AEA Papers and Proceedings 2022, 112: 78–84
https://doi.org/10.1257/pandp.20221008

EQUITY AND EFFICIENCY IN UNEMPLOYMENT INSURANCE[‡]

Estimating the Disparate Cumulative Impact of the Pandemic in Administrative Unemployment Insurance Data[†]

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The COVID-19 pandemic had a staggering impact on the labor market in the United States and many other countries, with extensive job loss and long-term unemployment (LTU) affecting particularly less advantaged workers. Standard measures such as the unemployment rate capture the state of the labor market at a point in time, typically in a given month. Yet, research has shown that events such as a job loss or an unemployment spell can affect workers' employment and wage outcomes for a long time, especially in recessions (Davis and von Wachter 2011). As a result, the recent employment history of workers will likely influence their job search activity, layoff risk, labor supply, and training activity even once they are employed. Cumulative measures based on longitudinal data that reflect workers' recent employment history not only better measure which workers and communities were most impacted by a recession but can also provide a more comprehensive view of the state of the labor market and likely employment and earnings dynamics.

Survey datasets typically used to assess the labor market, such as the Current Population Survey (CPS), are limited in their ability to capture workers' labor market histories. Administrative data from the unemployment insurance (UI) system on program use and earnings follow the entire covered workforce over time and hence make it possible to generate cumulative measures of labor market health. These data also allow for statistical analyses across more detailed geographical units and demographic groups. Furthermore, cumulative measures of incidence of UI claims (on the extensive margin) and long-term duration of UI receipt (on the intensive margin) provide important insights into the extent and differences of UI use in the population.

The California Policy Lab (CPL) at the University of California has obtained access to California's administrative UI records through a partnership with the state's Employment Development Department (EDD). These data were used for a series of reports that analyzed the state of the California labor market throughout the COVID-19 pandemic and provided a deeper understanding of the UI system and its data. This article briefly describes the administrative UI data, presents estimates of the cumulative impact of the COVID-19 crisis over its first year at the extensive and intensive margin, and compares how it differed for workers of various demographic groups. We find that during the first year of the crisis, 30 percent of the labor force filed a UI claim, over 46 percent of recipients spent more than 6 months on the program, and the mean work time lost

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[†]Go to https://doi.org/10.1257/pandp.20221008 to visit the article page for additional materials and author disclosure statement(s).

was 8 weeks. Less advantaged workers and counties saw much higher rates of claiming and LTU.

I. Standard Measures versus Cumulative Measures

Standard measures of employment treat workers who remained employed throughout an entire period the same as workers who lost their job, spent time in unemployment, and were recently reemployed. This would fully capture the state of the labor market if job losers were in the same economic position after jobs loss as they were before, thereby ignoring both search dynamics and "scarring" effects from job loss. Yet, job losers have a higher likelihood to change jobs again (e.g., Krolikowski 2017), switch industries or occupations (e.g., Jackson 2021), or suffer from repeated job loss (e.g., Stevens 1997) and unemployment (Bell, Hedin, Moghadam et al. 2021). Workers losing stable jobs at good employers experience substantial future earnings declines (Davis and von Wachter 2011), a pattern accentuated for workers experiencing longer unemployment spells (Schmieder, von Wachter, and Bender 2016). Hence, the recent work history of the current labor force can aid our understanding of labor market dynamics. By capturing the overall earnings losses afflicting a community or group of workers, the total extent of job loss or LTU will also better capture the cost of recessions and can be a useful indicator of where government support is most needed. Finally, cumulative measures can be particularly helpful for characterizing the cost of recessions for marginalized groups who often experience above-average levels of unemployment. Differences in unemployment rates at points in time will accumulate over long periods to create larger absolute differences in total unemployment between groups.

Such cumulative measures are particularly salient in the context of the UI program. UI recipients are of interest in their own right, since they can experience large earnings losses and long unemployment spells (e.g., Jacobson, LaLonde, and Sullivan 1993) and are often the focus of retraining or job search assistance programs. At the same time, cumulative measures can better characterize the overall reach of the UI system, which has been long criticized for low coverage, particularly among less advantaged workers (e.g., Bell, Hedin, Mannino et al. 2021).

II. Description of Administrative UI Data

We generate cumulative measures of unemployment over the COVID-19 pandemic using longitudinal UI administrative records from two datasets. The initial claims files contain the universe of new and additional claims for UI submitted by workers in California and include detailed demographic and geographic characteristics. Figure 1 illustrates the large rise in weekly new initial claims in the first months of the COVID-19 pandemic. The figure also shows that starting in mid-2020, a large and growing proportion of initial claims came from UI claimants that had found a job, stopped receiving benefits, and then returned to UI via a so-called additional claim.[1] This large amount of churn, discussed in the CPL's UI reports, underscores the importance of deduplicating initial UI claims when assessing the total impact of the crisis.

The continuing claims files contain the records of all UI claims paid each week, including the amounts paid and the weeks of unemployment for which those claims were paid. The continuing claims series published by the Department of Labor (DOL) reports payments by the week they were processed. Due to administrative delays or retroactive claims, payments are often processed several weeks after the week of unemployment that the payment is for. Moreover, not all processed claims are actually paid (for example, if a worker reports earnings above a threshold for the particular week). An advantage of the administrative data is that we can account for differences in timing and fluctuations in benefit denial by counting the number of individuals that received benefits for a given week of unemployment, shown in Figure 2 over the course of the COVID-19 pandemic.[2]

[1] In contrast, the publicly available data from the DOL only provide new and additional claims by month.

[2] The claims-by-week-of-unemployment graph comes with an additional adjustment to account for retroactive claims as outlined in Bell, Hedin, Moghadam et al. (2021).

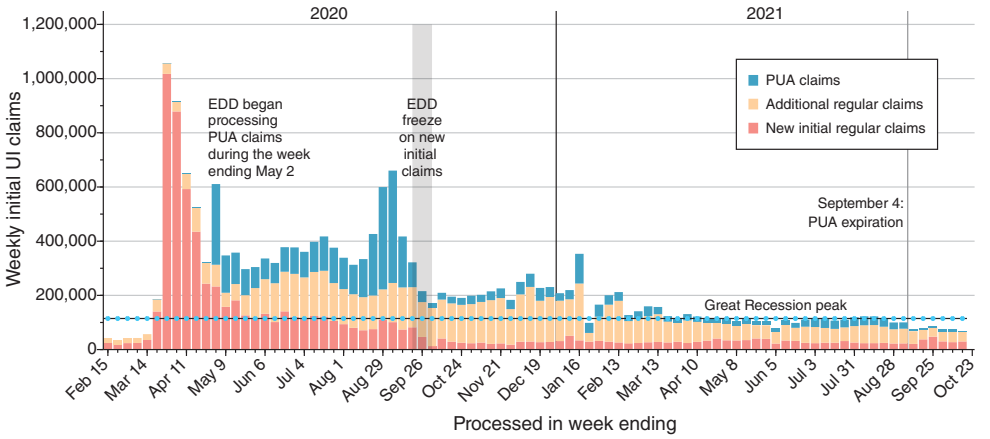

Figure 1. Weekly Initial UI Claims (including PUA) during the COVID-19 Crisis in California (February 15, 2020–October 16, 2021)

Notes: "New initial regular claims" includes new initial claims for regular state UI. "Additional regular claims" includes additional claims for regular state UI and additional claims for extension programs. "PUA claims" are claims filed for the temporary Pandemic Unemployment Assistance (PUA) program that was established to provide benefits to workers not usually eligible for regular UI. This figure does not include transitional claims, as the DOL does not include them in their headline initial claim number, nor do they represent flows into the UI system.

Source: California Employment Development Department (EDD)

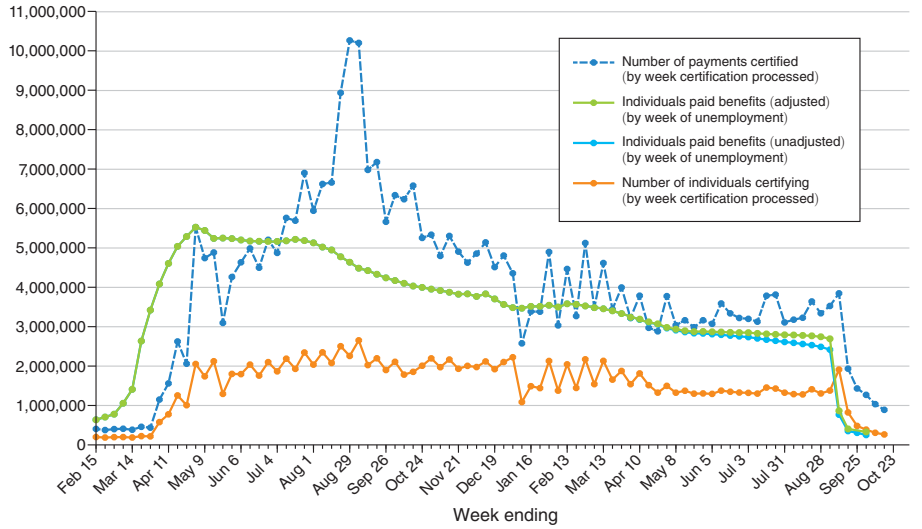

Figure 2. Total Number of Individuals Paid Benefits by Week of Unemployment, Total Number of Individuals Certifying for Benefits by Week of Certification, and Total Number Payments Certified by Week of Certification (all claims)

Notes: "Number of payments certified" refers to the number of payments that were certified during a given week (the common definition of continued UI claims). "Number of individuals certifying" refers to the number of people that certify for UI benefits in a given week (which is roughly half of the number of payments because certification is biweekly in California). "Individuals paid benefits by week of unemployment" refers to the number of individuals paid benefits for the week they experienced unemployment either adjusting for historical lags in claiming behavior ("adjusted") or not ("unadjusted"). This figure includes claimants receiving benefits for regular UI, Pandemic Unemployment Assistance (PUA), and Pandemic Emergency Unemployment Compensation (PEUC).

Source: California Employment Development Department (EDD)

III. Cumulative Measures of Unemployment

We exploit the longitudinal nature of the administrative data just described to create two cumulative measures of unemployment along the extensive and intensive margins.

A. *Extensive Margin: Unique UI Claimants as a Share of the Prepandemic Labor Force*

The first cumulative measure of labor market disruption from the COVID-19 pandemic is the share of the precrisis labor force that applied at least once for regular state UI between March 2020 and March 2021.[3] We interpret this as a measure of the total number of workers who experienced job loss or hours reductions during the crisis.[4] The advantage of administrative data over surveys like the CPS or the Job Opening and Labor Turnover survey is that the administrative data can be used to get a count of unique individuals affected by a recession over long periods of time. In the publicly available DOL data, summing the monthly new initial claims series could provide a closer estimate of our measure but would still suffer from some duplication from claimants who file multiple claims.[5] Crucially, the publicly available data do not provide the new initial claims series with demographic or detailed geographic breakdowns.

Column 1 of Table 1 shows the percent of the February 2020 labor force in California that applied for regular UI benefits through March 2021.[6] It also provides this estimate for selected demographic groups. Over the first year of the COVID-19 crisis, a staggering 31 percent of the California labor force applied for regular UI benefits. Table 1 also shows that the accumulated disparity between groups is substantial and much larger than what would be implied by a comparison of, say, monthly unemployment or UI claim rates. In particular, we find that less educated workers have been hit hardest over the course of the pandemic, with over half of workers with a high school degree or less having applied for regular UI benefits in the first year (over three times the filing rate of workers with a bachelor's degree), and that women filed for UI at a higher rate than men.

B. *Intensive Margin: Long-Term Unemployment Rate*

The second cumulative labor market indicator we calculate is the share of UI claimants who have received more than 26 weeks of unemployment benefits in the first year of the crisis. To account for the high degree of churn seen in the data, our measure is based on the total time spent on UI in a year, ignoring temporary returns to employment. In contrast, the rate of LTU is defined by the Bureau of Labor Statistics (2022) as the share of the unemployed who have been jobless for over 26 weeks. Again, an advantage of our measure is that it captures the extent of chronic loss of employment over a longer time period. Moreover, the administrative UI data allow us to measure the incidence of long unemployment durations at more detailed geographic and demographic levels.

One potential limitation compared to the CPS is that UI-based measures will depend on the maximum number of weeks available to claimants. During the pandemic, the federal PEUC program and the state Extended Benefits programs made the maximum benefit duration well over 26 weeks. In regular economic times, considering mean total UI duration or a lower threshold is more appropriate.[7]

[3] While fraud has been widely reported in the PUA program, this was much less of an issue for the regular UI claims that we focus on here.

[4] This interpretation is reasonable in our context, as UI recipiency rates among the unemployed reached nearly 90 percent in California during the pandemic (Bell, Hedin, Mannino et al. 2021). Prior to the pandemic, recipiency rates in California were only around 20 percent, such that our measure would yield an important metric for the extent of UI claims.

[5] This could be the case if the EDD website experienced crashes from high usage and users resubmitted their claims because they were unsure if their first claim was received. Alternatively, it could happen if employers submit claims on an employee's behalf and an employee submits a claim themselves (Cajner et al. 2020). As shown in Figure 1, the duplication issue would be substantial for all initial claims.

[6] Unlike in other states, in California PUA claimants did not first need to file and be rejected for regular UI, and hence, they do not affect these numbers.

[7] It is also the case that not all claimants qualify for the maximum benefit duration, which could bias the measure across different types of workers. In principle, the microdata could be used to identify the subset of claimants who qualify for the whole duration, and the rate of LTU could be calculated using that sample.

Table 1—Cumulative Measure of UI Claims at the Extensive and Intensive Margin during the First Year of the COVID-19 Crisis

	Unique claimants as percent of precrisis LF (1)	Mean UI duration among recipients in weeks (2)	Time lost due to pandemic (3)	Long-term unemployed among recipients (4)
Statewide	31.2	25.9	8.1	46.5
Panel A. Age group				
16–24	51.8	24.5	12.7	42.4
25–34	35.0	26.2	9.2	47.3
35–44	25.5	26.0	6.6	46.9
45–54	24.8	25.3	6.3	45.0
55+	27.4	27.0	7.4	49.7
Panel B. Race				
Asian (non-Hispanic)	NA	26.6	NA	48.1
Black (non-Hispanic)	NA	29.2	NA	55.7
Hispanic	NA	24.8	NA	43.2
White (non-Hispanic)	NA	25.2	NA	44.2
Panel C. Education				
High school or less	47.9	27.0	13.0	49.6
Some college	30.6	25.7	7.9	46.8
Bachelor's or more	13.2	23.9	3.2	41.3
Panel D. Gender				
Women	34.6	26.4	9.1	47.9
Men	28.3	25.3	7.2	45.0

Notes: The unique claimants and the long-term unemployed are totals from March 2020 to March 2021. The precrisis labor force ("LF") was calculated from the February 2020 CPS. Figure excludes all PUA claims. Race/ethnicity are not included in columns 1 and 3, because the data are collected differently between the UI data and the CPS, making comparisons difficult.

Source: California Employment Development Department (EDD)

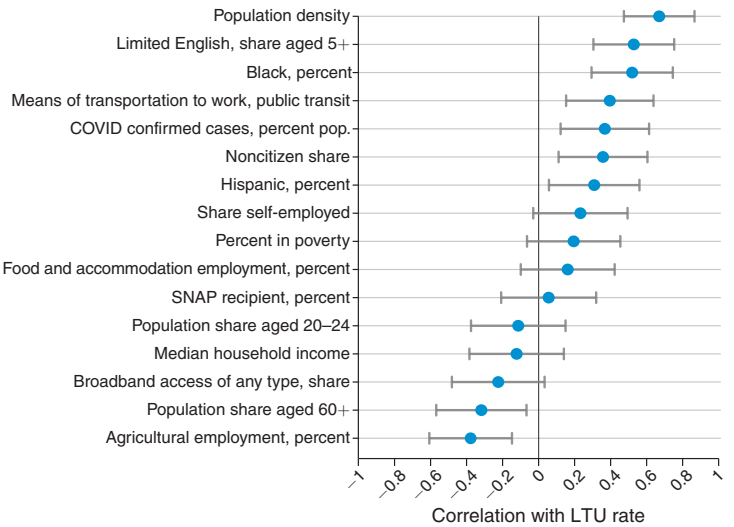

Figure 3: County-Level Correlations between Long-Term UI Receipt in the First Year of the COVID-19 Crisis and County Characteristics

Sources: California Employment Development Department (EDD), ACS data via Ruggles et. al (2021)

As a particularly salient use case, Figure 3 presents county-level correlations between the LTU rate calculated from the UI data and a series of economic and demographic attributes from the 2019 American Community Survey (ACS). It demonstrates that areas that were already vulnerable before the crisis were still affected by above-average incidence of LTU in the year leading up to March 2021. For example, counties with more-limited English speakers were also counties where claimants were more likely to experience LTU, as were counties with higher population densities.

C. *Combining the Intensive and Extensive Margins: Weeks Lost to Unemployment*

Finally, the administrative UI data can be used to generate an indicator of the cumulative labor market impact of the COVID-19 pandemic by combining extensive and intensive margin measures. We calculate the average number of weeks that members of the California labor force spent on UI as

$$(1) \quad E(\textit{time on UI}) = \Pr(\textit{UI claim}) \times E(\textit{time spent on UI} \mid \textit{UI claim}),$$

where the $\Pr(\textit{UI claim})$ is the extensive margin measure discussed in Section IIIA and the $E(\textit{time spent on UI} \mid \textit{UI claim})$ is an alternate intensive measure representing the mean number of weeks a claimant received UI benefits. In Table 1, columns 1–3 show the combined measure and both constituent parts. Column 3 indicates that in the first year of the pandemic, the average member of the labor force spent nearly two months receiving regular UI benefits. Across the demographic groups, less educated, female, and younger members of the labor force experienced more weeks on UI than other demographic groups.

IV. Conclusion

Administrative datasets from the UI system can be a valuable source of insight into the labor market, but they are not often made available to researchers. In this paper, we put forward three cumulative measures of the labor market that can be calculated from UI administrative data and used them to measure the impact of the COVID-19 pandemic in California. Along with generating these measures from the UI microdata, the CPL published a series of briefs using the UI data to better understand the UI system.[8] Caution should be applied when extending these analyses and results beyond California, as different US states may not only have weathered the pandemic in different ways but also have very different UI systems (e.g., Bell, Hedin, Mannino et al. 2021). Future collaboration between state agencies and researchers that unlock these state-level administrative datasets would improve our understanding of labor markets and UI systems across the United States.

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