Online Appendix

Disparities in Access to Unemployment Insurance During the COVID-19 Pandemic: Lessons from U.S. and California Claims Data

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OA1: Figure Appendix

Figure OA1: U3 Recipiency Rates Across States, Bar Graph



Notes: N = 50. The blue bars represent the U3 recipiency rates across states for the week of December 5th, 2020. The orange bar represents the US weighted average U3 recipiency rate. The recipiency rate is the number of continuing claims paid from the DOL divided by the number of U3 Unemployed from the CPS. For more details on the recipiency rate please see the text.

RR Bivariate	RR Political	EX Bivariate	EX Political
	Controls		Controls
0.000	0.000	0.000	0.000
(0.168)	(0.152)	(0.188)	(0.190)
0.487 ***	0.090	-0.442 ***	-0.315
(0.169)	(0.213)	(0.147)	(0.228)
	0.552 ***		-0.177
	(0.155)		(0.146)
50	50	50	50
0.237	0.384	0.195	0.210
	0.000 (0.168) 0.487 *** (0.169)	KK Bivariate KK Political Controls 0.000 0.000 (0.168) (0.152) 0.487 *** 0.090 (0.169) (0.213) 0.552 *** (0.155) 50 50 0.237 0.384	RK Bivariate RK Political EX Bivariate Controls 0.000 0.000 0.000 (0.168) (0.152) (0.188) 0.487 *** 0.090 -0.442 *** (0.169) (0.213) (0.147) 0.552 *** (0.155) 50 50 50 0.237 0.384 0.195

Table OA1: Paid Leave and Liberal Policies

Source: Department of Labor, Cook Political Report.

Figure OA2: U3 Recipiency Rates Across States, Correlations



Notes: N = 50. Each dot represents the correlation between the covariate and the U3 recipiency rate in December 2020 weighted by population in 2019. All variables are measured at the state level. Error bars represent the 95% confidence interval. The recipiency rate is the number of continuing claims paid from the DOL divided by the number of U3 Unemployed from the CPS. For more details on the recipiency rate and the sources of the covariates, please see the text and the data appendix.

	RR Bivariate	RR Econ	RR Econ and	RR Econ, Demo, and
		Controls	Demo Controls	Policy Controls
(Intercept)	0.000	0.000	0.000	0.000
	(0.179)	(0.146)	(0.139)	(0.116)
Max UI Duration	0.537 ***	0.362 ***	0.358 ***	0.385 ***
	(0.110)	(0.109)	(0.117)	(0.128)
Economics Index		0.188 ***	0.169 ***	0.003
		(0.052)	(0.055)	(0.101)
Demographic Index			0.070	-0.003
			(0.096)	(0.059)
Real Monetary Eligibility				-0.111
				(0.147)
Midpoint WBA				0.040
				(0.213)
Democratic Vote Share				0.333
				(0.222)
Binary Policy Variables				0.189
				(0.156)
N	50	50	50	50
R2	0.288	0.441	0.455	0.566

***p<0.01; **p<0.05; *p<0.1.

Notes: Source: Department of Labor, American Community Survey. The Economic Index is the sum of the economic indicators where the indicators of economic advantage enter the sum with a positive sign and the indicators of economic disadvantage enter with a negative sign (the positive signed variables are median household income, commute to work via car, and share with broadband access; and the negative signed indicators are share in poverty, commute to work via public transport, share of agriculture employment, the income share of the top 1%, the gini index, and the tax rate). The z-score of the sum across states is calculated and that is used as the index. The Demographic index is designed similarly with measures of socially disadvantaged groups entering the sum with a negative sign, and the share non-Hispanic Black, share Hispanic, and share with limited english proficiency enter with a negative sign).

Figure OA3: Layoff Application Rates Across States, Correlations, 2020



Notes: N = 50. Each dot represents the correlation between the covariate and the application rate in December 2020 weighted by population in 2019. All variables are measured at the state level. Error bars represent the 95% confidence interval. The application rate is the number of new UI claims from the DOL divided by the number of layoffs from JOLTS. For more details on the application rate and the sources of the covariates, please see the text and the data appendix.

Figure OA4: New UE Application Rates Across States, Correlations, 2020



Notes: N = 50. Each dot represents the correlation between the covariate and the application rate in Q1 and Q2 2020 weighted by population in 2019. All variables are measured at the state level. Error bars represent the 95% confidence interval. The application rate is the number of new UI claims from the DOL divided by the number of people unemployed less than 5 weeks from CPS. For more details on the application rate and the sources of the covariates, please see the text and the data appendix.

OA2: Data Appendix

To better understand why some areas have benefited more from UI during the pandemic than others, we sourced a variety of county-level and state-level socioeconomic characteristics from public datasets. Our primary source of geographic correlates is ACS 5-year estimate from 2014-2019, the most recent cohort available. The ACS data spans several topics. Variables relating to the economic status of the region include median household income, percent below the Federal poverty line, percent who have broadband internet, percent who do not speak english well, and percent collecting SNAP. Measures of the region's urbanicity include population density per square mile, and median gross rent (either overall or for homes of a specific number of bedrooms). Certain information is available on transportation to work, including the amount of time spent commuting to work as well as the percent commuting via certain modes (such as car, walking, or public transit). We also collected population shares falling in particular age brackets as well as racial categories, and the percent of the labor force employed in each industry (such as food services, retail, finance, etc.). In addition, we collected information on COVID-19 cumulative infections and deaths through early December 2020 in California by county and by state in the U.S. from datasets compiled by the New York Times (New York Times 2021). We collected estimates of the undocumented population as a share of the population from the Pew Research Center (Pew Research Center 2019). Finally, we collected Presidential Democratic vote share from the 2020 election for each state from Cook Political Reports (Cook Political Report 2021).

We also gathered additional covariates at the state level. In particular, we obtained each state's UI policies (compiled February 2021) from the Georgetown Center on Poverty and Inequality (Viser et al. 2021), which includes suspension of UI work search requirements, UI eligibility given unavailable schools & child care, and waiting period for PUA (Pandemic Unemployment Assistance). Measures that reflect UI generosity of each state, like weekly UI benefit amount and maximum UI duration, were also available from GCPI, together with each state's policies on benefits other than unemployment insurance, including

the availability of state paid leave programs and sick leave programs. In addition, we also gathered data (compiled January 2014) from Opportunity Insights Data Library (Chetty et al. 2014; 2020) on selected socioeconomic variables, including Gini coefficient (from core sample in tax records, with income topcoded at \$100M in 2012 dollars), top 1% income share (computed using core sample in tax records), local tax rate (from 1992 Census of Government county-level summaries), and Social Capital Index at the CZ level, which we later converted to state level data through weighted averages by population. Finally, we extracted information on alternative base period and monetary eligibility threshold of each state from the 2020 Comparison of State Unemployment Laws written by the U.S. Department of Labor (Department of Labor 2020). We have also spot-checked this against earlier years' data collected by (Gould-Werth and Shaefer 2013).

OA3: Demographic Differences in Recipiency Rates

The DOL dataset includes information on the number of claimants by age and gender, and the CPS similarly allows one to measure unemployment by these variables. We are therefore able to combine these two datasets to analyze how recipiency rates, defined as the proportion of the unemployed that is on unemployment insurance, varies by these groups. The DOL claimant data does not contain this information for unemployment insurance extensions, so our analysis must be limited to before the beginning of the pandemic-related extensions that began in March of 2020.

Nationally, some clear differences exist between these demographic groups. Overall, recipiency rates for men tend to be slightly higher than for women, with unemployed men on average in December of 2019 having an 18.73 percent chance of being on UI compared to 13.94 percent of unemployed women.¹ Older unemployed workers tended to have much higher recipiency rates. Those aged 25 to 34 had an average recipiency rate of 16.74 percent, while those aged 55 to 59 were more than double at 33.51 percent. This information is visualized in the bar graphs below.

¹ All national averages for all groups are a population-weighted average across the 50 states.





Male and Female Recipiency Rates December 2019

Source: Department of Labor, Current Population Survey.





Source: Department of Labor, Current Population Survey.

These demographic differences can also be analyzed geographically. The below maps display the male and female recipiency rates as well as the recipiency rates by certain age groups per state in December of 2019. These initial results can suggest some interesting regional trends in these recipiency rates, and several hypotheses can be explored that may explain why these geographic differences occur.² Due to inconsistencies in how different states ask claimants about their race, our analysis was not able to include an examination of race.

²Preliminary cross-state comparisons of demographic-specific recipiency rates have suggested that the analysis may be noisy due to small sample sizes in state-by-demographic cells in the CPS. Future analysis of these patterns will need to address the role of noise in this analysis. Hypotheses that could be tested include the extent to which gender differences in recipiency rates are due to cultural attitudes – such as the gender stereotype adherence index put forward by (Pope and Sydnor 2010) – as well as the role of alternative base period policies in increasing recipiency rates among younger workers, who may have less work history.



Figure OA7: Male Recipiency Rates by State, December 2019

Source: Department of Labor, Current Population Survey.



Figure OA8: Female Recipiency Rates by State, December 2019

Source: Department of Labor, Current Population Survey.



Figure OA9: Recipiency Rates Among 25-34 Year Olds by State, December 2019

Source: Department of Labor, Current Population Survey.



Figure OA10: Recipiency Rates Among 55-59 Year Olds by State, December 2019

Age 55-59 Recipiency Rate, Dec 2019

Source: Department of Labor, Current Population Survey.

OA4: Demographic Differences in First Payment Rates

Failure in receiving the first UI payment after unemployment is a challenge for consumption smoothing. This is a greater challenge if the unemployed worker is unable to find a job for extended periods. To further investigate the case, we expanded the first payment measurement within-California to be conditional on employment status after filing the UI claim, and we also derived the first payment rates for various demographics to check for potential unevenness.

The employment status one quarter after the beginning of the benefit year (BYB) of UI claimants is based on the UI Base Wage data, which includes quarterly information on wages and employer firms for UI-covered employees. We follow the employment status of the claimants with new initial claims in the second quarter of 2020 into the third quarter of 2020. A close look at all of the figures of demographic categories shows that claimants who remained unemployed one quarter after establishing their claim are less likely to be paid. Claimants with insufficient earning history have poorer connections with the labor market. They are less likely to be paid UI benefits, and at the same time, less likely to find a job in the middle of a recession.

Focusing on the heterogeneity of first payment rates within employment status, we do not observe significant disparity among claimants who are employed one quarter after BYB. However, differences within unemployed claimants one quarter after BYB are more outstanding. Particularly, we see that younger unemployed claimants are more likely to receive the first payment compared to older workers. This result is unexpected because even among unemployed claimants, we assume the older claimants to be more likely to receive the first payment due to stronger work history. Understanding these disparities is potential future research.



Figure OA11: First Payment Rates by Demographic Group, December 2019

Source: California Employment Development Department, author calculations.