cause the group to no longer be eligible for a waiver. In certain instances, it is possible that adding the highest-unemployment contiguous county causes the group to lose its waiver eligibility, while adding a lower-unemployment contiguous county

could allow the group to retain its eligibility.[1] Therefore, in step (ii) we require the added county to retain eligibility for the group when added. We continue this process until no additional counties can be added to the group. When no additional counties can be added, the group is fully formed. We then repeat the process with counties not included in the initial group, thereby allowing states to create multiple groups of counties. We allow states to continue forming groups until no eligible counties remain.

We simulate grouping using two waiver eligibility criteria: the 20 percent rule and having an unemployment rate of at least 10 percent.[2] In the former case the threshold is 120 percent of the national unemployment rate over the past 24 months, and in the latter case the threshold is 10 percent. For both the 20 percent rule and the 10 percent condition, we use the FNS's preferred method for calculating an area's unemployment rate (USDA 2021).[3] We rely on county-level data from the Bureau of Labor Statistics (BLS) Local Area Unemployment Statistics (LAUS) database, which provides estimates of the total number of individuals in the labor force in a given county, as well as the total number of unemployed individuals. In order to calculate the unemployment rate of a given group, we divide the sum of all unemployed individuals in the group by the sum of all individuals in the labor force in the group over the entire period. Therefore, if a group consists of two counties, we determine the group's unemployment rate by calculating the sum of both counties' labor forces and number of unemployed individuals over the preceding 24-month period.[4] We then divide the total number of unemployed individuals by the total labor force, multiply by 100, and round to the nearest tenth. If the resulting unemployment rate is greater than or equal to the associated threshold, the group is eligible for a waiver.

[1] This is common when there are significant disparities in the labor force sizes of contiguous counties, where a county with a lower unemployment rate but a smaller labor force allows the group to remain eligible when added, while a county with a higher unemployment rate but a larger labor force does not allow the group to remain eligible when added.
[2] We do not allow grouping for any other waiver eligibility criteria because it is impossible to do so. For example, individual counties can be waived because they are designated as an LSA and entire states can be waived if the state qualifies for Extended Unemployment Benefits, but individual counties cannot be grouped under either criterion.
[3] This method applies to individual counties and groups of contiguous counties.
[4] If we are applying the 10 percent grouping algorithm, we calculate the total unemployed and labor forces over the preceding 12 months rather than the preceding 24 months.

We simulate grouping under the 20 percent rule and the 10 percent condition for each state, beginning in January of each year from 1997 to 2023.[5] We implement the algorithm in January of each year because it is the month during which states most often request ABAWD waivers from FNS and because states typically receive one-year waivers. After implementing simulations under both the 20 percent rule and 10 percent condition in each January, we identify the rule under which a larger group is formed, measured by the total population of the counties included in the group(s). We then use the group(s) from that simulation as the state's group(s) for that year.

To help validate our algorithm, we compare its performance to actual grouping decisions made by states in the three examples shown in Figure B2: Arizona in 2006, California in 2019, and Pennsylvania in 2017. The left figure displays the actual groups formed by the state, and the right figure displays the group(s) formed by our algorithm applied to the same 24-month reference time period. In Panel A, our algorithm exactly replicates Arizona's grouping strategy in 2006. Arizona grouped 13 of its 15 counties under the 20 percent rule, and our algorithm grouped the same 13 counties under the same criterion. Our algorithm begins with Yuma County, the highest unemployment county in the state over the preceding 24-month period. The algorithm then adds the next highest unemployment county, La Paz County. Adding the next highest unemployment county, Maricopa County, would cause the group's unemployment rate to fall below the unemployment rate threshold. This occurs because Maricopa County's population is roughly 18 times greater than the combined population of Yuma and La Paz County and Maricopa County's 24-month unemployment rate is slightly below the required threshold. Therefore, adding Maricopa County to the group makes the entire group ineligible. However, our algorithm is able to add other counties to the group while retaining the group's eligibility.

In Panel B, our algorithm slightly underperforms California's actual grouping decision. California waived 52 of its 58 counties covering 83 percent of the state population in 2019 by forming a single group under the 20 percent rule. Our algorithm grouped 48 counties covering 65 percent of the state population. The discrepancy appears to result from California calculating an

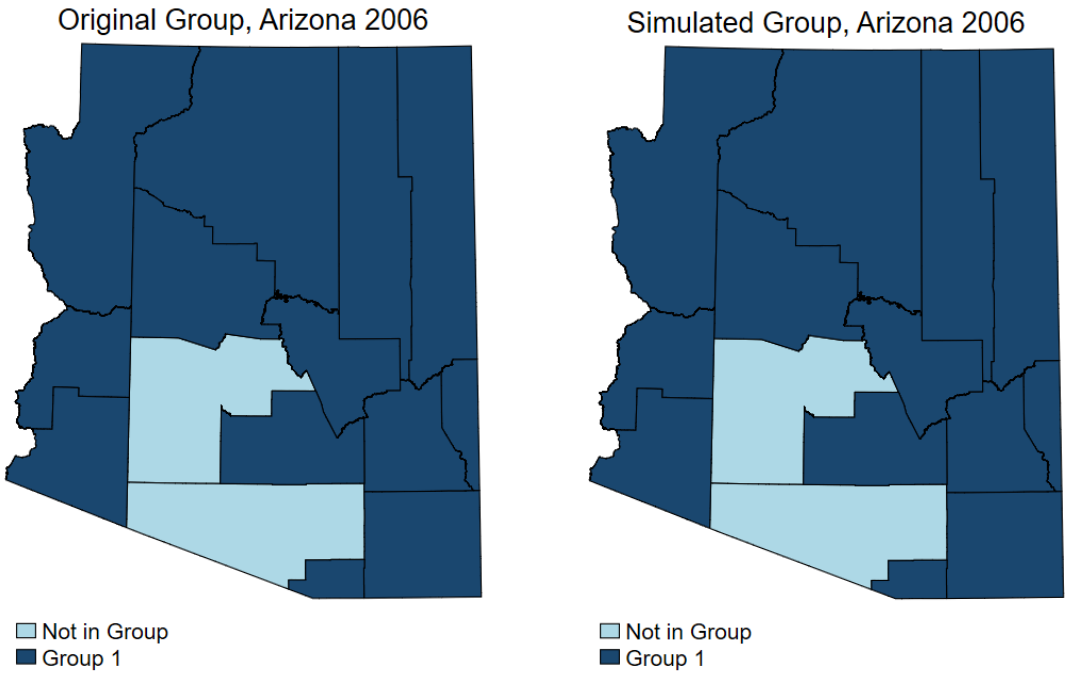
[5] We do not simulate grouping for the District of Columbia, Hawaii, or Alaska. We exclude the District of Columbia because it is a single county, and can therefore not be grouped with any other counties. We exclude Hawaii because it only contains five counties, and none of its counties share a border. Lastly, we exclude Alaska because its county-equivalents underwent several changes during the sample period.

unemployment rate for their group that was lower than it actually was according to the BLS county-level unemployment data upon which we rely. According to California's waiver request, the state relied on unemployment data from January 2016 to December 2017. California claimed that the group's unemployment rate was 5.5 percent, 120 percent greater than the 4.6 percent national average unemployment rate over the same 24-month period. However, when relying on BLS LAUS data, we calculated the state's group unemployment rate as 5.2 percent, below the required threshold.

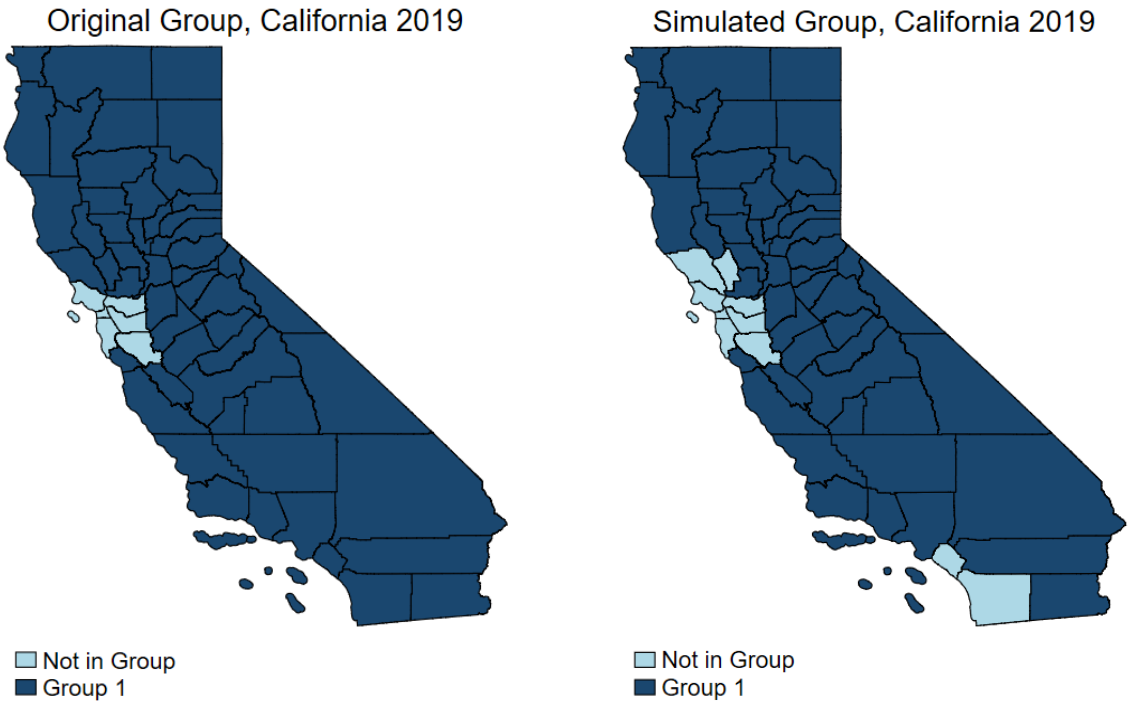
In Panel C, our algorithm outperforms Pennsylvania's actual grouping decision. While Pennsylvania created two groups consisting of 42 total counties and covering 42 percent of the state population in 2017, our algorithm waived a total of 55 counties across two groups covering 61 percent of the state population. Our first group consists of 52 counties, while Pennsylvania's larger group consists of 41 counties. Our second group consists of three counties while Pennsylvania's smaller group consists of two counties.

Figure B2. Grouping Simulation Comparison

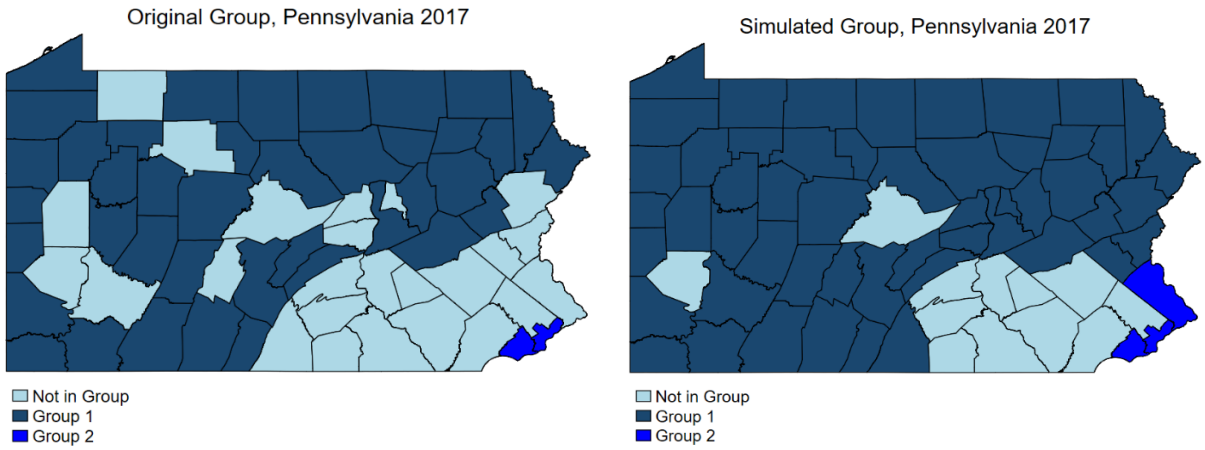
Panel A. Arizona, 2006



Panel B. California, 2019



Panel C. Pennsylvania, 2017



Notes: Figure displays three sets of county-level state maps, comparing results of our grouping simulation to states' actual grouping decision. Maps in the left column display the set of contiguous counties grouped according to the state's actual grouping decision, while maps in the right column display the set of contiguous counties grouped according to our simulation.
Sources: United States Department of Agriculture; Bureau of Labor Statistics Local Area Unemployment Statistics; Authors' calculations.