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A Pandemic of Inequality: Demographic Disparities in COVID-Related Unemployment

Zander Donowitz
Clark University, zdonowitz@clarku.edu

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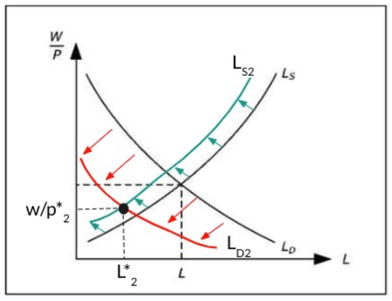
Zander Donowitz | Dr. Wayne Gray | Senior Honors Thesis | Department of Economics

Introduction

- Over the past two years, the United States labor market has experienced drastic changes as a result of the coronavirus pandemic.
- Unemployment skyrocketed to 14.7% in April 2020, marking the highest rate the U.S. has faced since the Great Depression. Additionally, household consumption has considerably declined, and tens of thousands of small businesses have either closed their doors or struggled to remain open.
- Although these broad changes have been well documented, economists are still attempting to discern which groups of American workers were most prominently affected by the COVID-19 labor market shock.
- This project aimed to analyze the ways in which the pandemic has affected the unemployment status of American workers differently across various demographic and industry categories.

Economic Theory

- Classical labor economics theory argues that the labor market consists of the demand and supply of labor.



- COVID can be viewed as a massive demand-side shock, with thousands of American businesses being forced to significantly reduce operations or close altogether.
- Supply-side shocks likely played a smaller but significant role throughout the pandemic, evidenced by workers exiting the labor force out of fear of getting sick.
- These demand and supply-side shocks cumulatively reduced the quantity of labor (from L to L_2), resulting in historically high unemployment.

Hypothesis and Dataset

- The largest overarching hypothesis for this study was that different groups of American workers—race, gender, industry, region, etc.—were affected by COVID in significantly different ways.
- Data was obtained from the Current Population Survey (CPS) conducted through the Bureau of Labor Statistics (BLS) from 2018-2021, and from The New York Times COVID-19 data visualization tool.
  1) CPS: State-level, monthly unemployment and demographic data
  2) NYT: State-level, daily COVID data (7-day averages were calculated from the 8th to the 16th of every month to align with CPS responses on the 15th)
- The merged dataset had the advantage of being large (n = 2,744,802), comprehensive (38 variables), and robust.

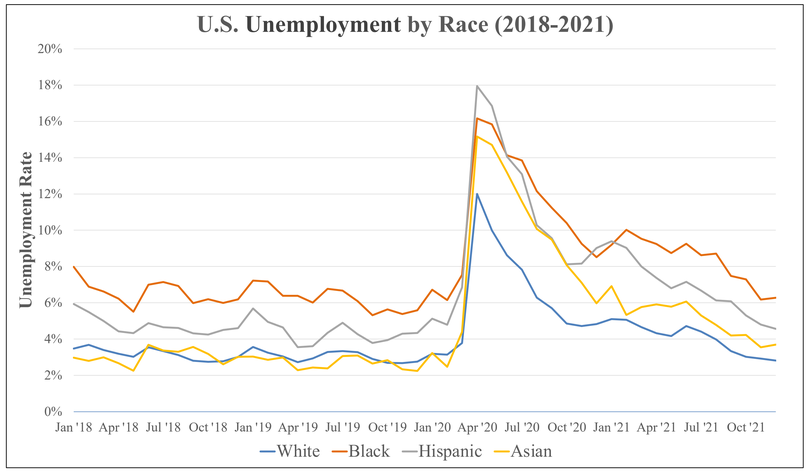
Methodology and Results

- Nineteen unique regression models were constructed to test the importance of various explanatory variables in predicting unemployment status. This was achieved by generating dozens of dummy variables (binary markers of group membership) from the merged dataset.

Base Model: Racial Demographics and Unemployment Status

$$unemployed = b_0 + b_1(Black) + b_2(Hispanic) + b_3(Asian) + b_4(pandemic) + b_5(Black*pandemic) + b_6(Hispanic*pandemic) + b_7(Asian*pandemic) + u$$

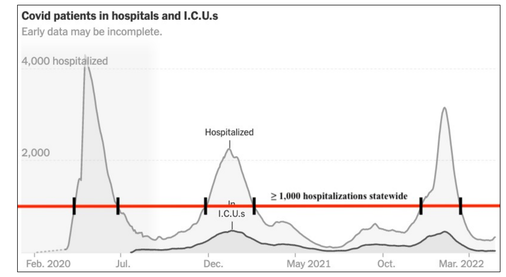
- b_1, b_2, and b_3 represent the pre-pandemic unemployment differences across racial groups, while b_4 represents the pandemic impact on the White base group. By contrast, b_5, b_6, and b_7 represent the pandemic impact for other racial groups relative to the impact on White workers.
- Subsequent models were constructed by adding additional explanatory variables (like geographic region, industry, work modality, and education level) to the base model framework.



- Regression analysis indicates that, before the pandemic, Black workers experienced roughly 3 percentage points higher unemployment than the White base group ($b_1 = 0.03$). This was the largest discrepancy of any racial group.
- During the pandemic specifically, Asian workers saw the largest and most disproportionate jump in unemployment—1.8 percentage points more than the White base group ($b_4 = 0.02$, $b_7 = 0.018$). This finding is surprising considering that Asian workers performed most similarly to White workers, if not better, during the pre-pandemic period.
- Although a variety of other explanatory variables were significant on their own (like work modality and education level), their inclusion in models did not account for the disparities seen in Asian unemployment.
- Workers in the hospitality and services industries experienced 2.9 and 1.7 percentage points higher unemployment, respectively, than the average pandemic impact on all other industries.

Results

- Epidemiological research suggests that hospitalizations are the best measure of pandemic severity. Accordingly, a separate set of regressions were run to analyze the labor market when states had ≥ 1,000 concurrent COVID hospitalizations.



- This new set of regressions largely confirmed what the original models showed using the *pandemic* time dummy variable. Asian workers experienced 1.2 percentage points more unemployment than their White counterparts during periods with high levels of COVID hospitalizations ($b_7 = 0.012$).
- Asian unemployment was most disproportionately high during the early-pandemic phase (2 percentage points higher between March-August 2020).
- During periods with high levels of COVID hospitalizations, Hispanic workers also showed 0.9 percentage points higher unemployment than the White base group ($b_6 = 0.009$). This is a new finding that was undetected by prior models.
- Geographic region, industry, work modality, and education level were the best predictors of unemployment status (supplemental to racial demographics). Still, none of these variables individually accounted for the discrepancies observed in Asian and Hispanic unemployment.

Conclusions

- In the pre-pandemic period, Black workers had the highest nominal unemployment rate of any racial group. This shows that, irrespective of COVID, there were already distinct inequalities in the American labor market.
- Across all models, Asian workers saw the highest rise in unemployment during the pandemic relative to the White base group. Hispanic workers also saw disproportionately high unemployment when there were high levels of COVID hospitalizations.
- Workers in the hospitality and services industries were unemployed at significantly higher rates than other industries throughout the pandemic.
- The reasons for the observed racial disparities are still largely unknown. It is possible that relevant explanatory variables were excluded from models unintentionally. It is also possible that, for Asian workers specifically, racial discrimination took place in the American labor market.
- Future research could analyze the affected populations more fully to deepen understandings of demographic disparities in COVID-related unemployment.