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The Dynamics & Probability of Minority Unemployment During COVID-19

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$$\Pr(Y = 1|X) = \alpha_0 + \beta_t M + \delta R + \gamma(M \cdot R) + \kappa X + \varepsilon$$

How has the COVID-19 pandemic impacted the probability of minority unemployment?

Summary of Related Literature:

The Impacts of COVID-19 on Minority Unemployment: First Evidence From April 2020 CPS Microdata

Fairlie et al. conduct a difference-in-difference analysis, with non-Hispanic Whites as their control group; February, 2020 as their "pretreatment" period, and April, 2020 (COVID-19 affected month) as the "treatment" period. Fairlie et al.'s treatment group includes: African-Americans, Hispanics, and Asians. To best assess the effects of the pandemic, Fairlie et al. create two unemployment measures: 1) the official measure (focusing only on those unemployed); as well as an 2) expanded measure using individuals who were absent from work last week for "other reasons" (i.e. due to labor dispute). Fairlie et al. found that African-Americans, Hispanics, and Asians saw greater levels of unemployment than the non-Hispanic Whites in April, 2020.

Determinants of Disparities in COVID-19 Job Losses

Montenovo et al., attempt to estimate the effects COVID-19 has had on the employment of various demographics, including: age, gender, race, education, and ethnicity in April & May, 2020, compared to those of the Great Recession, and 2001 recession. Their findings suggest that COVID-19 has increased the unemployment of Hispanics, women, and younger workers [3]. Montenovo et al. determined jobs requiring face-to-face interaction saw greater unemployment.

Hit Harder, Recover Slower? Unequal Employment Effects of the COVID-19 Shock

Lee et al. differs from the three other papers above, in that, it discusses the initial unemployment shock caused by the COVID-19 pandemic, as well as, how the effects diminished over time (November). More specifically, Lee et al. examine disparities in unemployment among those of various demographics, including: gender, race, education level, and age. Lee et al. found that a disproportionate number of undereducated workers & females, were unemployed as a result of the pandemic - which was attributed to a, "...disproportionate presence in leisure/hospitality and other service industries". Above all else, Lee et al. was able to conclude that the initial employment shock caused by COVID-19 had all but dissipated for the afflicted minority groups by November, 2020.

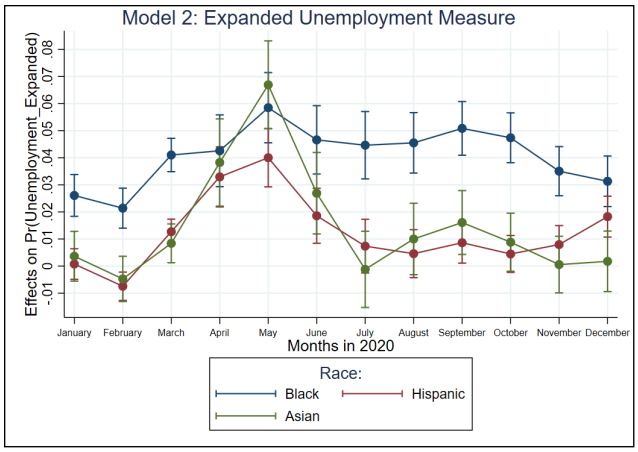
- Where Y represents the probability an individual is unemployed
- Two dependent variables used for two measures of unemployment: official, and expanded
- α is the constant term
- *M* is a vector that represents each month in 2020 — January through December (12 total)
- For reference, months affected by COVID-19 include April, and beyond
- *R* is a vector that represents minorities:
- African-Americans, Hispanics, and Asians
- γ is a vector of coefficients for the interaction between month, *M*, and race, *R*
- X represents the set of control variables used (including: gender, age, education, geographical)
- ε is the error term

Results

Utilizing the same measures of unemployment as those found in Fairlie et al., a Probit analysis was conducted, and used to produce the **heavily condensed** table of results (lower right) for the interaction terms, and marginal effects plot (upper right). Both utilize three minority groups: Blacks, Hispanics, and Asians.

Relative to non-Hispanic white males, Asians, and Hispanics saw a large spike in the probability of being unemployed (under both the official & expanded measures) during COVID-19 affected months (April to July).

Examining the Probit results (lower-right), African Americans, had no positive statistically significant unemployment probabilities, *during* COVID-19. Those that were statically significant, **and** occurred during COVID-19, came in April and May, but were negative—meaning that relative to non-Hispanic white males, African African-Americans saw a decreased probability of unemployment under the official measure. Hispanics saw positive, and statistically significant unemployment probabilities in: March, April May, June, and July, under one, or both measures. Meanwhile, Asians saw positive, and statistically significant unemployment probabilities under the official measure in: May, June, July, and August; and, under the expanded measure, in April May and June.



See the margins plot for the expanded measure of unemployment above: Over 2020, note the increase in unemployment probabilities for African Americans, Hispanics and Asians in April. COVID-19 affected months, starting with April saw heightened unemployment probabilities. However, if not for COVID-19, African Americans may have seen substantially higher unemployment.

2020 COVID-19 Impact on Minority Unemployment

	(1) Model 1		(2) Model 2
VARIABLES	Official Unemployment Measure	VARIABLES	Expanded Unemployment Measure
Black	0.28***	Black	0.19***
	(0.03)		(0.03)
Hispanic	0.05*	Hispanic	0.01
	(0.03)		(0.02)
Asian	-0.01	Asian	0.03
	(0.05)		(0.04)
April_Black	-0.17***	Under the expanded measure of unemployment, African Americans had no statistically significant & positive unemployment probabilities in months affected by COVID-19.	
	(0.04)		
May_Black	-0.10***		
	(0.04)		
March_Hispanic	0.05*	March_Hispanic	0.06**
	(0.03)		(0.03)
May_Hispanic	0.09***	April_Hispanic	0.11***
	(0.03)		(0.03)
June_Hispanic	0.07*	May_Hispanic	0.15***
	(0.03)		(0.03)
July_Hispanic	0.07**	June_Hispanic	0.07**
	(0.03)		(0.03)
May_Asian	0.18***	April_Asian	0.10**
	(0.05)		(0.04)
June_Asian	0.22***	May_Asian	0.22***
	(0.06)		(0.05)
July_Asian	0.16***	June_Asian	0.08*
	(0.06)		(0.05)
August_Asian	0.19***		
	(0.06)		
Constant	-1.73***	Constant	-1.63***
	(0.02)		(0.02)
Personal controls	Yes	Personal controls	Yes
Observations (N)	692,506	Observations (N)	695,087

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Conclusions and Policy Implications

In conclusion, during the COVID-19 pandemic & recession, there was an increased probability of unemployment for all ***but one*** of the minority groups in the study (relative to non-Hispanic white males) depicted in both the Probit results, and the marginal effects plot. While the margins plots tell a different story (the total impact), African Americans, were fairly insulated from the high & statistically significant unemployment probabilities experienced by the two other groups (depicted in Probit results). Asians, who have been cited as the sole minority that is usually shielded from the effects of economic recession or downturn saw some of the greatest unemployment probabilities during COVID-19. Similar to Asians — Hispanics also saw an increased unemployment probabilities during COVID-19 under both the official, and expanded measure. Much like the findings in Lee et al., this study also found that the heightened minority unemployment probabilities caused by the COVID-19 pandemic have almost entirely diminished, and returned to pre-pandemic/recession levels by November, 2020.

Works Cited

Fairlie, Robert, et al. *The Impacts of COVID-19 on Minority Unemployment: First Evidence from April 2020 CPS Microdata*. National Bureau of Economic Research, May 2020, doi:10.3386/w27246.

Lee, Sang Yoon, et al. *Hit Harder, Recover Slower? Unequal Employment Effects of the COVID-19 Shock*. National Bureau of Economic Research, Jan. 2021. *NBER*, doi:10.3386/w28354.

Montenovo, Laura, et al. *Determinants of Disparities in COVID-19 Job Losses*. National Bureau of Economic Research, May 2020, doi:10.3386/w27132.

Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren. Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 [dataset]. Minneapolis, MN: IPUMS, 2020. https://doi.org/10.18128/D030.V8.0