

Understanding Unemployment Insurance Claims and Other Labor Market Data During the COVID-19 Pandemic

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Comments and suggestions welcome

Abstract

Weekly data on claims for unemployment insurance (UI) provide the highest-frequency official statistics on the state of the labor market and can be especially useful for understanding turning points in macroeconomic conditions. Monthly data on employment from the Current Employment Statistics program (the “establishment survey”) and the Current Population Survey (the “household survey”) provide additional detail on affected workers, industries, occupations, and regions, but with a longer lag. However, the nature of the COVID-19 pandemic and the policy response make interpreting these statistics more difficult than usual. This document poses and answers several questions to help readers understand new releases of UI claims and other labor market data.

*Email: kjrinz@gmail.com. All errors and opinions are mine alone. Thanks to Juliana Herman and Martha Gimbel for helpful comments. This document will be updated as necessary. The current version can be found at <http://kevinrinz.github.io/covid19.labordata.pdf>.

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1 How many people have filed for UI because of COVID-19?

As I write this, we have data on initial claims for UI from eight weeks that were completely or partially affected by widespread “social distancing” measures that have lead to the (at least) temporary closure or reduced operation of many business: the weeks ended March 14 through May 2. Table 1 below shows the number of initial claims received each week, as well as estimates of how many claims might have been filed in the absence of the COVID-19 pandemic under a few different sets of assumptions.

Table 1: Initial Claims for UI Filed Due to COVID-19

Week Ended	Actual Initial Claims (NSA)		Counterfactual Initial Claims (NSA)		
	Regular	PUA	2/2020 Average	3/2019 Average	Projected March 2020
March 14	251,416	0	213,808	189,378	188,359
March 21	2,920,162	0	213,808	189,378	186,250
March 28	6,015,821	0	213,808	189,378	184,773
April 4	6,211,406	0	213,808	202,238	198,062
April 11	4,964,568	0	213,808	202,238	199,960
April 18	4,281,648	218,873	213,808	202,238	203,335
April 25	3,495,703	780,866	213,808	202,238	191,734
May 2	2,849,090	583,699	213,808	195,606	189,625
Total	30,989,814	1,583,438	1,710,464	1,572,692	1,542,098
Due to COVID-19			30,862,788	31,000,560	31,031,154

Note: Figures in the “Actual Initial Claims (NSA)” column are the total claims filed for regular state programs and the Pandemic Unemployment Assistance program, not seasonally adjusted, as of the May 2, 2020 release. Figures in “2/2020 Average” average column are based on the average of all weeks ended in February 2020. Figures in the “2019 Average” column are based on the average claims in the same month in 2019 (excluding the first two weeks of March 2019 for that month). Figures in the “Projected March 2020” column are estimated using the number of initial claims filed in the week ended March 7, 2020 and the seasonal factors for the three weeks considered, assuming no deviation from the expected seasonal pattern.

About 31 million people have filed initial claims for UI under regular state programs in the last eight weeks. Another 1.6 million have filed under the Pandemic Unemployment Assistance (PUA) program for people who would not normally be eligible for regular state programs. That brings the total number of initial claims to 32.6 million. However, some number of people would have filed for UI during these weeks under ordinary circumstances. We have no way of knowing how many people that would have been, but a few reasonable approaches to guessing indicate that just under 1.6 million total initial claims would have been filed during this period absent the pandemic. Therefore, about 31 million additional

claims have been filed in the last eight weeks beyond what we might have expected to see. Causal inference is a tricky business, but this seems like a reasonable guess as to the change in initial claims due to COVID-19.

Note that this is the number of claims filed due to COVID-19, not the number of people who have filed claims, since some people may have filed multiple claims. Some states encouraged people to file claims they expect to be denied under regular UI programs to document their ineligibility while states got set up to handle claims under programs set up specifically in response to the pandemic (discussed below). The total number of initial claims is therefore an upper bound on the number of people who have sought UI due to COVID-19. There is not a good, high-frequency, direct measure of the number of people who have filed for UI.

2 I've seen news reports with bigger numbers than that. What are those numbers?

Larger numbers are probably generated by a combination of 1) not subtracting out the claims that would have been filed anyway, and 2) considering the seasonally adjusted number of initial claims filed each week. However, some reports have ignored the 1.6 million PUA claims, which were first reported in the release covering the week ended May 2. As the table above shows, not subtracting out claims that would have been filed anyway reduces the total number of claims filed by about 1.6 million. Using seasonally adjusted (SA) numbers instead of not seasonally adjusted (NSA) numbers increases the total by 2.8 million. So you might have seen numbers up to about 33.8 million that are based on interpreting real data somewhat differently. The differences between 31 million, 32.6 million, and 33.8 million are large in some senses and small in others, but whichever number you go with, a lot of claims were filed in recent weeks.

3 Seasonal adjustment? What? Which UI numbers should I be paying attention to?

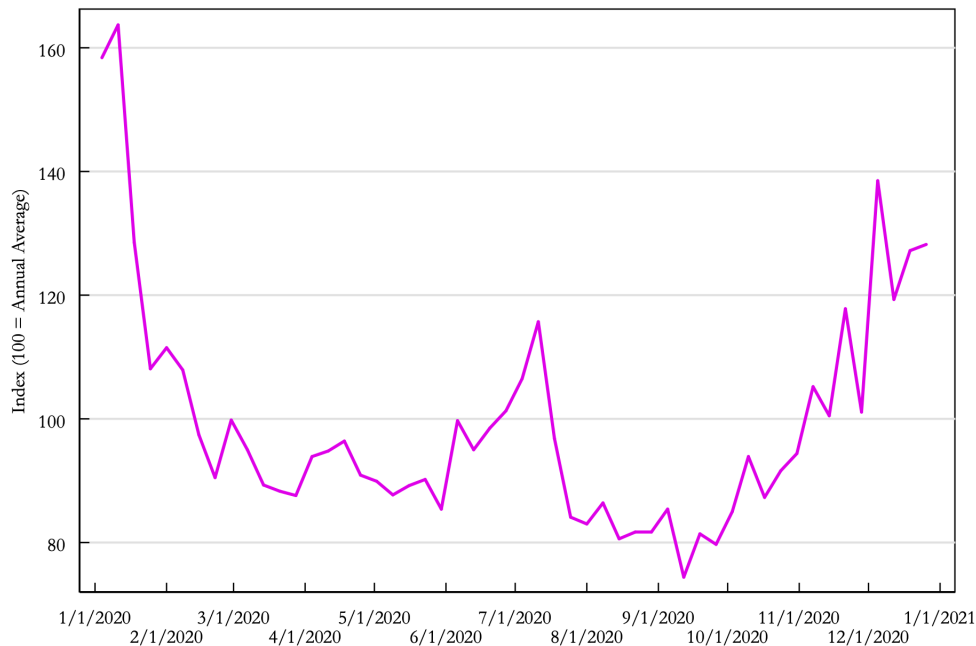
Good question. The short answer is that you should primarily be paying attention to the not seasonally adjusted numbers.

The long answer involves first asking another question: what is seasonal adjustment and why do we do it?

Many kinds of economic activity follow distinct seasonal patterns that are pretty consistent year after year. For example, a large number of people are hired in the run-up to the

holiday shopping season every year, and then laid off after Thanksgiving, later in December, and at the beginning of the new year. This results in consistently higher than average levels of initial claims for UI in December and January. Figure 1 shows the Employment & Training Administration (ETA)’s expected weekly pattern of initial claims for unemployment insurance over the course of 2020.¹

Figure 1: Expected Seasonal Pattern of Initial Claims for Unemployment Insurance, 2020



Source: United States Department of Labor, Employment & Training Administration, seasonal factors used in seasonal adjustment of initial claims for unemployment insurance (<https://oui.doleta.gov/unemploy/claims.asp>)

To help data users understand when changes in a given series are unexpected, we “seasonally adjust” the data by taking out the changes we expect to happen throughout the year. In the case of UI initial claims, this is done by dividing the number of claims actually received each week (the not seasonally adjusted, or NSA number) by a decimalized version of the index plotted in Figure 1, also known as the “seasonal factors” (SF) for initial claims, to get the seasonally adjusted (SA) number of claims:

$$SA = \frac{NSA}{SF/100}$$

¹Estimating these seasonal patterns is complicated in general and can be especially difficult for weekly data, since several holidays do not have the same date every year. An example of work on this subject done by researchers at the Federal Reserve and the BLS can be found [here](#).

If the seasonal factors predict a 20 percent decline in initial claims between one week and the next, and NSA initial claims in fact decline by 20 percent, the SA number of claims for the two weeks will be the same, indicating that expected seasonal patterns account for the full change in initial claims between the two weeks. Going in the other direction, if the SA number of claims increases by 10,000 between week one and week two, that means that the change in initial claims between the two weeks was 10,000 claims larger than expected.

The expected seasonal pattern of initial claims includes weeks that range from about 60 percent above the average weekly number to about 25 percent below it in 2020. March, April, and May generally see fewer initial claims than the average week (i.e. the seasonal factors for these weeks are less than 100), so the seasonal adjustment process scales the NSA claims totals up by about four to 17 percent, depending on the week. But of course, the seasonal adjustment algorithm did not predict the global COVID-19 pandemic. Initial claims for the week ended March 21 were more than 1100 percent higher than the prior week, and they were nearly another 100 percent higher still for the week ended March 28. The magnitude of the real change in economic activity that has accompanied the social distancing measures taken across the country completely swamps the magnitude of normal seasonal changes, and it is clearly driven by non-seasonal COVID-19-related precautions. Applying seasonal adjustment to the data in this context arguably inhibits our ability to understand the underlying activity rather than enhancing it. For this reason, we should primarily be paying attention to NSA claims data.

Another reason to focus on NSA claims data has to do with the multiplicative nature of the seasonal adjustment procedure that is used in this setting. During the spring in recent years, seasonal adjustment has typically increased the NSA initial claims total by up to roughly 10 to 15 percent, adding (sometimes much) less than 30,000 claims per week to a base of roughly 200,000 to 300,000 claims. This is not an especially large number of claims in absolute terms. But this spring, with millions of NSA claims filed per week, the absolute number of claims “added” by the same 10 to 15 scaling up can be quite large. In the week ended March 28, the SA initial claims total was more than 800,000 greater than the NSA total. Differences of this magnitude can be meaningfully misleading, especially when aggregated over several weeks.

Finally, now that the weekly releases are reporting claims under the Pandemic Unemployment Assistance and Pandemic Emergency Unemployment Compensation programs, NSA numbers should be preferred because they can be easily combined with numbers from these programs, which can’t be seasonally adjusted because they have only existed for a few weeks. In general, SA and NSA estimates shouldn’t be added together; it’s not clear what the sum means if only one of the components has been seasonally adjusted. Under current circum-

stances, it is important to include claims from these programs in counts of total claims because these programs target people who are not normally eligible for UI but who have lost work because of the pandemic. Including these programs in counts of total claims helps bring UI data closer to capturing the full set of people affected by the pandemic, and excluding them misses an important part of the picture for no reason. To get the full picture, you should add NSA claims from regular state programs to NSA claims under PUA.

If that didn't help, try thinking of it this way. The SA numbers are the "economic indicator" version of the data, adjusted to more clearly show if/when things are deviating from normal. The NSA numbers are the literal version of the data, telling us how many people are actually filing claims. Right now, we don't need any statistical help to see that things aren't normal, the tools we usually use to generate it aren't well-suited to this situation, and the we care about the actual number of people affected for both emotional and policy reasons. All these factors should lead us to focus on NSA numbers at the moment.

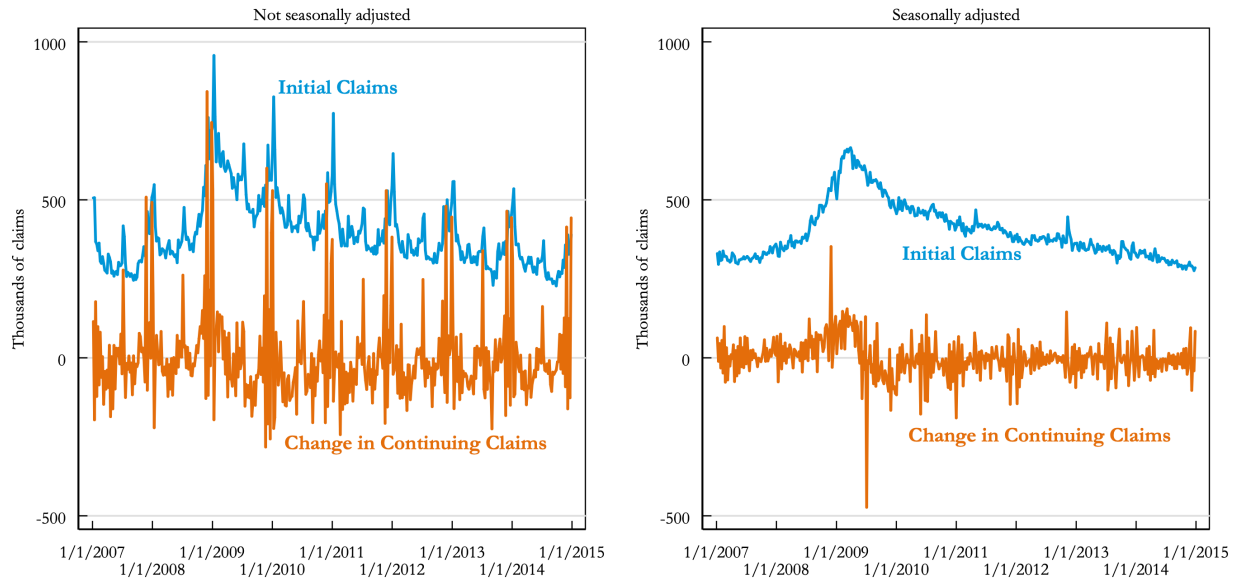
4 How do initial claims data relate to continuing claims data? Should these number make sense together?

Initial claims measure the flow of people into the UI system, while continuing claims measure the stock of people in the the UI system. These numbers should make a reasonable amount of sense together (e.g. if there are a lot of initial claims one week, continuing claims should probably go up the next week), but the change in the stock of UI recipients from week to week will not generally be equal to the number of initial claims that week.

One reason that the change in continuing claims is not generally equal to the number of initial claims is that people also leave the UI system each week. Someone might stop receiving UI because they found a new job, exhausted their benefits, became ineligible (e.g. stopped looking for work), or even because they chose to stop (e.g. to preserve them for later). Under ordinary circumstances, hundreds of thousands of people exit the UI system each week (even during the relatively slow recovery from the Great Recession), so there has generally been a decently large gap between the number of initial claims and the change in continuing claims in a given week, as shown in Figure 2. Thinking about these routes out of UI in light of current conditions, it seems unlikely that there would be a lot of job-finding going on lately, and we wouldn't have much reason to expect exhaustions to have changed substantially, except to the extent that some of the people who might have found jobs over the last few weeks but didn't because of COVID-19 were near the end of their benefits.

Another reason is that not every initial claim becomes a continuing claim. Some claims

Figure 2: Initial Claims vs. Change in Continuing Claims, 2007–2014



Source: U.S. Employment and Training Administration, Initial Claims [ICSA], <https://fred.stlouisfed.org/series/ICSA>, and Continuing Claims [CCSA], <https://fred.stlouisfed.org/series/CCSA>, retrieved from FRED, Federal Reserve Bank of St. Louis, April 16, 2020.

get denied. This may have been especially relevant recently, if people who might be able to receive benefits under the broader eligibility rules of the federal Pandemic Unemployment Assistance program discussed below submitted their claims before states had guidance on how to handle them, leaving states little choice but to deny these claims under their regular UI programs. It's also possible that it may take longer for an initial claim to become a continuing claim during this recent very high volume period.

It's difficult to know how substantially the current circumstances are affecting the relationship between initial claims and continuing claims. It's likely, given the creation of the PUA program, that states are seeing more claims from people who would not normally be eligible for regular state UI benefits. In the short run, this could lead to higher denial rates than usual for initial claims that arrive before implementation of PUA is fully worked out. Over the longer term, though, denial rates could be lower than usual if the availability of PUA induces additional claims that are very likely to be approved or leads to the approval of claims that would have been filed anyway but would have been denied under regular state program rules. Combined with potential processing lags, the continuing claims data could remain a bit murky until the initial claims data stabilize.

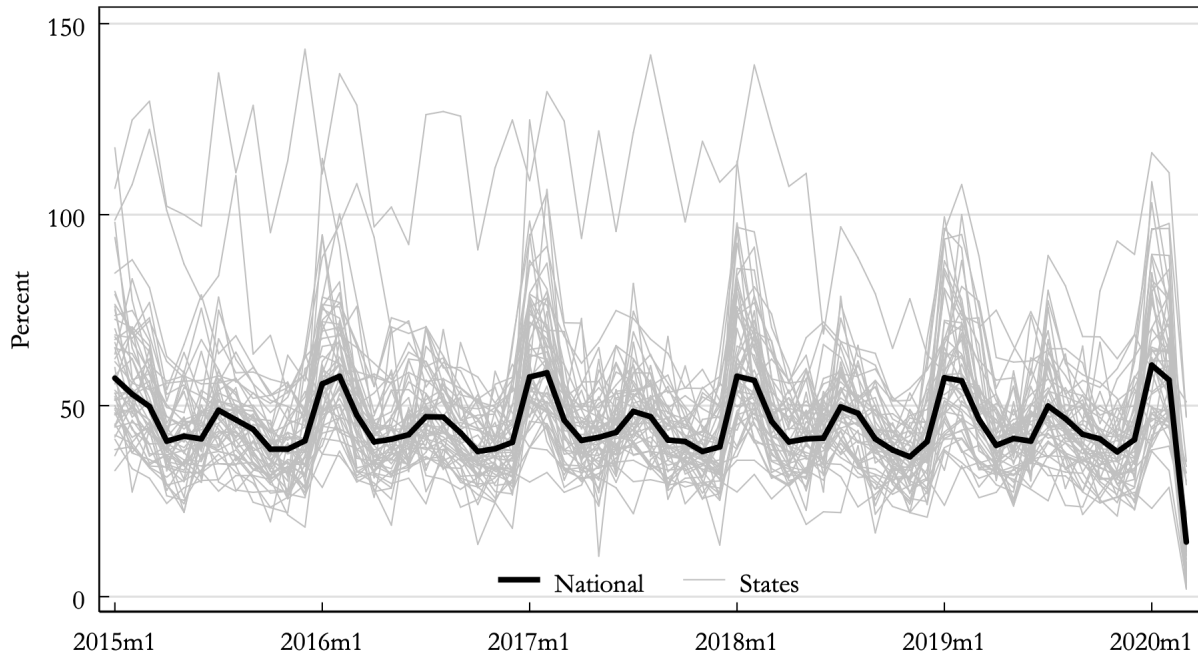
Other data reported by states might help us get a more direct sense of the how many people have actually started receiving UI, which I think is the big question people are trying to use continuing claims to back out an answer to. These data are only reported monthly, so they can't tell us how things are going on anywhere close to a real-time basis, but they do capture different aspects of how well the UI system is handling the influx of claims.

One relevant measure that states report on a monthly basis is the number of people receiving "first payments" of UI benefits. First payments are almost what they sound like (initial instances of a person actually being paid UI benefits), but with a few caveats. Not everyone who starts receiving UI shows up in the first payments measure at the time, often for administrative reasons. For example, first payments are determined with respect to a person's benefit year, so someone who had been on UI recently, found a job, and is now applying again because of COVID-19 had their first payment when they went on UI initially and likely won't show up in this measure now. As a result, this measure will represent a lower bound on the number of people who have started receiving UI benefits.

Considering first payments does have important advantages. They track an object of intense interest (payments of UI benefits) directly, and they are not subject to the same kinds of uncertainty as claims data (e.g. not all continuing claims are approved). For context, it makes sense to consider the number of first payments made in a given month relative to the number of initial claims received, though this ratio is not literally the share of claims received in a month that were paid (some first payments made at the beginning of a month will naturally be on claims made at the end of the previous month, and claims filed late in the month could not be paid immediately even under ideal circumstances).

Figure 3 shows recent state and national trends in first payments as a share of initial claims. This measure is fairly seasonal and differs substantially across states, but nationally, it generally hovers around 50 percent. In March, the most recent month for which data are available, it plummeted to 14.3 percent. In March of 2019, it was 46.4 percent. The fact that the boom in initial claims began in the second half of March kind of stacks the deck against states on this measure, since the first half of the month was basically normal and then they were hit with a huge number of claims that they had very little chance of paying by March 31. However, this does suggest that relatively few claimants were receiving benefits in a timely fashion in late March. When data are available for April, we will have a better idea of how much of this is just longer lags than usual between submitting a claim and benefits being paid (in the 12 months ended February 2020, about 55 percent of initial claims that were paid were paid within one week of the date that the claimed week ended) and how much of it is more denials than usual (since states may not initially have been equipped to process newly eligible claimants). If delays are the driving factor, we should expect to see

Figure 3: First Payments as Percent of Initial Claims, Recent State and National Trends



Source: U.S. Employment and Training Administration

this ratio well above its normal levels in April as processing of early initial claims catches up and the volume of new initial claims declined over the course of the month.

5 Do you have to be unemployed to get UI? Or get UI to be unemployed? I'm confused.

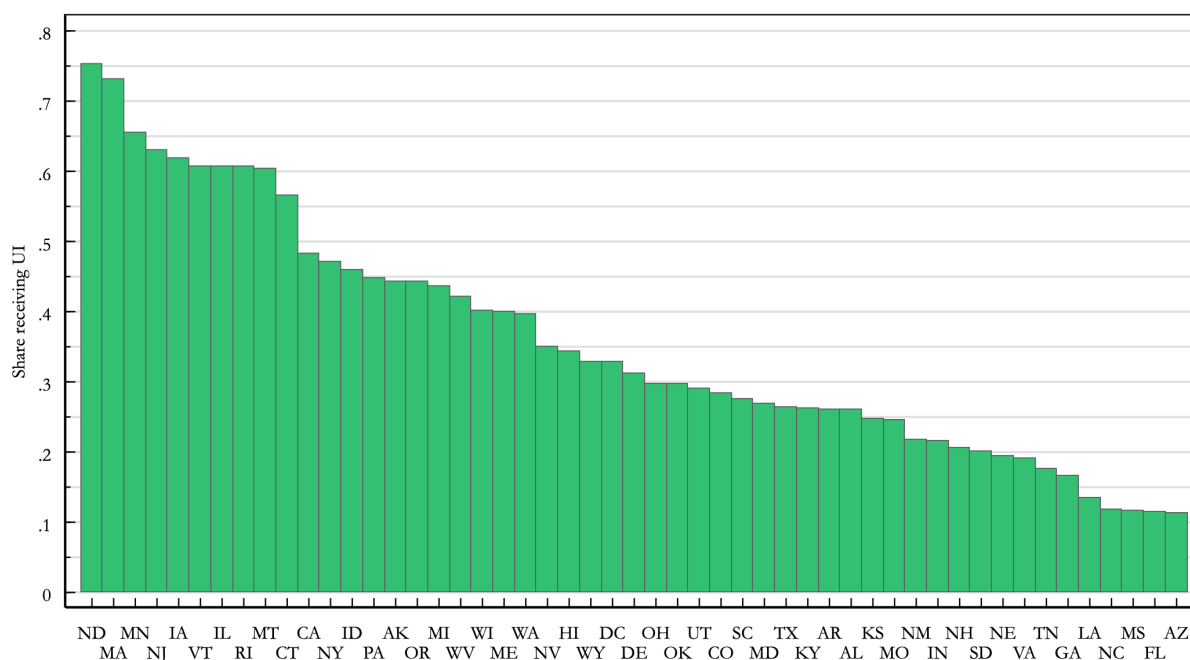
I understand, and I'm here to help. Despite using the same word, fitting the formal definition of “unemployed” and receiving unemployment insurance are distinct concepts determined by completely different entities. You do not have to be formally unemployed in order to receive UI, nor do you have to receive UI in order to be considered unemployed.

In order to be officially counted as unemployed, you must 1) not have a job, but be available for work, want a job, and be actively searching for one, or 2) be on temporary layoff from a job. If you don't have a job, how you ended up without a job (i.e. whether you got laid off, quit, started looking for work after completing school, returned to work after caring for a relative, etc.) does not figure into whether you are technically unemployed; all that matters is whether you can and want to work, and that you are actively looking for a

job. This definition is determined by the Bureau of Labor Statistics (BLS) and goes back to at least 1948.

In general, in order to receive unemployment insurance benefits, you have to satisfy the requirements set by the state in which you work. There is a lot of variation across states in these requirements, but some types are used consistently. States typically require that UI recipients be on temporary layoff or have lost their job through no fault of their own (i.e. they cannot have quit or been fired for cause), be actively looking for work, and have had sufficiently high earnings over some period prior to applying for UI.² In some cases, workers who have seen their hours reduced but who have not been laid off can receive benefits through their state's UI system. Certain categories of workers (e.g. gig workers, independent contractors, self-employed workers, who do not pay the employer-side payroll tax that finances the UI system) are generally not eligible for UI benefits even if they meet the job search, no-fault, and earnings history conditions laid out for traditional employees.

Figure 4: Share of Unemployed Workers Receiving UI, February 2020



Source: U.S. Bureau of Labor Statistics and U.S. Employment and Training Administration. Figure plots mean continuing claims for unemployment insurance for weeks ended in February 2020 divided by the total number of unemployed workers for that month in each state.

Given these two sets of rules, there are some clear groups who can be considered un-

²More information on state UI laws can be found [here](#).

employed but generally cannot receive UI (e.g. people who quit their previous jobs, gig workers). Similarly, there are other, generally much smaller groups who can receive UI benefits but cannot be considered unemployed (e.g. workers whose hours have been reduced). The [Coronavirus Aid, Relief, and Economic Security \(CARES\) Act](#) has broadened UI eligibility rules during the COVID-19 pandemic, so some additional groups of unemployed workers may become temporarily eligible for UI, but in general, fitting the formal definition of unemployed is neither necessary nor sufficient to receive UI benefits, and vice versa.

On top of eligibility, there is the issue of take-up. No one is required to file for UI benefits. As Figure 4 shows, it is far from the case that all unemployed workers receive UI. Between differences across states in eligibility and take-up, the share of unemployed workers actually receiving UI in February 2020 ranged from only 11 percent in Arizona and Florida to about 75 percent in North Dakota, with 40 states and the District of Columbia below 50 percent. The set of people receiving UI while continuing to work reduced hours is small enough during this period to ignore for the sake of this comparison.

6 How does the CARES Act change UI eligibility during the COVID-19 pandemic?

This is actually two questions: 1) what does the CARES Act say about who is eligible for UI during the COVID-19 pandemic, and 2) how will the Department of Labor (DOL) and state UI agencies implement the law?

Let's deal with the letter of the law first. The CARES Act creates the Pandemic Unemployment Assistance (PUA) program to provide UI benefits to workers who need support due to the pandemic but do not meet traditional eligibility requirements for regular state programs. This includes otherwise eligible workers who have limitations or responsibilities imposed by the pandemic that prevent them from meeting some requirements of regular state UI programs (e.g. those who are unavailable for work due to caregiving responsibilities, those who quit their jobs because of the pandemic, those who are sick themselves), as well as workers who would generally not be eligible for regular UI benefits (e.g. those who are self-employed or have insufficient work histories).³ As enacted, the PUA program provides up to 39 weeks of coverage and lasts through the end of calendar year 2020. If the law is read broadly, PUA could cover a very large share of people who have been unable to work due to the COVID-19 pandemic.⁴

³For full details, see section 2102(3) of the law.

⁴Notably, undocumented immigrants are [not eligible](#) for regular UI benefits or PUA.

Whether it actually will or not depends on how it is implemented. There are signs that DOL will not make PUA benefits as accessible as they could be. For example, in [guidance issued April 5](#) and described by some observers as “[narrow](#)”, the department points out that individuals who are eligible for PUA because they are providing care for children who are at home because their schools have closed are no longer in that situation once the date that the school year was scheduled to end has passed. It also points out that “Generally, an employee ‘has to quit’... only when ceasing employment is an involuntary decision compelled by the circumstances identified in the section,” suggesting that quitting because one merely feels uncomfortable or unsafe continuing to work may not be sufficient for PUA eligibility. The guidance also implies that, for gig workers like Uber or Lyft drivers, lack of demand for services may not be sufficient for PUA eligibility, suggesting instead that such workers might be eligible if orders by local authorities force them to suspend operations.

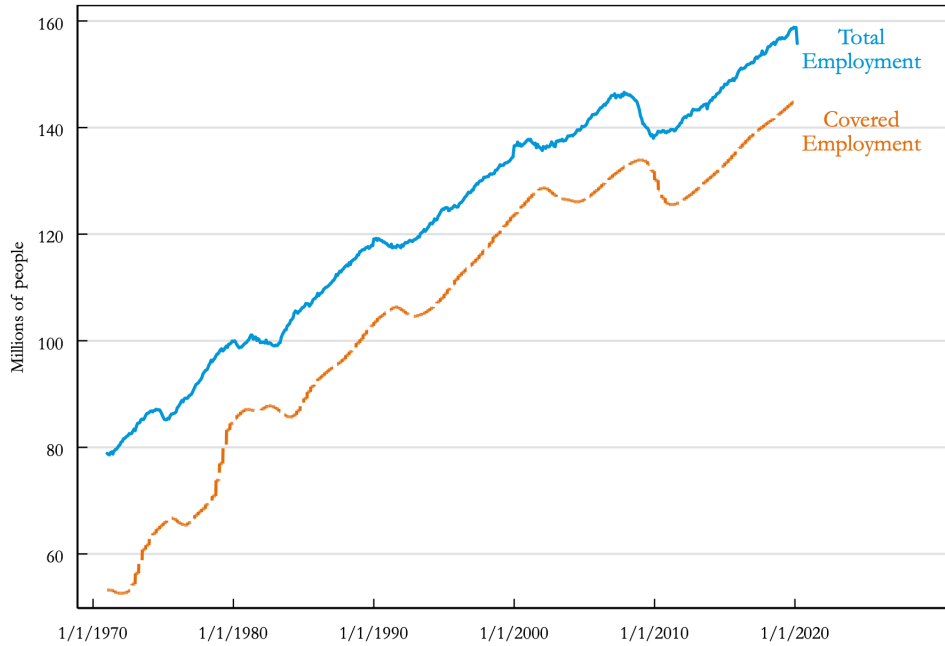
It remains to be seen how states implement this guidance. So far, states have reported problems handling both the [volume of claims](#) and the [changes in eligibility](#).

7 Does the CARES Act change how we should interpret UI claims data?

Mostly no, but a little bit yes. The weekly UI claims data release will continue to report the number of people filing claims under regular state programs, which is the type of program that essentially all claims have been filed under so far. As of the release covering the week ended May 2, claims under the Pandemic Unemployment Assistance and Pandemic Emergency Unemployment Compensation programs are reported separately from claims under regular state programs. Now, getting the total number of claims filed each week involves adding up numbers from a couple different lines. That’s pretty simple, though. I don’t think you’ll get confused by that. I believe in you. This is all the “mostly no” part of the answer. One UI claim is still one UI claim, whichever line of the release it appears on.

Now for the “a little bit yes” part. Immediately after the pandemic started, the set of people who can claim UI has been basically fixed. As mentioned above, the set of people who can claim UI is smaller than the set of people who work. Figure 5 plots trends in the number of people who report being employed in the CPS and the total number of people who could potentially claim UI if they were to lose their jobs and met their state’s other eligibility requirements (this is called “covered employment”). The gap between these two lines is typically millions of people. The CARES Act both extends UI eligibility to people in that gap and eases requirements (like earnings history and job search requirements)

Figure 5: Total vs. Covered Employment



Source: U.S. Bureau of Labor Statistics, Employment Level [CE16OV], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/CE16OV>, April 6, 2020; U.S. Employment and Training Administration, Covered Employment [COVEMP], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/COVEMP>, April 6, 2020.

that prevent covered employees from being eligible. Combined, these changes could make UI benefits accessible to many millions of additional workers. Going forward, once these eligibility expansions are put into practice, additional claims represent not just increased take-up among previously eligible workers, but also take-up among newly eligible workers. So, more claims of course still reflect additional beneficiaries, but keep in mind the larger pool of potential claimants if making comparisons over time.⁵

The reporting of PUA claims has also at least temporarily complicated interpretation of state-level claims data. As of the release covering the week ended May 2, only 23 states were reporting PUA claims. The release does not identify which states are reporting PUA claims or provide numbers of PUA claims by state. One would think that eventually all states will report claims and state-level numbers will be released. For the time being, though, it is not possible to construct the number of initial claims filed in a given state in any of the least few weeks. It is also unclear how states that are not reporting PUA claims are handling claims that would be reportable as PUA claims if they were reporting them. Are those

⁵In general, it is always wise to consider how the set of potential claimants is changing when making comparisons between UI claims numbers from substantially different time periods.

claims still included in the numbers reported under regular state programs? If so, regular program numbers for states not reporting PUA claims mean something different than regular program numbers for states that are reporting PUA claims. And we don't know which states are which. This limits the usefulness of comparing claims data across states beginning with the week ended April 18, the first week with PUA claims reported.

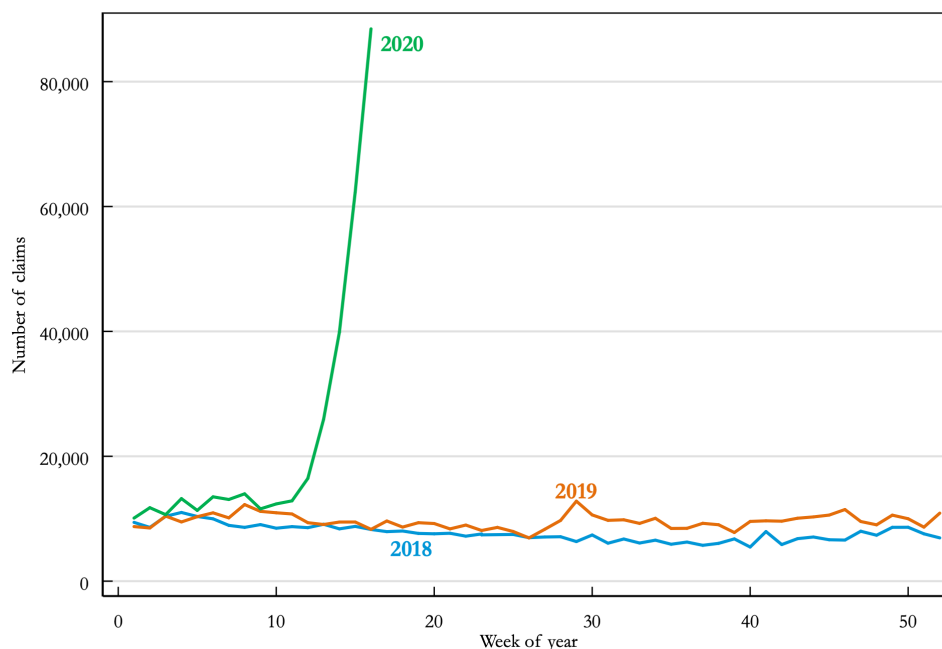
8 Are there any other significant UI-related provisions of the CARES Act?

For people who are eligible for UI benefits under regular state programs, the CARES Act provides \$600 per week on top of their normal weekly benefit. This supplement is available for up to four months. This provision was designed to increase the share of lost earnings replaced by UI benefits. It may prove especially helpful to workers who ordinarily receive tips, whose regular benefit calculation may not have fully captured their usual earnings. The CARES Act also pays the first week of UI benefits for states that waive any waiting periods they may ordinarily have in place before claimants start receiving benefits, which should help get money into people's hands more quickly. It also created the Pandemic Emergency Unemployment Compensation program, which provides 13 weeks of benefits, with the \$600 supplement, to workers who have exhausted their eligibility under other programs.

Another program the CARES Act aims to enhance is the Short-Time Compensation (STC) program. STC allows businesses to create plans to reduce workers' hours rather than laying them off, with the UI system replacing some of workers' lost earnings. The CARES Act provides funds to both cover benefits paid under STC programs and help states set them up during the COVID-19 pandemic. STC programs could prove especially useful during the recovery from the pandemic because they allow businesses to maintain connections with their workers while providing workers with financial support during times of decreased demand. These connections between businesses and workers could help economic activity return to normal more quickly once shelter-in-place restrictions are lifted. STC claims also appear on their own line in the weekly UI release, so if states expand existing programs or set up new ones, we will be able to see how many employment relationships they have helped maintain.

Figure 6 shows that use of STC has already increased dramatically compared to recent years, but the level of claims remains very low (only about 88,000 for the week ended April 18) compared to regular UI programs.

Figure 6: Short-Time Compensation Claims



Source: U.S. Employment and Training Administration.

9 What if the economic fallout from the pandemic lasts longer than the assistance provided by the CARES Act?

If the pandemic results in a long period of high unemployment, the Extended Benefits (EB) program will kick in to provide additional weeks of UI benefits to workers ordinarily covered by regular state programs. The EB program “triggers on” in a state when its unemployment rate crosses a certain threshold and provides up to 20 additional weeks of UI benefits.

The EB program does not automatically continue the additional assistance provided by PUA if the unemployment rate rises and remains high. For those benefits to continue, Congress would have to take further action. I’m not here to forecast what what Congress will do. However, in every recession going back to 1972, Congress has created and then also extended a special federal UI program to provide benefits beyond those provided by states and EB.⁶ The EUC program created in 2008 was revised or extend 13 times before it lapsed at the end of 2013.

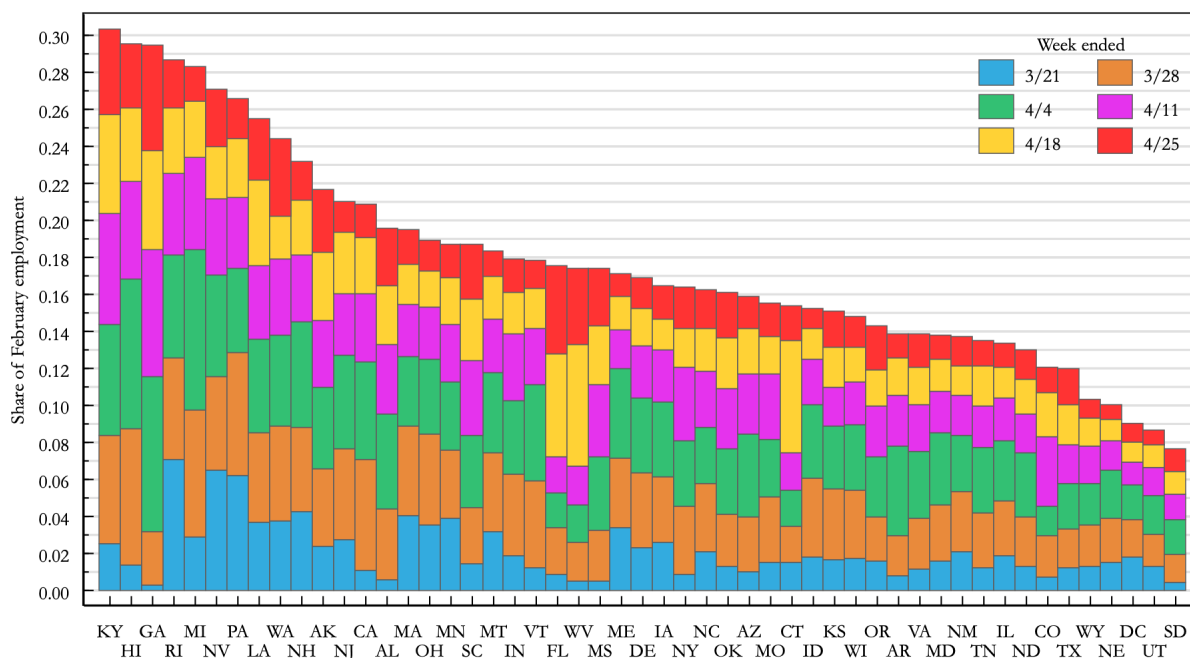
⁶See Appendix Table 1 [here](#).

10 Is the number of UI claimants a good proxy for the number of people economically affected by COVID-19? Or for how well states are providing assistance?

Note: This section makes several comparisons across states using initial claims data. For reasons discussed above, interpretation of such comparisons is complicated for recent weeks by uncertainty around reporting of PUA claims. These comparisons will be updated when that uncertainty is resolved.

Right now, you can think of the sum of initial claims for UI since the week ended March 14 as roughly our best available lower bound on the number of people economically affected by COVID-19. As discussed in previous questions, some affected people may not be eligible for regular UI benefits, may not have attempted to file yet, or may not have been able to complete their filing due to overwhelmed state UI offices. Moreover, people may be suffering economically due to the pandemic without having lost their jobs.

Figure 7: Cumulative Initial Claims, Weeks Ended March 21 through April 25



Source: U.S. Bureau of Labor Statistics and U.S. Employment and Training Administration. Figure plots initial claims for UI from weeks ended March 21 through April 25 in each state divided by the total number of employed workers in each state from February 2020.

If we want to focus on the narrower question of how many people have been laid off due

to COVID-19 (as distinguished from the first question in this document, how many people have filed for UI because of COVID-19), the initial claims data received so far still probably represent something like a lower bound. Eligibility is again a consideration, but even setting that aside, states' limited abilities to take in the overwhelming volume of incoming UI claims over the last three weeks leaves us with an incomplete picture of how many people have been laid off and are trying to file for UI, so far unsuccessfully. Because UI systems and the ability to take in claims differ across states, this is an especially important consideration when comparing UI data across states. As Figure 7 shows, there is enormous variation across states in the number of claims received in late March/early April as a share of the prior month's employment. These numbers look especially bad for states like Michigan, Rhode Island, Pennsylvania, Nevada, and Hawaii, which lost more than 17 percent of employment in three weeks by this measure.

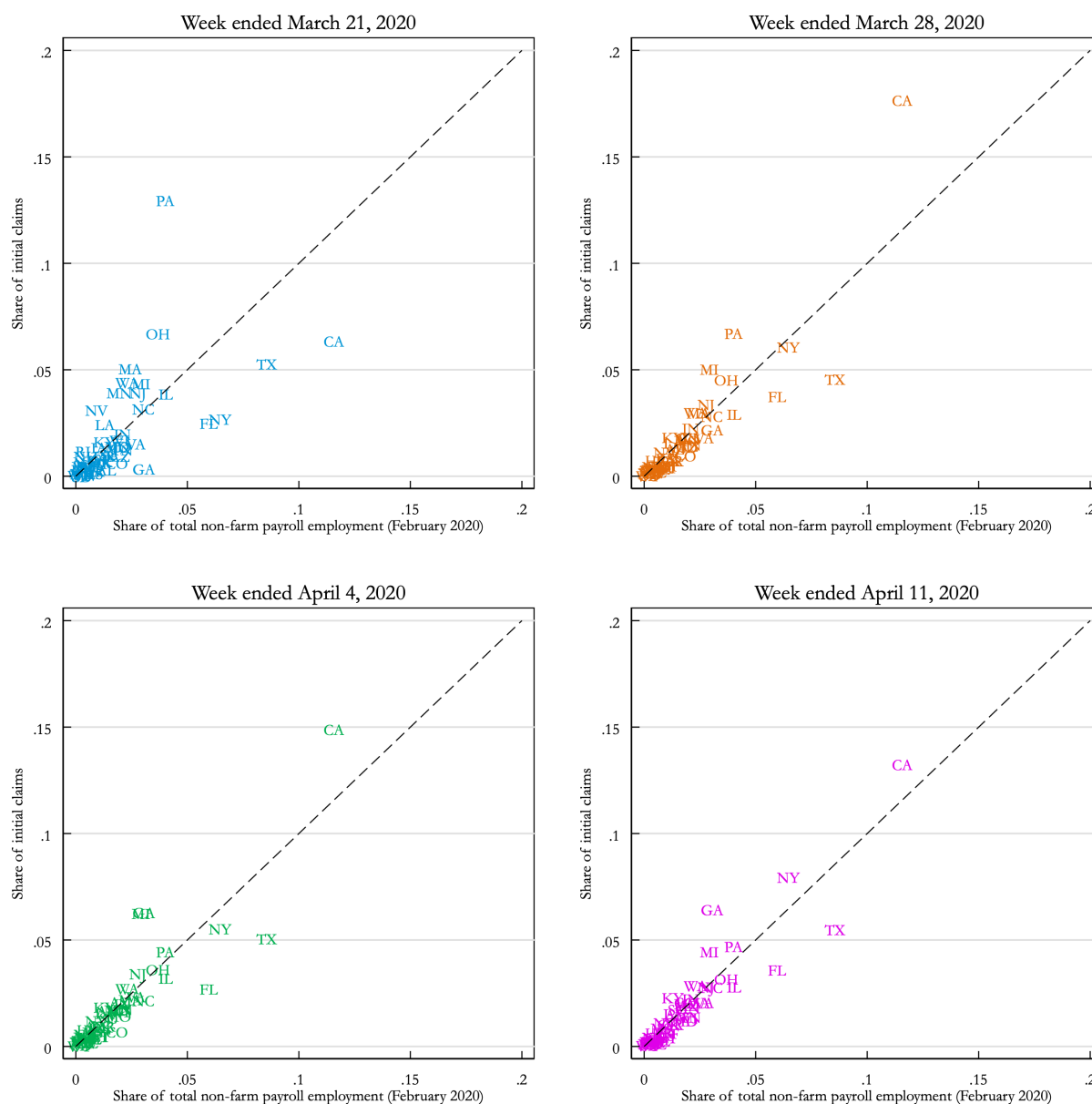
However, given that the industries most severely impacted during the early stages of the pandemic (food services and retail) are not especially concentrated in any particular states, let alone those that appear to be hit hard according to this measure (indeed, these industries are fairly geographically diffuse and tend to be located wherever there are people), it's reasonable to wonder whether states like Pennsylvania have in fact been especially hard hit or if instead they have been especially effective at receiving claims.⁷ Figure 8 compares states' shares of initial claims in March to their shares of employment in February one week at a time and reveals that several of the states that appear to have lost the greatest shares of employment in Figure 7, including Pennsylvania, accounted for disproportionately large shares of total initial claims given the size of their work forces. Coupled with media reports on which states have been relatively effective (and ineffective) at receiving claims, these figures suggest that this capacity may play a major role in differences across states so far.

[Pennsylvania](#), for example, is among the states that have received claims well. In the first big week of initial claims, its share of initial claims was much larger than expected based on its share of employment. As it maintained its intake capacity and other states caught up over the next two weeks, Pennsylvania's share of total initial claims has returned to normal. In [Florida](#), on the other hand, things started out so poorly that the state UI agency reverted to paper applications. In each of the first three weeks of substantial claims activity, Florida took in less than its expected share. Texas has also received a consistently lower share of total initial claims than expected based on employment. Encouragingly, Figures 7 and 8 also suggest real improvement in processing in some states, including Alabama, California,

⁷As a caveat to the following analysis, note that if the intensity of exposure to COVID-19 or protective measures taken against it differ across states, differences in claims received may also reflect differences in economic conditions rather than/in addition to differences in intake capacity.

Georgia, Hawaii, and New York.

Figure 8: State Initial Claims Shares vs. Employment Shares

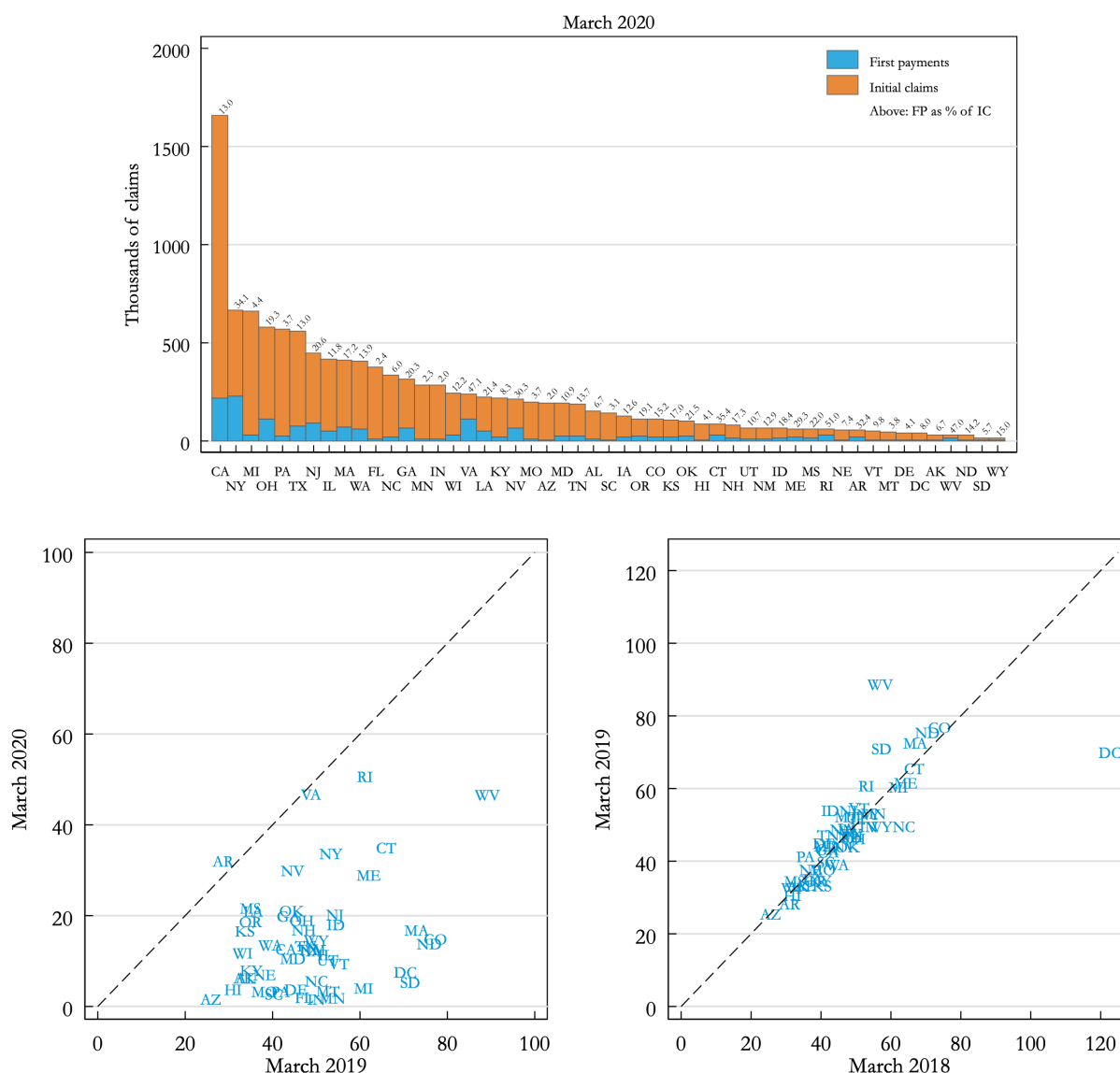


Source: U.S. Bureau of Labor Statistics and U.S. Employment and Training Administration. Figure plots each state's share of total initial claims for UI from weeks ended March 21 through April 11 against its share of total payroll employment from February 2020.

Over time, the cumulative number of initial claims will likely become a worse lower bound on the number of people affected. Some people will submit initial claims if their first tries were denied. This is likely to become a more significant issue if/when we reach a point

where states are fully capable of receiving and processing PUA claims from people who are not usually eligible for UI under regular state programs. Some states have been encouraging these workers to apply for benefits and get denied so that they have documentation of their ineligibility when the PUA programs get up and running, and these workers are very likely to file additional initial claims at that point.

Figure 9: First Payments as Percent of Initial Claims, by State



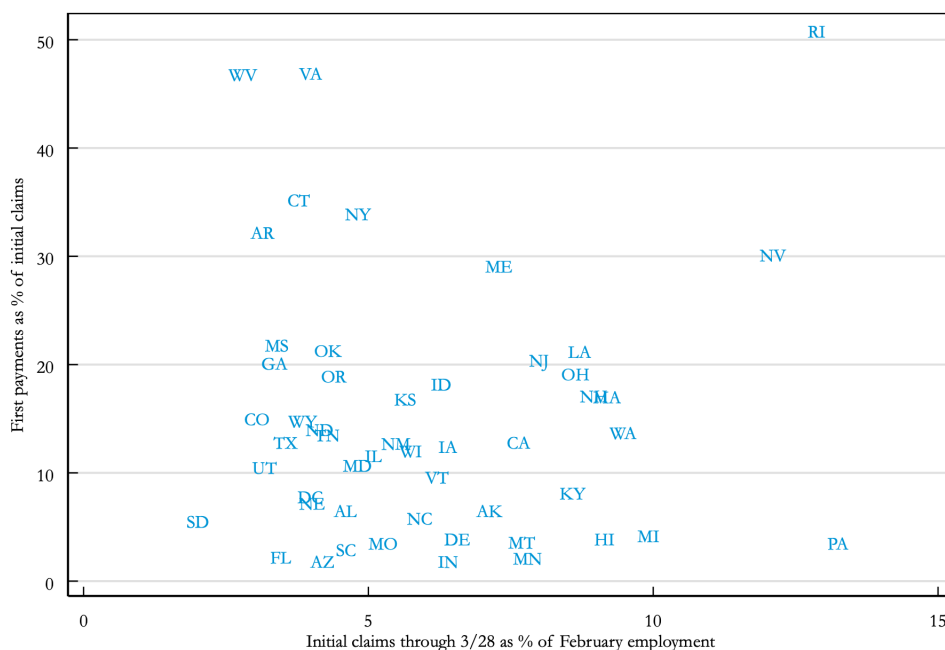
Source: U.S. Employment and Training Administration

There is also a related question of how well states are doing at processing the initial claims they receive and providing assistance to people through UI. The first payments measure

discussed above can help provide some insight into this, though again with a longer lag as these data are only published monthly. Figure 10 shows first payments as a percent of initial claims for each state in March 2020, as well as year over year comparisons for March back to 2018. First payments were low in March 2020 almost everywhere, in a way that differs dramatically from a normal year-over-year comparison.

So far we've discussed two different measures of how well state UI systems are handling the influx of claims due to COVID-19: the number of initial claims they are taking in, and the number that they are actually paying. Are there any states that are doing well on both measures? That is, are there any states that are taking in a lot of initial claims and issuing a large number of first payments relative to the number of claims they are taking in? Figure 10 plots these measures against each other for March. The correlation between the two is small and slightly negative (-0.018). Only Rhode Island stands out as having both receiving a large number of claims relative to its labor force and issuing a large number of first payments relative to its volume of claims. Nevada also had fairly high first payment volume compared to other states and very high claims volume.

Figure 10: First Payments Issued vs. Initial Claims Received, March 2020



Source: U.S. Employment and Training Administration

11 How high will the unemployment rate get?

The unemployment rate will probably get pretty high. Jobs data released May 8 showed the unemployment rate increasing by 10.3 percentage points to 14.7 percent in April. These data were collected during the week ended April 18. This is by far the largest one-month increase in the unemployment rate on record, and millions more initial claims for UI have been filed since then, suggesting the unemployment rate will likely increase further when data are collected for May. The unemployment rate for May will be released June 5.

Perhaps more important than how high the unemployment rate will get is what it means in this context, and that’s hard to say exactly for a couple of reasons. As discussed above, not everyone who loses a job or files for UI will be considered as unemployed, and the CARES Act did not change the formal definition of unemployment. In particular, shelter-in-place orders and social distancing measures will likely prevent many people from searching for jobs. These people will likely be considered “not in the labor force” rather than unemployed.

Additionally, some people who remain attached to their employers but are not actively working will be considered employed but absent from work. The number of people in this category often spikes after major natural disasters that keep people away from their jobs, like Hurricanes Sandy or Katrina. BLS was aware of this phenomenon when it was collecting jobs data for March and April and issued instructions to surveyors to try to make sure people kept away from jobs they still hold by COVID-19 would be classified as “on temporary layoff” (a category that counts as unemployed) rather than employed but absent from work. However, once the data were tabulated, they discovered that if people who were classified as employed but absent from work for what appear to be COVID-19-related reasons had been classified as unemployed (as BLS instructed), the overall unemployment rate would have been about one percentage point higher in March and almost five points higher in April (i.e. it would have been over 19 percent in April rather than 14.7 percent). To make an already muddled situation potentially more confusing, these employed-but-absent workers will be eligible for UI, adding to the group of non-unemployed UI recipients without contributing to the unemployment rate. The increase in UI claims from this group will likely be much smaller than increases in other types of claims.

The April experience indicates that people who are not working due to COVID-19 will show up as unemployed, out of the labor force, and employed but absent from work. As a result, the unemployment rate has gone up substantially, but it doesn’t tell the whole story or capture nearly the full number of people affected by the pandemic.

Table 2, walks through an example of how this might play out for May. We need an estimate of the number of people who have lost their jobs between when the April and May

Table 2: Unemployment Rate in May under Various Assumptions

	March 2020	April 2020	Change	All become unemployed	April 2020 Split between unemp/NILF	Split between unemp/NILF /absent
Population	259,758,000	259,896,000		259,896,000	259,896,000	259,896,000
Labor Force	162,537,000	155,830,000		155,830,000	149,330,000	152,673,384
LFPR	62.6	60.0		60.0	57.5	58.7
Employed	155,167,000	133,326,000		120,326,000	120,326,000	123,190,243
Employment Rate	95.5	85.6		77.2	80.6	80.7
EPOP	59.7	51.3		46.3	46.3	47.4
Employed, at work*	153,767,000	125,715,000	-13,000,000	112,715,000	112,715,000	112,715,000
Employed at work*/pop	59.2	48.4		43.4	43.4	43.4
Employed, absent from work*	1,400,000	7,611,000		7,611,000	7,611,000	10,475,243
Unemployed	7,370,000	22,504,000		35,504,000	29,004,000	29,483,142
Unemployment Rate	4.5	14.4		22.8	19.4	19.3
Adjusted Unemployment Rate	5.4	19.3		27.7	24.5	26.2
NILF	97,221,000	104,066,000		104,066,000	110,566,000	107,222,616
Want a job	5,215,000	9,761,000		9,761,000	16,261,000	12,917,616

Source: U.S. Bureau of Labor Statistics, U.S. Employment and Training Administration, author's calculations

Note: The "employed, at work" row includes people absent from work for standard reasons covered by the CPS survey instrument. The "employed, absent from work" row reports the number of people absent from work for other reasons, minus the number absent from work for other reasons during the same month of 2019. This excess absence likely reflects misclassification of people temporarily laid off due to COVID-19. The "adjusted unemployment rate" row reports the sum of unemployed workers plus excess workers absent from work divided by the labor force.

CPS interviews were conducted. So far, 7.7 million additional UI claims have been filed, and we have two weeks to go. Let's assume that through the week containing May 12, employment will have fallen by 13 million on net.⁸

What we know about these 13 million people is that they are no longer working. We do not know what their May labor force status will be. That depends on how they answer questions about whether they have been laid off, whether they're looking for work, etc. when surveyed as part of the April CPS. If we assume that they will all respond to the survey in ways that will get them counted as unemployed, the unemployment rate would rise to 22.8 percent in May.

But this assumption is guaranteed to be wrong. You are only unemployed if you are 1) temporarily laid off, or 2) don't have a job but want one and are available and searching for one. Many people will not meet this conditions because of COVID-19, and many of those that don't will show up as not in the labor force (NILF) instead of unemployed. If people who have stopped working are split evenly between showing up as unemployed and showing up as NILF, the unemployment rate would only rise to 19.4 percent.

But even that doesn't capture all the possibilities. The April increase in unemployment was only about half the decrease in employment. The other half was split roughly evenly between an increase people out of the labor force and an increase in people showing up as employed but absent from work due to non-standard reasons likely related to COVID-19.

⁸If you think the number will be larger, you can plug a larger number in and work through the logic of this table to see what the unemployment rate will be.

These people stopped working, but were still counted as employed. When you consider this group as well, about half the people who stopped working between March and April showed up as unemployed, with the rest split roughly evenly between NILF and employed but absent. If that holds again in April, the unemployment rate would rise to “only” 19.3 percent.

Critically, the same number of people have stopped working in all three of these scenarios, but the unemployment rate ends up somewhere between 19 percent and 23 percent depending on what assumptions are made about how they respond to the CPS this month. Those assumptions are doing a lot here! The thing we have the best chance of forecasting well is the number of people who have stopped working since last month (i.e. employed, at work).

BLS was aware of the “employed, but absent” issue in March and April (it often happens after major natural disasters), and they issued instructions to surveyors to try to make sure people like this were counted as on temporary layoff (i.e. unemployed). They had only partial success. The “adjusted unemployment rate” shows what the unemployment rate would be if these people were reclassified as unemployed.⁹ Will they have better luck in May? Will people interpret and respond to survey questions the same way they did in March and April? Or will they think of their situation differently given subsequent events? Only time will tell. Until it does, it’s important to be aware that assumptions about how people who are no longer working will be classified can drive large changes in unemployment rate forecasts.

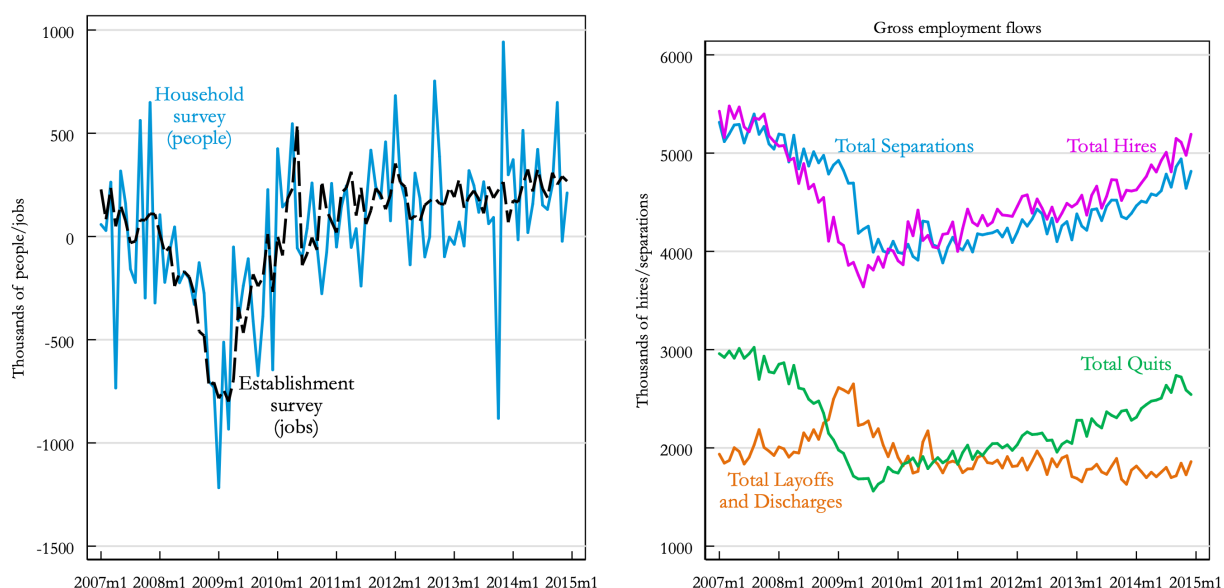
12 What’s the best way to estimate how many people have lost work due to COVID-19?

This is a really hard concept to measure since there are a lot of moving pieces and it’s hard to know what would have happened in the absence of the pandemic. But in general, there are two types of measures of how many people have lost work or how many jobs have been destroyed due to COVID-19: net job loss and gross job loss. Even in deep recessions, some of the people who lose jobs find work elsewhere. It’s possible that shelter-in-place orders and social distancing measures will reduce job finding in the coming weeks and months by more than a typical (or even a severe) recession, but it won’t drive it to zero. Adding up the number of people who get laid off or file for UI (measures of gross job loss) could overstate the number of people who remain without work, since some of them will find other jobs.

⁹BLS does not make changes to its data after tabulation, even when they understand why and how tabulations look different from what was expected/intended to be collected. Instead they acknowledge and describe the issue when the data are released. This adjusted unemployment rate is provided for context, but the estimates provided by BLS are the official unemployment rate. Please do not call this, or any other measure, the “real” unemployment rate.

Another approach to measuring lost work is to look at how the number of people employed has changed since before the pandemic hit. This is a measure of net job loss. People who have lost their jobs and found new ones since the pandemic started don't figure into it. As a result, measures like this will understate the number of people who have had their economic lives disrupted in some way by the pandemic. Figure 11 presents net and gross measures of monthly changes in various employment measures during and after the Great Recession for illustrative purposes. Note that gross flows into and out of employment are much larger than the net changes in employment levels that they generate each month. Adding up gross measures over time will therefore result in still larger totals than does adding up net measures over time.

Figure 11: Net vs. Gross Employment Changes During and After the Great Recession



Source: U.S. Bureau of Labor Statistics. Note that quits and layoffs/discharges are components of total separations.

Depending on the question you're trying to answer, a gross or a net measure may be appropriate. For a gross measure, adding up total job separations as measured by the Job Openings and Labor Turnover Survey (JOLTS) is a good option. You might be primarily interested in layoffs, which JOLTS also measures, but the pandemic may well also induce quits, so the broader measure might be more appropriate. The major limitation of JOLTS data is that it is only released monthly and on an even longer lag than jobs data (estimates for March will not be available until May 15). For a more timely gross measure, adding up initial claims for UI works well. Either way, as discussed above, remember that some number

of layoffs, separations, UI claims, etc. would have happened even if the pandemic had not, so subtracting those off to the extent possible can provide a more accurate picture of the number of people affected by the pandemic.

For a net measure, tracking changes in the number of people employed *and at work* will give a clearer picture than tracking changes in the number of unemployed people, for the reasons discussed in the previous question. It will also capture effects on independent contractors and self-employed workers in a way that looking at changes in payroll employment will not. Last week's jobs data showed that the number of people employed and at work fell by 3 million from February to March, the largest one-month absolute decline on record.¹⁰ Adding in the roughly one percent of the labor force that should have been counted as unemployed on temporary layoff rather than employed but absent from work brings the total reduction in employment *at work* to 4.6 million.

If you're inclined to include people working reduced hours among those losing work, the number of people working part time for economic reasons (i.e. involuntarily) increased by 1.4 million in March, bringing the total number of people affected to 6 million under this net measure. Again, remember that these survey data were collected during a week in which only about 40,000 to 60,000 more UI claims were filed than expected.

13 I've heard a lot of comparisons between the current situation and the Great Recession or the Great Depression. Are things really that bad?

The number of initial claims for UI received so far certainly suggests that we're in uncharted territory, and the April unemployment rate is the highest since the Great Depression. The onset of our current situation has certainly been faster than the arrival of previous recessions. UI claims, for example, have increased much more quickly than at the beginning of the Great Recession. The 21.4 million jobs decrease in payroll employment since February has dramatically exceeded the net employment loss experienced during the Great Recession (8.7 million jobs) in fairly short order. UI claims provide a somewhat larger though imperfect estimate of the gross number of people who have lost work, and future data from sources like JOLTS

¹⁰Note that this is based on the seasonally adjusted employment level from the household survey. The NSA change in employment is very similar. Lower frequency (here, monthly) data are not as difficult to seasonally adjust as weekly data, [seasonal adjustment methodology](#) for employment levels is different from the one used for UI claims. So far (i.e. in March), observed employment changes are comparable in magnitude to the largest expected seasonal changes in employment and the differences between SA and NSA estimates are small compared to those estimates themselves. We'll see whether this continues to be true as we get more data.

will provide other gross measures of job loss. In general, we should avoid making direct comparisons between net (e.g. change in the level of nonfarm payroll employment) and gross (e.g. cumulative initial claims for UI, total layoffs from JOLTS) measures of employment changes, though both provide useful information about the state of the economy.¹¹

There is, however, a pretty fundamental difference between the current situation and those recessions: we are shutting down economic activity on purpose as a public health measure. At this point, how economic conditions evolve and eventually recover after the pandemic is still very sensitive to the policy choices we make. The unprecedented reductions in employment or gross domestic product or whatever other measure you prefer that we will see over the next few months could be mitigated and ultimately reversed by policies that contain the pandemic, support people and businesses financially, and ease the transition back into normal economic life once the pandemic is over. If we enact such policies, these losses could be temporary. Would that be as bad as the Great Depression? You can decide for yourself.

But if we fail to adopt such policies as soon as possible, instead allowing people to suffer material deprivation and businesses to fail as employment plummets, breaking connections between workers and firms, it will be very difficult to return to normal quickly. We know that job loss and recessions have large and persistent negative effects on people exposed to them, worsening their employment and earnings outcomes for years if not decades, increasing mortality, and even harming their children's economic prospects. It is too soon to say whether exposure to a brief period of reduced economic activity, supported by social insurance payments, followed by a strong recovery would have effects like these, but shutting down the economy without appropriate policy support for people and businesses would almost certainly be devastating.

Whether this will be as bad as or worse than the Great Recession/Depression is still up to policymakers, for now. The longer we go without providing support to people and businesses that meets their immediate needs, the more they will have to take steps to adapt to the conditions they currently face, which could impede our return to normal when the pandemic is over. It remains within our power to prevent a lot of this disruption and the human suffering that goes along with it, but that becomes less true as time passes. Further, swift action is urgently needed to prevent the worst from predictions from coming true.

¹¹Over the roughly two years between the labor market's peak in January 2008 and its trough in February 2010, more people lost their jobs than captured by the 8.8 million decline in payroll employment. There were more than 25 million layoffs in 2008 and another 27 million in 2009, but many of those people found new jobs relatively quickly. The longer the current situation goes on, the greater the differences between net and gross measures of job loss will be.

14 If people going to work makes it more difficult to contain the pandemic, isn't a large number of UI claims... actually good?

Whether a large number of UI claims is a good outcome depends on what other policy responses you think were or are possible. Fundamentally, yes, it is better not to have people at work, potentially spreading or contracting the coronavirus.

It is not clear, however, that having those people end up laid off and receiving UI benefits is good compared to other possible outcomes. For example, is a large number of layoffs supported by increased UI benefits better than people remaining connected to their employers, which are given grants or loans to cover [workers' salaries](#) and [other expenses](#)? Better than remaining employed but having salaries paid by the federal government via employers' [pay-roll processors](#) for the duration of the crisis? Better than remaining employed but receiving [monthly checks](#) directly from the federal government? Each of these arrangements could have helped maintain connections between workers and businesses, potentially accelerating our eventual recovery in a way that layoffs with enhanced UI do not and saving workers from the emotional turmoil associated with losing a job.

If you think these alternatives are technically or politically infeasible, then maybe a large number of UI claims is a good outcome. Given where we are at the moment, it is certainly better that laid off workers claim and receive the available UI benefits than that they not. But if you think a wider range of policy responses was/is possible, it is not at all clear that lots of people ending up on UI is the approach that is most conducive to subsequent economic recovery. Put another way, the response we have seen within the UI system (processing/implementation difficulties aside) has been pretty good. Limiting our policy response to the UI system would probably turn out to be pretty bad.