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US UNEMPLOYMENT INSURANCE REPLACEMENT RATES DURING THE PANDEMIC

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ABSTRACT

We use micro data on earnings together with the details of each state's UI system under the CARES Act to compute the entire distribution of current UI benefits. The median replacement rate is 134%. Two-thirds of UI eligible workers can receive benefits which exceed lost earnings and one-fifth can receive benefits at least double lost earnings. There is sizable variation in the effects of the CARES Act across occupations and states, with important distributional consequences. We show how alternative UI expansion policies would change the distribution of UI benefits and thus affect resulting liquidity provision, progressivity, and labor supply incentives.

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A UI benefit calculator is available at https://github.com/ganong-noel/ui_calculator

1. Introduction

The Coronavirus Aid, Relief, and Economic Security Act (CARES) Act substantially expanded Unemployment Insurance (UI) in order to help workers losing jobs as a result of the Covid-19 pandemic. One provision of the act creates an additional $600 weekly benefit known as the Federal Pandemic Unemployment Compensation. The size of the payment—$600—is designed to replace 100 percent of the mean U.S. wage when combined with mean state UI benefits. In this note, we use micro data on earnings together with the details of each state's UI system under the CARES Act to compute the entire distribution of current UI benefits across unemployed workers. We use these benefits estimates to calculate the distribution of lost earnings replaced by UI and how these replacement rates vary by occupation and across states. We also show how various alternative implementations of UI expansion would alter this distribution of replacement rates across workers and discuss resulting trade-offs.

As designed, we find that the ratio of mean benefits to mean earnings in the data under CARES is roughly 100%. However, this masks substantial heterogeneity. We find that 68% of unemployed workers who are eligible for UI will receive benefits which exceed lost earnings. The median replacement rate is 134%, and one out of five eligible unemployed workers will receive benefits at least twice as large as their lost earnings. Thus, the CARES Act actually provides income expansion rather than replacement for most unemployed workers.[2] We also show that there is sizable variation in the effects of the CARES Act across occupations and across states, with important distributional consequences. For example, the median retail worker who is laid-off can collect 142% of their prior wage in UI, while grocery workers are not receiving any automatic pay increases. Janitors working at businesses that remain open do not necessarily receive any hazard pay, while unemployed janitors who worked at businesses that shut down can collect 158% of their prior wage.

These conclusions arise because the CARES Act sends a fixed $600 payment to unemployed workers who have very different prior earnings: $600 is a larger percentage of prior earnings for low than for high earners. Since the $600 UI payment was targeted to generate 100% earnings replacement based on mean earnings, this $600 payment tends to imply greater than 100% earnings replacement for those with less than mean earnings. Furthermore, these high replacement rates for below-mean workers are amplified by the fact that the distribution of earnings is skewed: median prior earnings are below mean prior earnings. This means that the typical unemployed worker has below-mean prior earnings and thus above-mean replacement rates. This implies that most workers have replacement rates above 100%.

After documenting these basic patterns, we explore how various alternative UI expansion policies would alter the distribution of replacement rates. The goal of this exercise is to provide a positive perspective on what replacement rates look like under alternative policies, not to provide a normative perspective on what replacement rates should look like under optimal policy. There are strong arguments in favor of liquidity provision and income support right now, due to mandated government shutdowns. Furthermore, it is important to note that the unemployed also lose health insurance and other non-wage compensation, and that there are public health benefits of staying home during a pandemic.[3] High replacement rates can also encourage UI take-up and result in positive pecuniary externalities from greater spending. Weighting these channels strongly would suggest the desirability of unusually high replacement rates. At the same time, very high replacement rates can induce both distributional concerns between "essential" and "non-essential" workers and labor supply disincentives as the economy recovers. Weighting these channels strongly would suggest that replacement

[2] As discussed in more detail below, we think income expansion has both pros and cons, and we intentionally take no position on the desired rate of income replacement or expansion. We instead focus on the simpler task of characterizing the distributional impacts of current and alternative policies.

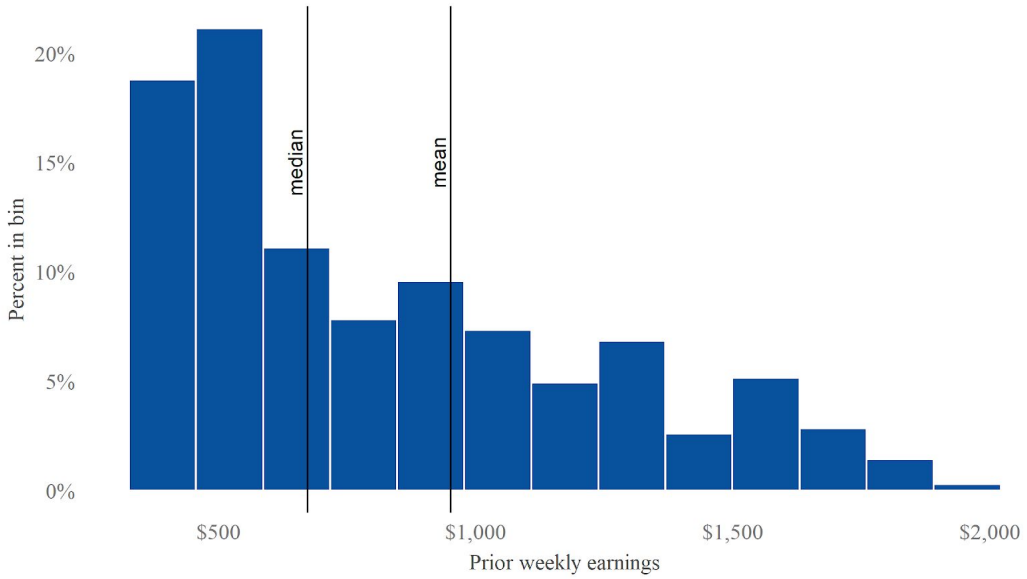
[3] We follow convention in the literature by comparing pre-tax wage earnings to pre-tax benefits. This omits the following two important factors: 1) Labor income is subject to payroll tax while UI is not, which leads us to understate after-tax replacement rates by 7.6%. 2) For workers with non-wage compensation like employer-provided health benefits, replacement rates as a share of total compensation will be lower than replacement rates as a share of wage compensation. In ongoing work, we hope to better quantify the importance of this non-wage compensation. However, ignoring non-wage compensation biases replacement rates equally both before and after CARES.

rates should not be too high. We take no stand on how one should weigh these pros and cons of raising UI benefit levels, but simply note that the distribution of UI benefits will likely be a key input when assessing the ultimate consequences of any particular UI policy for the economy.

2. Replacement Rates Across the Earnings Distribution

While the basic intuition is simple, a careful accounting of the distribution of weekly benefits requires data on the prior earnings of the unemployed and how these translate into actual UI payments given state-specific eligibility and benefits rules.[4] We use the most recent vintage of the Current Population Survey Annual Social and Economic Supplement.[5] We define the UI replacement rate as the ratio of UI benefits to that worker's average weekly earnings over the prior year. We calculate UI benefits by simulating the worker's quarterly earnings history and applying the UI benefit formula for each state. The details of this calculation are described in the Appendix.

Figure 1 -- Distribution of Weekly Earnings



Notes: This figure shows the distribution of average weekly earnings in the year prior to unemployment for unemployed workers who are eligible for UI. Average weekly earnings are the ratio of annual earnings to annual weeks worked in the Current Population Survey Annual Social and Economic Supplement.

Figure 1 shows the distribution of weekly earnings among likely UI recipients. There are two key features of the earnings distribution: 1) There is substantial variance in earnings across workers. 2) The distribution is right-skewed, so that the

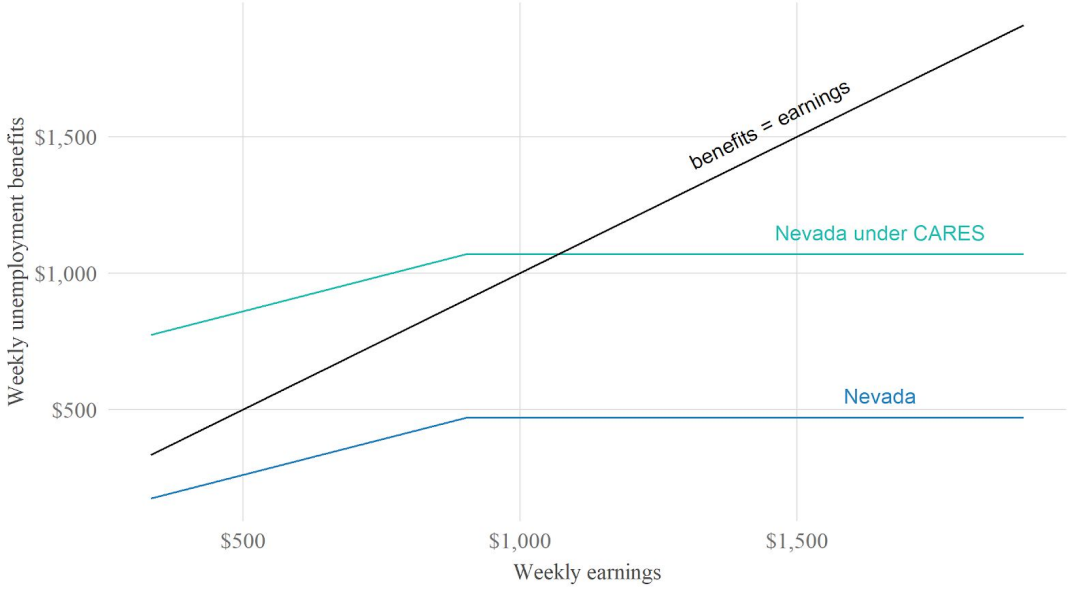
[4] Gonshorowski and Grezler (2020) and Anderson and Levine (2020) note that a fixed dollar increase in UI benefits leads to replacement rates above 100% for lower income workers. Our analysis quantifies the prevalence of this phenomenon using data on income of the unemployed and eligibility rules for UI.

[5] Since data on the earnings of the unemployed is not available in real-time (and so was also unavailable when designing the CARES Act), we use the most recently available public use survey data. However, it would be quite useful to replicate the analysis in this note using administrative earnings data as it becomes available. We have shared our code publicly (see footnote 1) and would be glad to collaborate with any researchers seeking to conduct similar analysis using administrative data. To the extent that unemployment in this pandemic is unusually concentrated among low wage workers, this will amplify our conclusions.

mean earnings level is above the median earnings level. Concretely, this implies that most workers have earnings below the mean. These empirical patterns are well-known, but they interact importantly with the structure of UI benefits systems.

UI systems prior to the CARES Act typically provide benefits which are a fixed fraction of workers' previous earnings, up to some cap. For example, Figure 2 shows the benefit schedule for Nevada both before and after the CARES Act. We choose Nevada because it has UI benefit levels in the middle of the national distribution. The blue line shows the level of UI payments as a function of prior wages. Nevada has a replacement rate of 52% of prior weekly earnings and a cap of $469, so benefits increase by 52 cents for each dollar of prior weekly earnings, until reaching a max benefit of $469 for workers with earnings above $902.[6] The turquoise line shows the new benefits schedule after the CARES Act, which simply shifts the previous schedule vertically by $600. We also draw a 45 degree line in black to show the level of benefits which would exactly equal the level of previous earnings. For earnings values at which the turquoise line is above the black line, UI benefits under the CARES Act exceed lost earnings. This figure shows that for workers with low earnings, UI benefits can potentially far exceed lost earnings.

Figure 2 -- Unemployment Benefits versus Earnings



Notes: This figure shows unemployment benefits for various values of weekly earnings in Nevada both in normal times and under the CARES Act, which adds a $600 supplement to weekly benefits. We choose Nevada because it has UI benefit levels in the middle of the national distribution.

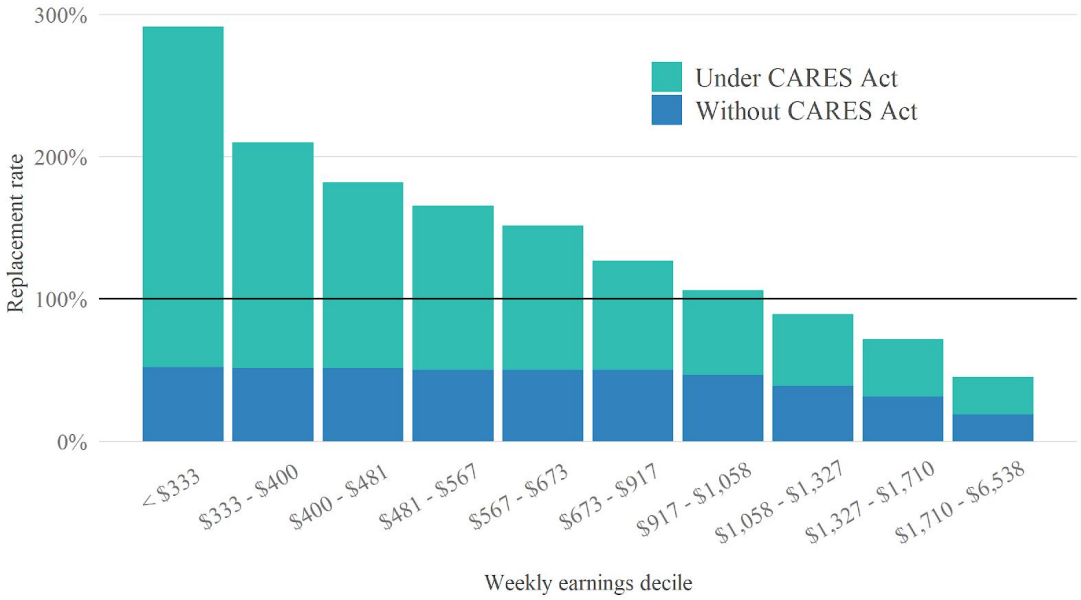
We next combine information on the distribution of prior earnings by the unemployed in each state with that state's benefits schedule to estimate the level of replacement rates across the earnings distribution. Figure 3 shows these results. The horizontal line denotes a replacement rate of 100%. Under the CARES Act, 68% of workers have replacement rates above 100%. The median replacement rate is 134% and workers in the bottom 20% of the income distribution have replacement rates above 200%. For these workers, the UI system now provides substantial income expansion, with dollar benefits twice as large as what they earned from employment.

It is worth noting that the large replacement rates we measure may even be understated. In particular, we estimate the distribution of earnings of the unemployed using the most recent publicly available micro data. However, this data is not

[6] Formally, Nevada's benefits are 1/25th of the UI recipient's high quarter earnings. For the purposes of this calculation, we assume that prior weekly earnings are 1/13th of high quarter earnings.

updated in real-time, so it may not fully reflect the distribution of lost earnings for those unemployed today. There is mounting evidence that initial job losses in this recession have fallen disproportionately on low wage workers, even relative to typical recessions.[7] To the extent that the current pool of unemployed workers is indeed unusually tilted towards low wage workers, our empirical approach will *understate* the current distribution of replacement rates, since replacement rates under CARES decline with prior earnings.

Figure 3 -- Benefit Replacement Rates Across the Earnings Distribution



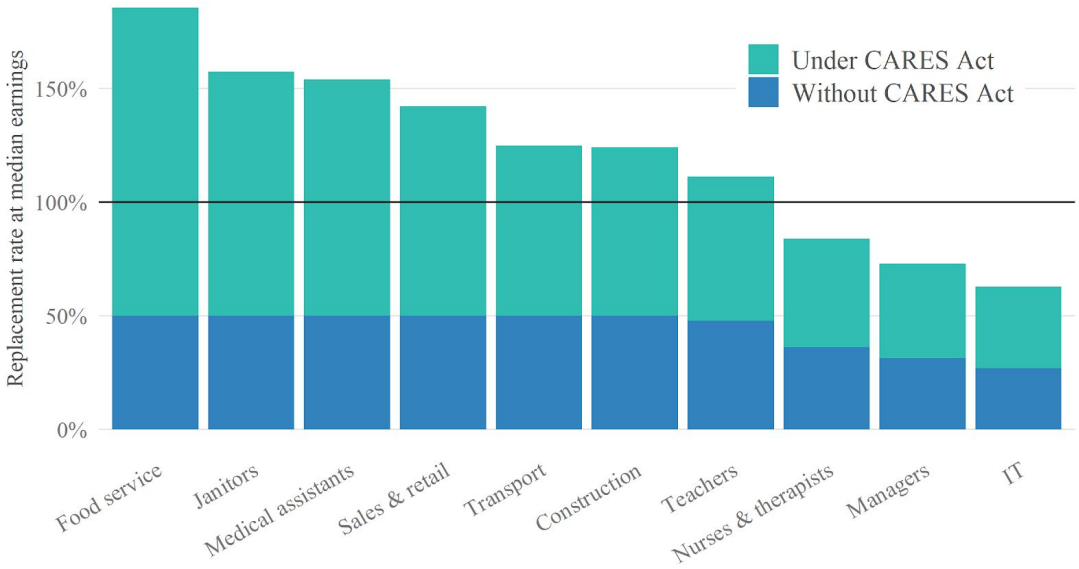
Notes: This figure shows the fraction of earnings that are replaced by unemployment benefits for workers at deciles of the weekly earnings distribution. The horizontal line shows a replacement rate of 100%, which is where benefits are equal to earnings.

3. Replacement Rates By Occupation and State

Figure 4 shows how UI benefits under the CARES Act compare to earnings for unemployed workers in various occupations. This figure again shows substantial variation: lower wage jobs effectively have much higher replacement rates than higher wage jobs, often substantially above 100%. This has important distributional and equity implications, even for workers in the same occupation. For example, unemployed janitors who worked at businesses which are closed can get UI benefits equal to 158% of their prior earnings, while janitors who continue to work at increased health risk in businesses deemed "essential" have no guarantees of any hazard pay or increased earnings.

[7] Cf. Cajner et al. (2020)

Figure 4 -- Benefit Replacement Rates for Common Occupations

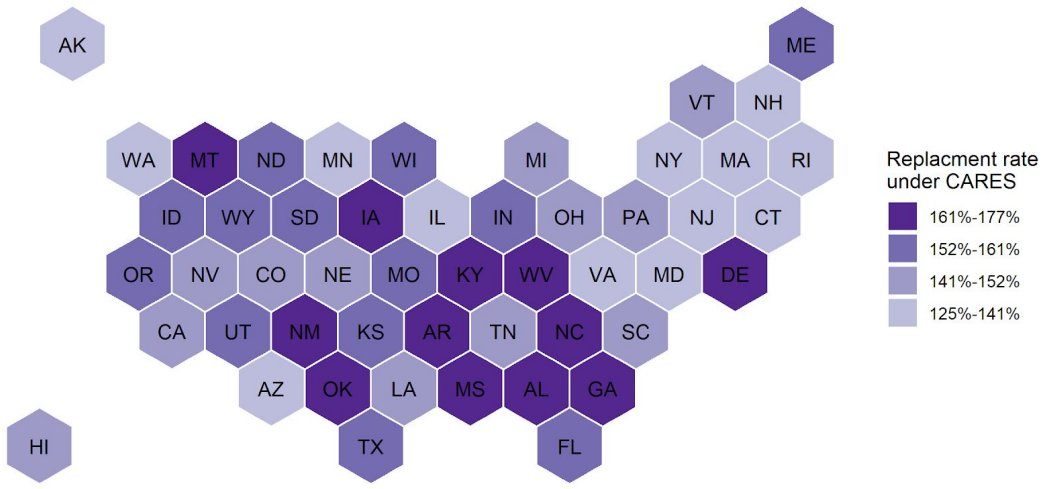


Notes: This figure shows the fraction of earnings that are replaced by unemployment benefits for workers in ten of the most common occupations. Specifically, the figure shows the fraction of earnings that are replaced by unemployment benefits for a worker whose earnings are at the national median of each occupation. For each occupation, we calculate the UI replacement rate in every state and then define the national replacement rate as the population-weighted average of the state-level replacement rates. We compute this statistic for ten of the most common occupations. The horizontal line shows a replacement rate of 100%, which is where benefits are equal to earnings.

Although the CARES Act thus provides substantial income expansion and liquidity for low income unemployed workers, it simultaneously has major distributional consequences within each income group. This system essentially pays bonuses to some workers who are laid off (which might lead to advantageous increases in social distancing) but provides no additional pay for otherwise similar "front-line" workers. Furthermore, while labor supply incentives might be less of a concern in a pandemic than in a normal recession, this does not necessarily mean they are irrelevant. Barrero, Bloom and Davis (2020) show that even now, there are many businesses with both gross and net hiring. For example, as waiters have been fired, there has been substantial hiring in food delivery, and Amazon is increasing its labor force in response to increased demand for online shopping. Paying very high UI benefits to low-income households helps provide support for these vulnerable households, but it can also deter this type of beneficial labor reallocation. Labor supply disincentives from high replacement rates are likely to become more important as the public health threat diminishes and businesses again look to hire.

Figure 5 shows how typical replacement rates under CARES vary across states. In particular, it plots the estimated replacement rate for the median unemployed worker in each state. While there is substantial variation across states, the median replacement rate in all states is well above 100%. Maryland has the lowest median replacement rate. The median UI eligible worker in Maryland can receive benefits equal to 129% of lost earnings. New Jersey and Washington are the next lowest, with median replacement rates of 131% in both states. New Mexico has the highest replacement rate. The median UI eligible worker in New Mexico has a replacement rate of 177%. Oklahoma and Montana are the next highest, with median replacement rates of 172% and 170%.

Figure 5 -- Median Benefit Replacement Rates by State



Notes: This figure shows the median UI replacement rate by state.

4. Policy Options

In the final part of this note, we evaluate the distributional consequences of some simple alternative policies that also raise the level of UI benefits. First, we describe the distribution of benefits under supplementary fixed payments of various sizes. Although the CARES Act uses a $600 supplement, recent policy proposals have considered a range of values. In Figure 6, Panel (a), we show how the distribution of replacement rates varies with fixed payments. The diagonal black line shows the share of workers with replacement rates above 100%. The figure demonstrates that it is quite difficult to achieve high replacement rates for most workers without also having replacement rates over 100% for many workers. For example, even at a fixed payment of $300, 42% of workers have replacement rates above 100%. At the same time, this lower fixed payment of $300 would leave one-quarter of unemployed workers with replacement rates below 60% and thus potentially sizable liquidity concerns.

Policymakers could instead modify UI systems to provide income replacement while limiting income expansion (that is targeting 100% replacement but not greater than 100% replacement). This can be achieved by adding the same fixed supplement to all states' replacement rates rather than adding a fixed dollar amount to all states' UI benefits.[8] Specifically, for a given Supplemental Replacement Rate (SRR) chosen by policy makers, let

[8] Using a common replacement supplement for all states will imply that all states receive the same federal supplements to UI, just like in the CARES Act.

$Benefit_{new} = Benefit_{old} + Earnings \times SRR$.[9] For example, Appendix Figure 2 illustrates how such a policy would impact Nevada's benefit schedule under a Supplemental Replacement Rate of 45%.

Figure 6, Panel (b) shows how the distribution of replacement rates would be altered under a Supplemental Replacement Rate policy for different values of the proportional supplement. The black line which shows the share of workers with replacement rates above 100% is no longer diagonal; instead, the line moves sharply at around a 50% replacement rate supplement.

Concretely, an SRR value of 45% would mean that roughly 75% of unemployed workers would receive replacement rates of 80% or more, while 7% would receive replacement rates just above 100%. Figure 7 shows how replacement rates would vary with earnings under this alternative policy. Most replacement rates would be near 100%. Recall from Figure 3 that under CARES, replacement rates for low income workers are far over 100%. At the same time, replacement rates are far below 100% under the pre-CARES UI system, which will return to effect at the end of July if in the absence of new legislation. This means that moving to an SRR value of 45% would result in lower benefits for the poorest workers than under CARES but still far higher than under the baseline pre-CARES UI system.

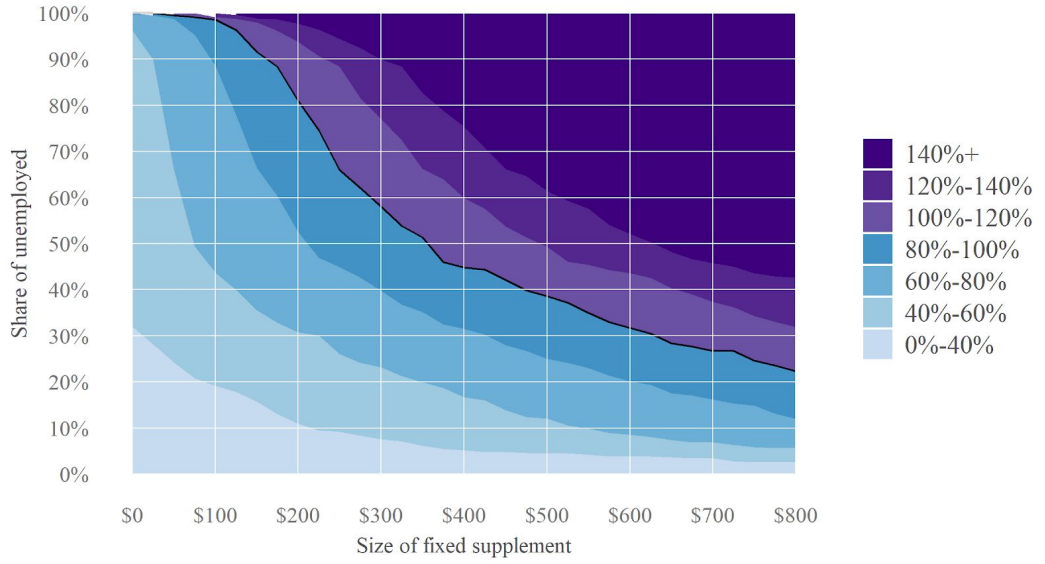
At an alternative SRR value of 60%, 83% of workers would have replacement values of at least 80%. Under this higher SRR value, many more workers (64%) would have replacement rates above 100%, yet very few would have replacement rates above 120%. For point of comparison, recall that under the fixed $600 CARES payment, more than half of workers have replacement rates above 130%. Thus, an SRR payment is capable of achieving substantial income replacement without providing income expansion, if policy makers want to achieve that goal.

Implementation constraints were one of the motivations for using a simple fixed payment under the CARES Act. It was unlikely that state UI agencies had the capacity to introduce complicated benefits schemes at the speed necessary given the pandemic. Although different states use different formulas to calculate benefits, it should nevertheless be possible for the federal government to supplement these benefits through a Supplemental Replacement Rate Policy, just as it did in the CARES Act. Furthermore, these policies can be implemented by changing a single parameter in state-specific benefits formulas, which should induce little more complexity than adding a fixed dollar amount to UI benefits like in CARES. In Appendix Table 1, we provide the state-specific formula adjustment factors needed to achieve a Supplemental Replacement Rate of 45%. These factors can easily be calculated for any desired value of this supplement. Changing a single, easily calculated benefit factor in UI formulas should be implementable in practice, especially since Federal Pandemic Unemployment Compensation (the $600 weekly addition to benefits) does not expire until the end of July.

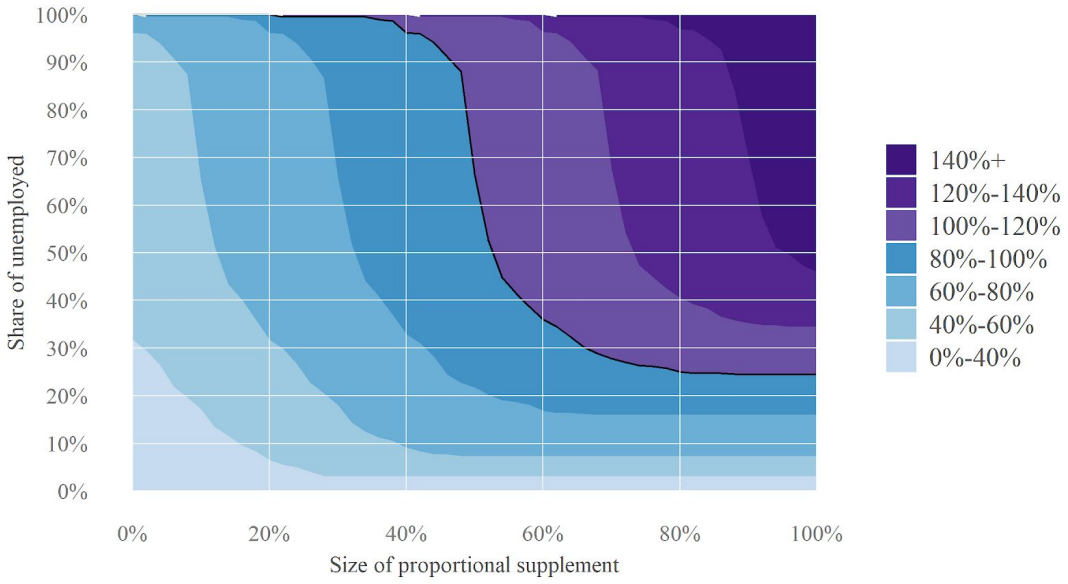
[9] Total new benefits can also easily be capped at some maximum value as under current UI, to ensure progressivity. In all of our examples, we cap maximum weekly benefits at $1200, which is approximately the maximum UI benefit which can be obtained inclusive of the $600 CARES payment.

Figure 6 -- Distribution of Replacement Rates for Alternative UI Policies

(a) Various Fixed Payments

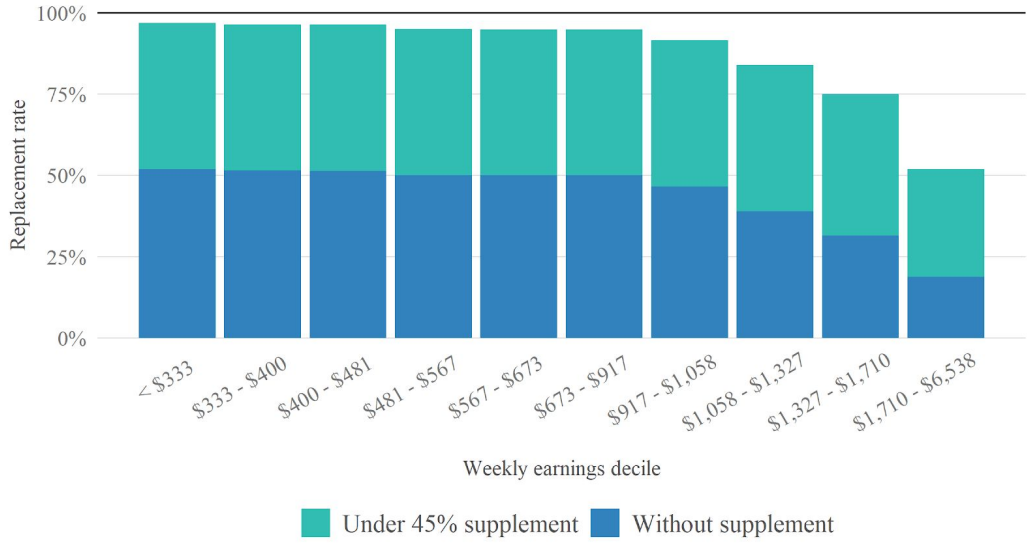


(b) Various Supplemental Replacement Rate Values



Notes: This figure shows the distribution of replacement rates under alternative UI expansion policies. Panel (a) varies the size of lump sum supplements to UI benefits. The current size of the supplement under the CARES Act is $600. The black line shows a replacement rate of 100%. Panel (b) shows the distribution of replacement rates for various values of a proportional Supplemental Replacement Rate to unemployment insurance benefits. The simulation assumes a national benefit cap of $1,200 weekly.

Figure 7 -- Benefit Replacement Rates Across the Earnings Distribution Under 45% SRR



Notes: This figure shows the fraction of earnings that are replaced by unemployment benefits under an alternative SRR policy with a 45% replacement rate. We compute this statistic for deciles of the weekly earnings distribution. The horizontal line shows a replacement rate of 100%, which is where benefits are equal to earnings.

5. Conclusion

The current expanded UI system enacted under CARES implies high replacement rates well over 100% for most workers. High replacement rates can provide crucial liquidity necessary for households to smooth consumption during this unprecedented period of economic dislocation. Notably, replacement rates under the CARES Act are highest for the unemployed with the lowest prior earnings who are likely most vulnerable. At the same time, replacement rates over 100% create distributional issues and may hamper efficient labor reallocation both now, and especially during an eventual recovery. That is, expanded UI induces trade-offs between consumption smoothing and moral hazard. While we take no stand in this paper on the optimal way to balance these trade-offs, we do characterize the distribution of replacement rates which would arise under a variety of alternative policies. The CARES Act implemented a fixed dollar supplement to UI, in part for administrative simplicity. We show that fixed dollar UI expansion provides the largest comparative benefit to the lowest income workers, who might otherwise be especially hurt by this recession. However, fixed dollar UI expansion which is large enough to replace lost earnings for most unemployed workers leads to many with replacement rates well above 100%. A Supplemental Replacement Rate policy which provides a proportional benefit instead of a fixed dollar benefit is also simple and should be administratively feasible. Such a policy does not provide the same disproportionate benefit to the poorest unemployed, but it can achieve substantial income replacement and resulting liquidity without pushing replacement rates above 100% for many workers.

References

Barrero, Jose Maria and Nick Bloom and Steven J. Davis. 2020. “COVID-19 Is Also a Reallocation Shock,” BFI Working Paper No. 2020-59

Cajner, Tomaz and Leland Crane and Ryan Decker and John Grigsby and Adrian Hamins-Puertolas and Erik Hurst and Christopher Kurz and Ahu Yildirmaz. 2020. “The U.S. Labor Market During the Beginning of the Pandemic Recession,” BFI Working Paper 2020-58.

Gonshorowski, Drew and Greszler, Rachel. 2020. “The Impact of Additional Unemployment Insurance Benefits on Employment and Economic Recovery: How the $600-per Week Bonus Could Backfire,” Heritage Foundation Backgrounder no. 3490.

Patrica, Anderson and Phillip Levine. 2020. “The Unemployed and Essential Low-Wage Workers After the CARES Act”. ECONOFACT Note: https://econofact.org/the-unemployed-and-essential-low-wage-workers-after-the-cares-act

Appendix

UI Benefit Calculator

Earnings history -- We use data from the most recently available Current Population Survey Annual Social and Economic Supplement (CPS ASEC). The survey was administered in February, March, and April 2019 and asks about labor supply in calendar year 2018. US states calculate UI benefits on the basis of a worker's quarterly earnings history, which is not available in the CPS. To simulate quarterly earnings, we assume that the worker was working in the final week of 2018, and worked each preceding week at the same weekly wage for their total number of weeks worked in 2018. This procedure makes their highest quarter earnings synonymous with their most recent quarter earnings.

Throughout our analysis we restrict to workers who:

1. are US citizens
2. have hourly earnings above the federal minimum wage[10]
3. have sufficient quarterly earnings history to be eligible for regular Unemployment Compensation in their state of residence.

Our primary analysis sample, which we refer to as the *unemployed* sample, imposes two additional restrictions:

4. were laid off from their prior job, to capture restrictions against voluntary quitters from receiving UI
5. became unemployed within the 12 weeks preceding the survey

There are 444 unemployed workers that meet all five criteria. Although our primary analysis focuses on the sample that meets all five criteria, in some cases we use a broader sample which includes 61,827 *employed* workers that meet the first three criteria to improve statistical precision. Here is how we use each sample in each figure:

- Figures 1 and 6 -- Exclusively use the unemployed sample.
- Figures 3 and 7 -- In step 1, we calculate decile cutoffs of the earnings distribution using the unemployed sample. Then in step 2, within each decile, we calculate the median replacement rate using all workers (both unemployed and employed).
- Figure 4 -- We calculate the median weekly earnings in each occupation using the sample that meets the first three criteria. We then calculate the benefits for a worker with median earnings using our UI Benefit calculator.
- Figure 5 and Appendix Figure 1 -- We run quantile regressions of the form

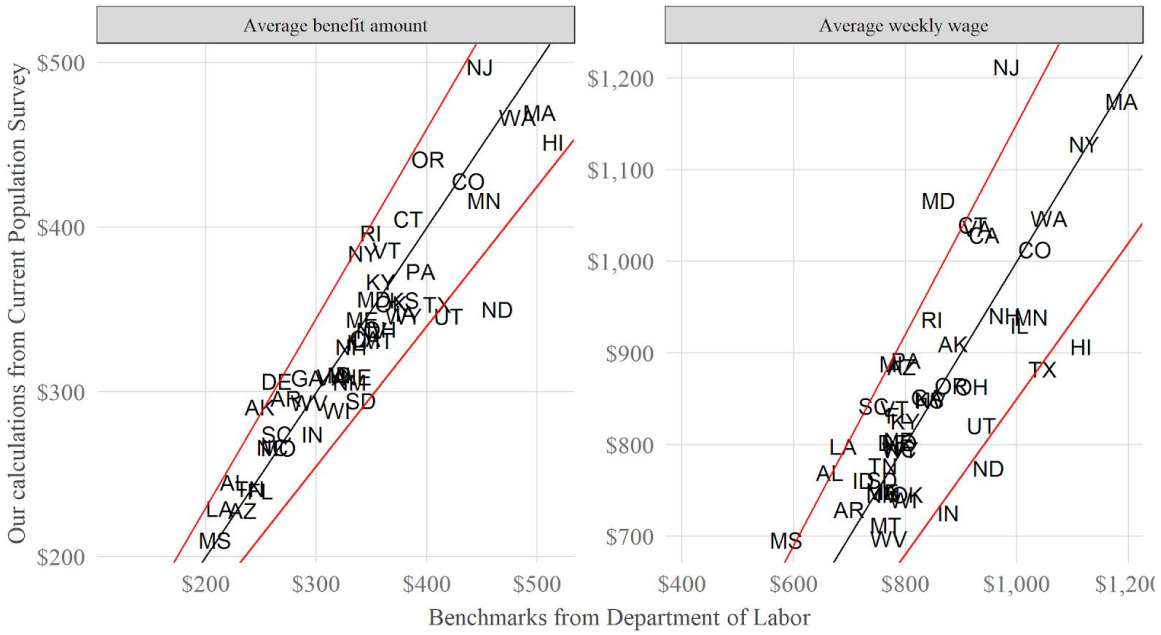
$$\text{Weekly earnings}_{ij} = \text{state}_j + \text{unemployed\_eligible}_i + e_{ij}$$

[10] We define average hourly earnings as earnings / (weeks worked * usual weekly hours). The federal minimum wage is $7.25.

using a pooled sample with the unemployed and employed. Unemployed_eligible$_i$ is a dummy variable for being in the unemployed sample. This specification assumes that state fixed effects and employment status enter additively into the determination of earnings. For each state we then predict vigintile boundaries for the unemployed sample. We reweight our pooled sample so that there are equal weights in each vigintile. We calculate the average benefits from this reweighted distribution.

Unemployment Insurance Benefits -- We construct estimates of the unemployment benefits received according to the "Significant Provisions of State Unemployment Insurance Laws" document produced by the US Department of Labor in January 2020. This document outlines the eligibility criteria and benefits schedules by state. Where states have multiple ways to qualify for unemployment benefits, we allow only the primary listed way in the document. We calculate the benefits amount for a single unemployed person with no dependents, taking 2018 as their base period. This gives us eligibility and benefits for an application using the standard base period that would be made in April through June of 2019. We do not consider eligibility through alternative base periods. To find the benefits under the CARES Act we add $600 to the benefits from January 2020 so benefit amounts will not reflect any changes to UI states have made since January 2020.

Appendix Figure 1 -- Comparison of our calculations to Department of Labor benchmarks

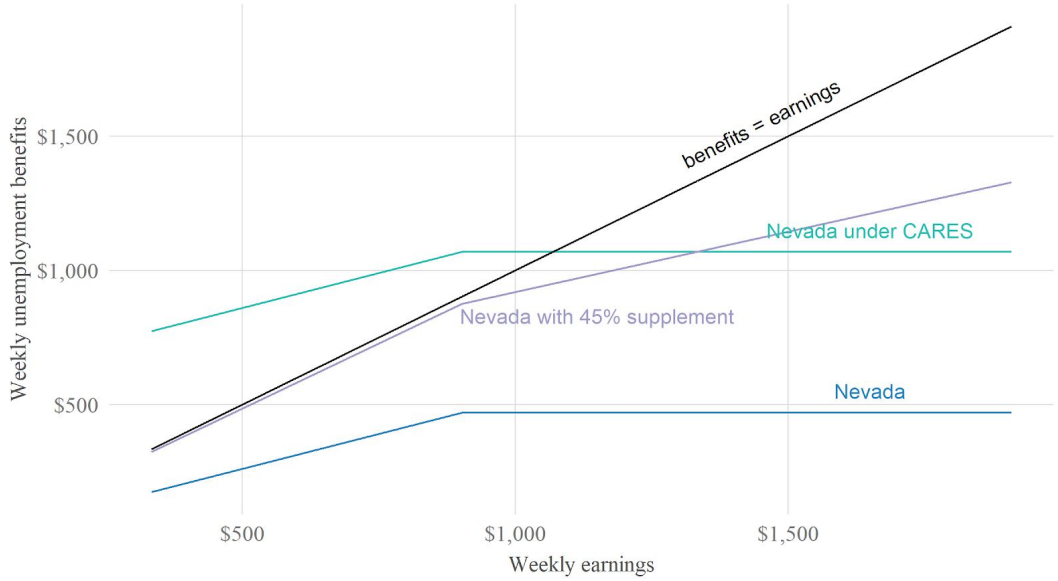


Notes: This figure shows how our estimates of average weekly benefits (pre-CARES) and average weekly earnings prior to separation among unemployed people eligible for UI compare to administrative data released by the Department of Labor. The black line marks out perfect equality and the two red lines plot a 15% error.

External validation -- We compare our estimates of statewide average benefits of likely UI claimants to estimates of the average benefits of actual UI claimants as reported by the Department of Labor. All but two states have actual benefits which fall within 15% of their estimated benefits. We also compare our estimates of the average weekly earnings prior to unemployment of likely UI claimants to average weekly earnings of actual UI claimants as reported by the Department of Labor. In this figure, there is more divergence between the estimated weekly

earnings and average weekly earnings. This may reflect measurement error in earnings and weeks worked in the CPS. However, the divergence is symmetric about the black line which marks perfect equality. Thus, we find no evidence that our methodology systematically overstates or understates the prior earnings of the unemployed.

Appendix Figure 2 -- UI Benefits vs. Earnings With a 45% Supplemental Replacement Rate



Notes: This figure compares unemployment benefits for various values of weekly earnings in Nevada under normal times and under the CARES Act, to benefits under a Supplemental Replacement Rate subsidy of 45%.

Appendix Table 1 -- Formulas for Supplemental Replacement Rate by State

Base period for earnings	Which states use this base period?	Supplement replacement rates by 45%
Average weekly wage	IL, IN, MA, NE, NJ, NM, OH, SC	0.450
One quarter	AZ, AR, CA, DC, FL, GA, HI, ID, IA, KS, KY, LA, MI, MN, MS, MT, NV, NY, OK, PA, SD, TX, UT, WI, WY	0.035
Two quarters	AL, CO, CT, DE, ME, MO, NC, ND, RI, TN, VT, VA, WA	0.017
Annual	AK, NH, OR, WV	0.009

Notes: States set their weekly benefit amounts as a function of prior earnings. Some states use the prior year, while others use one or two quarters. This table shows how each state's weekly benefit amount formula can be modified

to achieve different replacement rates. For example, for Arizona to increase its replacement rate by 40%, it would raise benefits by 0.031 times quarterly earnings.