

DISCUSSION PAPER SERIES

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2020 CPS Microdata**

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ABSTRACT

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

COVID-19 abruptly impacted the labor market with the unemployment rate jumping to 14.7 percent less than two months after state governments began adopting social distancing measures. Unemployment of this magnitude has not been seen since the Great Depression. This paper provides the first study of how the pandemic impacted minority unemployment using CPS microdata through April 2020. African-Americans experienced an increase in unemployment to 16.6 percent, less than anticipated based on previous recessions. In contrast, Latinx, with an unemployment rate of 18.2 percent, were disproportionately hard hit by COVID-19. Adjusting for concerns of the BLS regarding misclassification of unemployment, we create an upper-bound measure of the national unemployment rate of 26.5 percent, which is higher than the peak observed in the Great Depression. The April 2020 upper-bound unemployment rates are an alarming 31.8 percent for blacks and 31.4 percent for Latinx. Difference-in-difference estimates suggest that blacks were, at most, only slightly disproportionately impacted by COVID-19. Non-linear decomposition estimates indicate that a slightly favorable industry distribution partly protected them being hit harder by COVID-19. The most impacted group are Latinx. Difference-in-difference estimates unequivocally indicate that Latinx were disproportionately impacted by COVID-19. An unfavorable occupational distribution and lower skills contributed to why Latinx experienced much higher unemployment rates than whites. These findings of early impacts of COVID-19 on unemployment raise important concerns about long-term economic effects for minorities.

JEL Classification: J6, J7, J15

Keywords: unemployment, inequality, labor, race, minorities, COVID-19, coronavirus, shelter-in-place, social distancing

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1. Introduction

The sudden outbreak of COVID-19 has affected the entire world. To slow the spread of the contagious disease governments have enforced stringent social distancing (i.e. “shelter-in-place” and “stay-at-home”) restrictions that have mostly shut down businesses and laid off workers in jobs and industries deemed non-essential and severely reduced demand for other businesses. The effects on the economy are readily observed through a tumultuous stock market, surge in unemployment insurance claims, and shuttering of many store fronts across the country. What is less well known, however, is whether these effects are being felt differently across the population, especially among economically disadvantaged groups such as African-Americans and Latinx. Because of limited savings and wealth these groups are especially vulnerable to negative economic shocks such as layoffs from COVID-19 (Canilang et al. 2020).

The unemployment rate among blacks in the United States has been roughly double that of whites for several decades. For example, over the past four decades, the average rate of unemployment was 11.7 percent for blacks versus 5.4 percent for whites. Historical analyses over the past century and a half indicate that the 2:1 ratio of black-to-white unemployment rates first emerged in the 1950s (Fairlie and Sundstrom 1997, 1999). In his classic study of black unemployment, Freeman (1973) finds that black employment is more volatile than white employment and that the unemployment rate for blacks rises more than that for whites when the economy weakens (concluding that it supports “the widely asserted last in, first out pattern of black employment over the cycle”). Refining the analysis to focus on unemployment transitions, blacks are found to be the first “fired” as the business cycle weakens, but not necessarily the last hired (Couch and Fairlie 2010). They are also more likely to transit out of the

labor force when leaving employment than whites. The Great Recession is found to also negatively impact minority unemployment, and recent research shows that Latinx also have higher unemployment rates and cyclical sensitivity than whites (e.g. Couch, Fairlie and Xu 2018; Hoynes, Miller, and Schaller 2012; Orrenius and Zavodny 2010).¹

In this paper, we explore how COVID-19 affected minority unemployment. We explore two main questions. First, we examine whether COVID-19 disproportionately impacted African-Americans and Latinx relative to whites. In light of the well documented “first fired” pattern and persistently higher unemployment among blacks, we might expect to see unemployment rise by twice as much for blacks as for whites, and Latinx unemployment to lie between those groups. But, COVID-19 is different than previous recessions due to health-related mandated business closures and might result in different new disproportionate impacts by race, for which even the direction is theoretically unknown. Second, we explore more generally how COVID-19 has differentially affected unemployment across job and skill types that in turn have ramifications for racial disparities in unemployment. Did the industries, occupations and skill levels of white workers insulate them from job losses due to shelter-in-place restrictions relative to minorities? Or, were minorities more likely to be in essential jobs and industries?

To test these hypotheses, we provide the first analysis of Current Population Survey (CPS) microdata from April 2020 – the first month fully capturing the immediate impacts of COVID-19. We compare impacts on black and Latinx unemployment in April 2020 relative to February 2020, longer trends in unemployment, and the Great Recession. Our analysis reveals that even though the black unemployment rate skyrocketed to 16.6 percent, blacks were not

¹ The average Latinx unemployment rate over the past four decades (1980-2019) was 8.6 percent.

disproportionately impacted relative to whites by COVID-19 in April 2020 compared to previous months using the official measure of unemployment. The black-white unemployment rate gap increased by 0.4 percentage points in April from February 2020 but actually declined in comparison to the experience of the Great Recession. Difference-in-difference estimates indicate either a null or slightly negative (i.e. lower) disproportionate impact on unemployment for blacks from COVID-19. Turning to an upper-bound measure of unemployment based on BLS concerns about misclassifications of workers (Bureau of Labor Statistics 2020), we find a black unemployment rate that shot up to 31.8 percent, 8.3 percentage points higher than for whites. Difference-in-difference estimates provide some evidence of a small disproportionate impact on the black-white gap in unemployment from COVID-19.

The impacts on Latinx are less ambiguous. The unemployment rate among Latinx increased in April 2020 to 18.2 percent, or 31.4 percent, using the upper-bound measure of unemployment. Either rate is considerably higher than for whites. Difference-in-difference estimates provide consistent evidence across all time periods and measures used of disproportionate increases in Latinx unemployment relative to whites due to COVID-19.

To test the second hypothesis, we estimate non-linear decompositions to identify the job-, skill- and geography-related factors that placed minorities at more or less of a risk of losing jobs due to COVID-19. There are three main findings from the analysis. First, we find that blacks had a somewhat favorable industry distribution that partially protected them from becoming unemployed in April 2020 relative to whites. Second, we find that a less favorable occupational distribution and lower skills contributed to why Latinx experienced much higher unemployment

rates than whites. Finally, we find that occupational and educational differences contribute to why blacks have higher unemployment rates in the early stages of the pandemic.

The findings from our paper contribute to a small emerging literature on the early-stage COVID-19 impacts on the labor market. Kahn, Lange and Wiczer (2020) make use of job posting data from Burning Glass along with data on initial Unemployment Insurance claims to analyze the decline in labor demand and concentrations of job loss. They find that job postings declined by 30 percent and that with the exception of employment in essential industries that all states and sectors experienced sharp increases in unemployment. Using payroll data Cajner et al. (2020) find that private sector payrolls shrank by 22 percent in the two-month span from mid-March to mid-April. Montenegro et al. (2020) use CPS data from March 2020 to construct indices of job characteristics to explore differences in factors expected to be related to job loss such as the ability to work remotely and the importance of face-to-face contact across a wide range of groups. They find that these factors help explain differences in emerging unemployment rates across groups in addition to the general occupational distribution. Our paper builds on the results of these previous studies by providing the first detailed analysis of unemployment among minorities driven by the spread of the coronavirus in the United States and the first study of the early effects of COVID-19 on unemployment using April 2020 CPS data.

2. Context and Data

COVID-19

The first diagnosed case of the novel coronavirus (COVID-19) in the United States was reported on January 20, 2020 in the state of Washington (Holshue et al. 2020). Subsequent cases were reported in Illinois by January 24th and California and Arizona by January 26th (Lardieri 2020). By March 17th, all states in the U.S. had reported cases (NPR, March 17, 2020). As the disease spread, social distancing measures were quickly adopted, first in localities and settings such as education but on a statewide basis beginning in California on March 19th. By March 23rd, all states had adopted some social distancing measures which in many states included closures of non-essential businesses (Adolph et al. 2020). These policy reactions as well as those of individuals as business owners, employees and customers to the rapidly spreading virus raised concerns about sharp increases in unemployment.

Current Population Survey (CPS)

The data used in the analysis are the Basic Monthly Files from the Current Population Survey (CPS), the source of the official household-based survey measure of unemployment tracked by the Bureau of Labor Statistics (BLS). These surveys, conducted monthly by the U.S. Bureau of the Census and the U.S. Bureau of Labor Statistics, are representative of the entire U.S. population and contain observations for more than 130,000 people.

Released on the Friday of the first or second full week of each month, the survey is typically collected in a reference week containing the 12th day of the prior month. The March CPS survey, for example, reflected events as they had evolved through March 14th, the end of the survey period for March data. The survey results showed that the unemployment rate in March rose to 4.4 percent reflecting an increase of 1.4 million additional unemployed

Americans from February 2020 (BLS April 2020, Table A). However, it is well understood that the March data did not reflect many of the individual and policy responses to the spread of the virus and resulting unemployment.

The April CPS data was collected the week of the 12th through 18th of the month of April. In contrast to the March data, the April data are collected after all states had implemented social distancing measures due to COVID-19. Thus, our analysis of the impact of the coronavirus on the U.S. labor market using the April 2020 CPS data will begin to more fully capture the impact of the pandemic on the labor market relative to analyses of the March data.

When the BLS released the April data (BLS May 2020), concerns were raised regarding individuals who were not working but who were being paid that should have been coded as unemployed but were instead counted as employed. Additionally, a large fraction of those who lost work indicated that they wanted a job but were not actively looking for work and were coded as out of the labor force rather than unemployed. In our analyses, we provide alternate unemployment calculations adding these people to the count of the unemployed as their work was impacted by the pandemic. This is one way of incorporating minorities who have a greater tendency to leave the labor force when a job is lost into the analysis.

Method for Classifying Essential and Non-Essential Industries

As cases of COVID-19 were found in the U.S. individual states mandated closure of non-essential businesses while allowing essential businesses to remain open. We use Delaware's essential business criteria to determine whether an industry is essential in the CPS data at the

4-digit industry level.² The Delaware State list is the most comprehensive and detailed set of codes that we could find. It also follows the same 4-digit industry codes as the CPS (North American Industry Classification System, NAICS). The only modification we made is that we noticed that a few industries are classified as non-essential but are actually being run remotely (e.g. all education). We thus define these industries as essential. Using this measure, we find that 84 percent of the workforce is in essential 4-digit industries.³ The classification is likely to be imperfect, however, because definitions, enforcement, business owner compliance and consumer reactions vary across the country.

3. Disparities in Unemployment

Unemployment Rate by Race in the Pandemic

Table 1 reports estimates of unemployment rates by race for April 2020 and other time periods for comparison (also see Figures 2-5). The unemployment rate was alarmingly high in April 2020. The U.S. unemployment rate hit 14.5 percent which was the highest level since the Great Depression and roughly 5 percentage points (or 50 percent) higher than the peak during the Great Recession. All racial groups experienced massive increases in unemployment in April 2020. The unemployment rate hit 16.6 percent for African-Americans and 12.8 percent for whites (which we measure as white non-Hispanic throughout). The highest level was for Latinx at 18.2 percent. Asians experienced an unemployment rate of 13.7 percent.

² The Delaware’s full list can be accessed at the reference link “List of Delaware Business Categories that are Essential and Non-Essential (March 22, 2020)”, <https://coronavirus.delaware.gov/resources-for-businesses/>.

³ In the analyses below, we also use a definition that aggregates industries to the 2-digit level (52 categories) and defines an industry to be essential if at least 50% of more detailed industries are essential. Using this categorizations we find that 62 percent of the workforce are in essential industries. Findings are similar using this alternative 2-digit definition.

As shown in Table 1, the comparison to February 2020, the last month before statewide social distancing measures were put in place, is striking. The unemployment rate was at or near long-term lows of 6.4 percent for blacks and 4.7 percent for Latinx. Whites had an unemployment rate of 3.1 percent and Asians 2.6 percent. Over the two-month time period subsequently impacted by the coronavirus, the unemployment rate increased by 9.7 percentage points for whites. For blacks, unemployment rates increased by slightly more (10.2 percentage points). This contrasts sharply with previous recessions in which black unemployment rates tended to increase by much more in percentage points because of a constant proportional change relative to whites (i.e. usually maintaining the oft-noted 2:1 ratio).

The unemployment rate increased by 13.5 percentage points for Latinx which was the largest increase for any group. Asians also experienced a relatively large increase in unemployment (11.1 percentage points) from one month prior to social distancing restrictions and one month into those restrictions. Comparisons to January 2020 reveal similar sharp increases in unemployment rates. Interestingly, from January to April 2020, the increase in black unemployment rates was 9.8 percentage points, almost identical to the increase for whites of 9.7 percentage points.

Unemployment rates measured in March of 2020 began to reveal changes from earlier months, but were only a fraction of the size of increases observed in April 2020. Restrictions in most localities across the United States were put in place after mid-month following data collection for the March survey. The BLS (April 2020) notes “the March survey reference periods for both surveys predated many coronavirus-related business and school closures in the

second half of the month.” Thus, we focus on comparisons between April 2020, February 2020 and other time periods.

Using the period from January 2017 to December 2019, we find that black unemployment at 6.8 percent was 3.5 percentage points higher than for whites (again displaying the roughly 2:1 ratio). Latinx unemployment was 4.6 percent which was 1.4 percentage points higher than white rates.

Comparing what is happening due to COVID-19 and the previous recession is illustrative. In the Great Recession, black unemployment rates were 11.4 percent which was 5.8 percentage points higher than white rates. Latinx unemployment rates were 8.7 percent (3.1 percentage points higher than white rates). In previous work, we find that the disproportionate increase in unemployment among blacks and Latinx was due to increased job loss, which is consistent with widely asserted “first fired” patterns (Couch and Fairlie 2000; Couch, Fairlie and Xu 2018). The 2:1 ratio holds roughly over the business cycle for blacks resulting in much larger racial gaps in unemployment rates measured in percentage points.

Figure 1 displays unemployment rates by race from January 2001 to April 2020. The patterns over time are clear. Black and Latinx unemployment rates follow white unemployment rates rising and falling cyclically, and the gap becomes larger in downturns and smaller in growth periods. The gaps between black and white unemployment historically are larger than for Latinx versus the whites.

In Figure 1, the COVID-19 recession starting in April 2020 resulted in an anomalous, striking jump in unemployment rates for all groups. Extremely rapid job loss of this scale is

unprecedented. The pattern is also anomalous because the unemployment rate for the Latinx group in April (18.2 percent) exceeded that of blacks (16.6 percent) for the first time.

The Disproportionate Impacts of COVID-19 on Minorities

The comparison of racial differences in unemployment rates (i.e. gaps) in April 2020 to previous time periods creates a simple and straightforward difference-in-difference estimate of the disproportionate impacts of COVID-19 on minority unemployment rates. The black-white gap in April 2020 shown in Table 1 is 3.8 percentage points. This is only slightly larger than the gaps of 3.4 percentage points in February 2020, 3.7 percentage points in January, and 3.5 percentage points from 2017-2019. The difference then between the black-white unemployment gap in April versus these prior months and years is small. Looking back further to the most recent recession for comparison, the black-white gap in the Great Recession was much higher at 5.8 percentage points. Blacks experienced a smaller negative impact on their employment relative to whites due to COVID-19 when compared to what happened in the Great Recession and the small relative impact in prior months. This is an important break from prior cyclical behavior of unemployment rates.

In sharp contrast to these patterns, Latinx experienced a much worse impact on unemployment in April 2020 as seen in Table 1. The Latinx-white unemployment gap in the three year span from 2017-2019 was 1.4 percentage points. The gap in the months of January and February of 2020 were 2.0 and 1.7 percentage points respectively. The gap soared to 5.4 percentage points in April 2020. The COVID-19 Latinx-white gap is already higher than it was during the Great Recession (3.1 percentage points). Latinos clearly experienced a

disproportionately large impact from COVID-19 in comparison to recent months or the Great Recession.

Newly Unemployed

Table 1 also reports estimates of unemployment rates for those newly unemployed at the time of the April 2020 CPS survey. We create a definition of unemployment that only captures individuals who were unemployed within the past two months. For the mid-April survey this moves the start date of the unemployment spell back to mid-February, prior to shelter-in-place restrictions and the February 2020 survey. It captures those who lost jobs as the coronavirus spread. This newly unemployed rate for blacks is 14.3 percent which is 2.8 percentage points higher than for whites.⁴ The Latinx newly unemployed rate is 16.3 percentage points which is 4.8 percentage points higher than for whites. The racial gaps for blacks and Latinx are somewhat lower when focusing on this measure, but remain very high for Latinx.

Adding Discouraged Workers and Absent Workers

The BLS released warnings about the March and April 2020 counts of unemployment indicating they may possibly be too low. In the reports (BLS April 2020, p. 4) they note that “workers who indicate that they were not working during the entire reference week due to efforts to contain the spread of the coronavirus should be classified as unemployed on

⁴ The newly unemployment rate excludes the longer-term unemployed (i.e. more than 2 months) from the sample. This group represents 16 percent of the April 2020 unemployed for blacks and 12 percent for whites.

temporary layoff, whether or not they are paid for the time they were off work.” But, when BLS made careful comparisons to previous months and years, they found that many of these workers were classified (*ibid*) as “employed but absent from work.” BLS’s goal was that these workers should have been classified as unemployed on temporary layoff. Appropriateness of inclusion of these workers in unemployment, however, is not entirely unambiguous. If a worker is on temporary work restriction, but getting paid by their employer does that fit the definition of unemployment?

Another concern noted by the BLS in the April 2020 Report was that the number of people not in the labor force reporting that they currently want a job nearly doubled in April. Unemployment is defined by not having a job and “actively looking for and available for work.” But, in the current pandemic there is the concern that some individuals were classified as not in the labor force (NILF) even though they wanted a job. The BLS notes that the large increase in the NILF want a job category “reflects the impact of the pandemic on the job market.” The problem is that because of the pandemic many people who wanted a job in April had not looked for work recently. BLS notes that if these individuals “had actively looked for work in the prior 4 weeks and were available to take a job, they would have been counted among the unemployed.” This group could also be added to the unemployment numbers to gauge the impact of the coronavirus on nonemployment.

To gauge the potential importance of these concerns, we create a second measure of unemployment at the individual level to incorporate these two groups noted by the BLS as representing labor market impacts of the pandemic. This “upper-bound” measure of unemployment adds both the group that reported being employed but absent from work and

those NILF who wanted a job. We add those who were NILF back to the labor force (i.e. denominator) to recalculate the unemployment rates for different periods and groups.

Table 2 reports these alternate estimates of unemployment. In February 2020, the official unemployment rate was 3.8 percent and the alternate upper-bound unemployment rate was 9.1 percent. In April 2020, however, the national unemployment rate was 14.5 percent and the upper-bound (UB) unemployment rate was 26.5 percent. One view of this alternate measure, which more broadly reflects labor market impacts of COVID-19, is that unemployment is already exceeding the peak seen in the Great Depression.

For this alternate upper-bound measure we find that blacks had an unemployment rate of 31.8 percent, 8.3 percentage points higher than the white rate. This black-white gap is larger than it was in February 2020 (5.0 percent), January 2020 (5.3 percent), or in the three years from 2017-2019 (4.6 percent) suggesting that blacks experienced a disproportionate impact from COVID-19 (relative to whites) of about 3 percentage points using the expanded measure of unemployment relative to recent months. In the Great Recession the upper-bound unemployment rate was 7.2 percentage points higher for blacks than whites. While the current gap in unemployment between blacks and whites is similar to that observed in the Great Recession using this alternate measure of unemployment, it is important to bear in mind that the current increase in unemployment has occurred in two months. The larger gap under this alternative measure also points to the tendency of blacks to exit the labor force when unemployment is experienced and this pattern appears to remain in place in this pandemic induced recession.

For the Latinx group, the upper-bound measure indicates an unemployment rate of 31.4 percent in April of 2020 which is 7.9 percentage points higher than for whites. This large differential also contrasts with much smaller gaps in February (1.4 percentage points), January (2.1 percentage points), or the previous three year time period (1.2 percentage points). Thus, the gap widened by 5 to 6 percentage points in comparison to recent months. It also contrasts with a smaller gap in the Great Recession of 2.6 percentage points. Latinx experienced an unambiguously large disproportionate impact from COVID on unemployment.

Difference-in-Difference Regressions Showing COVID-19 Impacts

To more formally test whether COVID-19 had disproportionate impacts on unemployment among minorities, we turn to a regression analysis. The following regression equation for the probability of unemployment is estimated:

$$(3.1) U_{it} = \alpha + \gamma_1 \text{Black}_i + \gamma_2 \text{Latinx}_i + \gamma_3 \text{Asian}_i + \pi \text{COVID}_t + \delta_1 \text{Black} * \text{COVID}_t + \delta_2 \text{Latinx} * \text{COVID}_t + \delta_3 \text{Asian} * \text{COVID}_t + \beta' X_{it} + \lambda_t + \theta_t + \varepsilon_{it},$$

where U_{it} equals 1 if the individual is unemployed in the survey month and 0 otherwise, COVID_t is a dummy variable for April 2020, X_{it} includes individual, regional and job characteristics, λ_t are month (i.e. January, ... , December) fixed effects to control for seasonal variation in unemployment, θ_t are year fixed effects and/or time trends, and ε_{it} is the error term. March 2020 is excluded from the sample to avoid complications associated with a partially COVID-19 impacted month. The parameters of interest are δ_1 , δ_2 and δ_3 . They capture the difference-in-difference or disproportionate effect estimates of the coronavirus on minority unemployment.

All specifications are estimated with OLS using CPS sample weights and robust standard errors. Marginal effects estimates are similar from probit and logit models, and are thus not reported.

Table 3 reports estimates of (3.1) that vary the sample time period and time controls. Specification 1 includes only February and April 2020 data. Specification 2 uses data from January 2017 to April 2020, omitting March 2020. Specification 3 similarly spans December 2007 to April 2020, omitting March 2020. Columns (1) through (3) make use of the official unemployment measure while Columns (4) through (6) use the expanded upper-bound measure of unemployment. The regressions also hold constant group differences in individual, job and geographic characteristics as they are available for different samples.

The results in Specification 1 based on the official measure of unemployment show that COVID-19 resulted in a 10.1 percentage point increase that is highly statistically significant. For blacks, the impact of COVID did not meaningfully widen the unemployment gap in April compared to February. In contrast, Latinx experienced a large and statistically significant increase in unemployment relative to whites of 3.7 percentage points. Asians experienced a smaller increase in unemployment of 1.5 percentage points due to COVID-19 (which is significant at the 0.10 level). Specification 2 extends the sample period back to January 2007, and adds a time trend and month of year dummies (to control for seasonality). The estimates are similar.

Specification 3 extends the sample period back to the start of the Great Recession – starting in December 2007. The Great Recession also becomes the reference time period in this regression. We now find a negative COVID estimate of -0.014 for blacks which suggests that the black-white gap in unemployment was smaller than thus far due to COVID-19 than during the

Great Recession even after controlling for numerous other factors. For Latinx, the change in reference time period continues to reveal a disproportionate effect of COVID-19 on their unemployment. Asians experience a smaller widening between their rate of unemployment and that of whites.

Given the much higher levels of unemployment when we add the individuals that the BLS cautions may have been misclassified, we also estimate the difference-in-difference models using this upper-bound unemployment measure in Specifications 4-6. We note, however, that we cannot include occupation and industry controls for all observations because they are not collected for more than 90 percent of those out of the labor force. The impact of COVID-19 for all groups in column (4) using only February and April data is a 13.9 percentage point increase in unemployment. Although these levels are higher, changes over time for the gap in black-white unemployment due to COVID-19 are estimated to be 1.5 percentage points ($p < .10$). A similar estimate is found in Specification 5 when the sample is expanded back to 2017 (now with $p < .05$). A statistically significant estimate is not found for changes due to COVID when the data are extended back to the Great Recession.⁵

Using the alternate definition of employment for Latinx, the estimated increase in the unemployment gap due to COVID-19 ranges from 4.7 to 5.5 percentage points depending on the sample used in Specifications 4-6. Similarly, the change in the gap due to COVID-19 ranges from 3.0 to 4.4 percentage points for Asians. Thus, using either definition of unemployment, Latinx have been most impacted by COVID-19 followed closely by Asians. The change in the

⁵ For this specification, because of data availability in creating the upper-bound measure of unemployment the sample is limited to December 2007 through June of 2009 and January 2017 through April 2020 excluding March 2020.

unemployment gap for blacks due to COVID-19 as the economy has worsened has been muted in comparison to prior downturns.

4. Job and Skill-Level Risk Factors for COVID-19 Impacts

To investigate whether various job, skill and region characteristics place minorities at differential risk of unemployment in general and during COVID-19, we examine distributions in these characteristics by race and then perform decompositions that identify which factors are the most important. Table 4 presents racial differences in risk factors for unemployment such as education, potential work experience, industry, occupation and geographical region calculated over the 3 years prior to the implementation of social distancing measures (February 2017 through February 2020) as well as the national unemployment rate for that classification in April 2020. There are major differences in characteristics across racial groups. Considering educational categories, the largest unemployment rates in April are among those with less than a high school (LTHS) education (23.8 percent) and high school graduates (18.7 percent). 23.7 percent of Latinx workers have LTHS education, more than 4 times any other group. Further, more than 30 percent of blacks and Latinx have a high school degree as their highest level of education. Those with graduate degrees have the lowest rates of unemployment in April 2020 (6.3 percent): blacks and Latinx have the lowest proportions in this group. Thus, Latinx are concentrated among educational categories consistent with lower skills and a higher likelihood of unemployment and to a lesser extent this is true for blacks.

Another major difference across racial and ethnic groups is their geographical concentrations across the country. The majority of blacks (57.2 percent) live in the South

whereas the South captures no more than 39 percent of the population for any other group. Nearly half of all Asians live in the West, and 40 percent of Latinx live in the West. The Midwest captures 27 percent of the white population, which is the highest of all groups. Average unemployment in the South is about 2.5 percentage points lower in other regions and this may be advantageous for blacks in retaining employment.

In terms of potential work experience (age – year of school leaving), observed distributions across groups are consistent with national demographic patterns. Relatively recent entrants to the labor market with 20 years or fewer years of potential labor market experience are more likely to be non-white (Latinx, black, Asian). This lack of relative skills accumulated through job experience serves as a disadvantage to these minority groups because unemployment rates in April of 2020 are particularly concentrated among those with low levels of experience.

A factor that might be expected to influence group unemployment is the distribution of workers across essential and non-essential industries. Table 4 shows that although unemployment is concentrated among workers in non-essential industries (30 percent) that there is little variation in the proportion employed in those industries across groups. The range across blacks, Latinx, Asians and whites in non-essential industries is only from 15.2 to 16.5 percent.

Across major industry groups, the highest unemployment rates occurred in Leisure and Hospitality (38 percent) where Latinx have the largest prior concentration of employment (12.4 percent) of any group although blacks and Asians also have higher proportions than whites employed in this industry. Similarly, rates of unemployment are high in Wholesale and Retail

Trade (16.7 percent) and Construction (15.6 percent) and Latinx have the highest proportion of any group employed in those industries. In areas like Educational and Health Services which has a relatively low rate of unemployment (11.3 percent), blacks and whites have the largest shares of their workers employed, 27.1 and 23.1 percent respectively.

Across occupations, the highest observed unemployment rate is for Service Occupations (27.3 percent). Blacks and Hispanics have the highest proportions (24.3 and 24.1 percent respectively) employed in Service occupations which is predictive of a greater chance of job loss. Construction and Extraction Occupations also have a high unemployment rate of 19.1 percent in April. Again, Latinx have the largest concentration of their workers (11.4 percent) in this industry. The two categories with the lowest rates of unemployment are Management, Business and Financial Occupations (6.2 percent) and Professional and Related Occupations (8.8 percent). 44.9 percent of whites are employed in these two occupations and but only 22.1 percent of Latinx and 30.3 percent of Blacks. The concentration of Latinx and to a lesser extent blacks in high unemployment occupations and their relative under representation in low unemployment occupations suggests that in comparison, the occupational distribution is not favorable to their employment in the current recession.

Overall, there exist major differences in education, geography and job characteristics across racial and ethnic groups. These patterns, especially across occupations and industries, are likely to contribute to differences in unemployment rates, but it is difficult to assess how important these differences are to the racial gaps in unemployment rates. The decompositions presented in the next section shed direct light on this question.

Decomposition Technique

The comparison of average skill, job and geographic characteristics across racial groups identifies several potential risk factors for high levels of minority unemployment. The comparison, however, does not specify how much each risk factor contributes directly to unemployment rate disparities. To explore this question we perform a decomposition technique that allows one to estimate the separate contributions from differences between groups in education, industry and other characteristics to the racial gaps in unemployment rates.

Specifically, we "decompose" inter-group differences in a dependent variable into those due to different observable characteristics across groups (sometime referred to as the endowment effect) and those due to different "prices" of characteristics of groups (see Blinder 1973 and Oaxaca 1973). The Blinder-Oaxaca decomposition of the white/minority gap in the average value of the dependent variable, Y, can be expressed as:

$$(1) \bar{Y}^W - \bar{Y}^M = [(\bar{X}^W - \bar{X}^M) \hat{\beta}^W] + [\bar{X}^M (\hat{\beta}^W - \hat{\beta}^M)].$$

Similar to most recent studies applying the decomposition technique, we focus on estimating the first component of the decomposition that captures contributions from differences in observable characteristics or "endowments." We do not report estimates for the second or "unexplained" component of the decomposition because it partly captures contributions from group differences in unmeasurable characteristics and is sensitive to the choice of left-out categories making the results difficult to interpret.

We also weight the first term of the decomposition expression using coefficient estimates from a pooled sample of all groups (see Oaxaca and Ransom 1994 for example). It is becoming increasingly popular to use the full sample of all races to estimate the coefficients instead of one group such as whites because it incorporates the full market response and does not exclude rapidly growing groups of the population such as Latinx and Asians (see Fairlie 2017 for more details).⁶ It is also advantageous in situations with multiple group comparisons because it creates a common base.

The contribution from ethnic/racial differences in the characteristics can thus be written as:

$$(2) (\bar{X}^W - \bar{X}^B) \beta^*$$

Where \bar{X}^j are means of firm characteristics of race j , β^* is a vector of pooled coefficient estimates, and $j=W$ or M for white or minority, respectively. Equation (2) provides an estimate of the contribution of ethnic/racial differences in the entire set of independent variables to the racial gap. Separate calculations are made to identify the contribution of group differences in specific variables to the gap.⁷

The Blinder-Oaxaca decomposition represented in equation (2) is used to identify the causes of differences in unemployment, but with an adjustment for the binary unemployment variable. We use a popular alternative non-linear decomposition technique (Fairlie 1999, 2017; Jann 2006).

⁶ Dummy variables for each racial group are also included in the underlying regression.

⁷ In the Blinder-Oaxaca technique the contribution estimates are insensitive to the choice of the left-out category. For example, the percent explained by education would be the same if the lowest education category is the left-out category in the underlying regressions or if the highest education category is the left-out category in the underlying regressions.

Decomposition Results

Table 5 reports estimates from the non-linear procedure for decomposing gaps in unemployment between whites and blacks, Latinx and Asians separately. Specification 1 reports estimates for the factors contributing to the difference in unemployment rates between blacks and whites (3.8 percentage points). The decomposition reveals that having lower skills as measured by education contributes 0.5 percentage points to the unemployment gap. The largest factor contributing to the gap is the related occupational distribution which adds 1.3 percentage points to the gap.⁸ Regional differences do not explain the gap, and potential work experience explains only a small part.

Interestingly, the industry distribution of blacks does not contribute to why blacks have higher rates of unemployment in April 2020, but instead works in the opposite direction. Blacks actually have a “favorable” industry distribution meaning that overall they are more likely to be concentrated in industries that were hit less hard by COVID. The magnitude of this contribution, however, is not very large working to narrow the gap in unemployment by 0.3 percentage points (i.e. if blacks were in the same industries as whites their unemployment rate would have increased by 0.3 percentage points).

Occupation, education and industry all worked in the same adverse direction and contributed to the higher rates of unemployment among Latinx than whites. The less

⁸ We collapse the major occupation codes listed in Table 4 into three broad categories related to broad skill levels requirements (management, professional and related; service, sales and office; and blue collar). Collapsing categories from the 11 major occupation codes is necessitated by the overlap of some categories with major industry codes.

“favorable” occupation distribution accounts for 2.2 of the 5.4 percentage point gap. Lower levels of Latinx education explained an additional 1.1 percentage points, and industry explains 0.2 percentage points. The regional distribution and lower work experience also contributed to the Latinx/white gap.

Unemployment in April 2020 included a component related to longer-term structural unemployment that differs by race, and a new COVID related component. We attempt to separate these components in two ways. First, we estimate decompositions for newly unemployed in April 2020 (i.e. those with an unemployment spell of less than or equal to 2 months). We remove observations with unemployment spells of more than 2 months from the sample because they are not “at risk” of becoming unemployed due to COVID-19. Second, we estimate a decomposition using February 2020 data to identify longer-term structural explanations that predate shelter-in-place restrictions.⁹

Appendix Table A.1 reports estimates for the newly unemployed in April 2020. The decomposition results essentially show the same results. The main decompositions are mostly capturing the explanations for why the racial gaps exist in unemployment in April 2020 which is consistent with the newly unemployed comprising the bulk of unemployment in April 2020. One difference is that the black industry distribution appears to have protected blacks from new unemployment more relative to whites than for total unemployment in April 2020. Comparing the main results to February 2020 (Appendix Table A.2) the primary difference is that for blacks and Latinx occupation differences contribute much less to the gap in unemployment rates. Skill distributions as measured by education levels also contribute less to

⁹ Estimates are similar when we focus on earlier time periods from January 2017 to December 2019.

the gaps in unemployment rates in February 2020. Finally, Appendix Table A.3 reports results for the decomposition using a partially expanded definition of unemployment by defining those employed but absent job as unemployed. The added group of NILF-want job are excluded because they do not have industry and occupation codes. Using this expanded definition the results are roughly similar to those reported in Table 5.

5. Conclusions

Social distancing restrictions that closed down many businesses in the United States due to COVID-19 created an unprecedented increase in unemployment. The impacts of COVID-19 on unemployment were felt across the population, but created a downturn dissimilar to previous recessions when viewed by race. We provide a first examination of whether minorities were disproportionately negatively affected by COVID-19 using data from April 2020. In addition to providing new estimates from the CPS data we use difference-in-difference estimates and non-linear decomposition techniques to identify impacts and their causes. African-Americans experienced an increase in unemployment in April 2020, but unlike in previous recessions, the 2:1 ratio of black relative to white unemployment rates did not hold. COVID-19 resulted in, at most, a slightly disproportionate impact on black relative to white unemployment, but smaller than in the Great Recession. Blacks were partly protected because of a favorable mix of the industries in which they are employed. An unfavorable distribution of employment across occupations and lower skills, however, contributed to higher unemployment rates in April 2020.

In contrast to the impacts on blacks, Latinx were unequivocally hit disproportionately hard by COVID-19. Unemployment rates rose much faster for Latinx than for blacks or whites in April, the first month beyond the shelter-in-place restrictions. The occupations, industries, and skill-levels of Latinx placed them in an especially vulnerable position to the immediate layoffs that occurred as a result of the coronavirus.

In response to stated concerns from the BLS regarding the possible misclassification of substantial numbers of those who were not at work and those who wanted a job but perhaps could not look due to the coronavirus, we tabulated an alternate unemployment series that we consider to be an upper-bound measure of unemployment. Prior research indicates that minorities are more likely to leave the labor force in the wake of job loss so including those who report being NILF but want a job may provide a more complete gauge of COVID-19 on nonemployment. If closures are prolonged, then those who are absent from their work but being paid may ultimately be laid off. Accounting for these possibilities with a new upper-bound unemployment series raises the national unemployment rate to 26.5 percent in April, higher than the peak observed in the Great Depression. The upper-bound measure results in extremely alarming unemployment levels of 31.8 percent for African-Americans and 31.4 percent for Latinx.

These racial patterns in unemployment impacts are important and likely have major impacts on a wide range of short- and long-term economic outcomes. Minorities in general have less financial reserves (Canilang et al. 2020) and the partial shutdown of the economy is likely to lead to immediate difficulty in meeting basic needs like nutrition and healthcare and a

wave of late payments on basic bills including housing.¹⁰ If shelter-in-place restrictions continue for several more months and the economy slips into a longer-term recession, additional waves of economic disruptions are likely to follow. Perhaps, most importantly the ramifications of these unemployment spells will worsen longer term trends in earnings, income and wealth inequality.

¹⁰ In the first week of April, the Federal Reserve Board of Governors fielded a survey of 1,000 families finding that among job losers, furloughs and lost hours workers, 35 percent reported that they would not be able to pay their monthly bills in full.

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Figure 1. Unemployment Rate by Race, Not Seasonally Adjusted, 2001 January to 2020 April

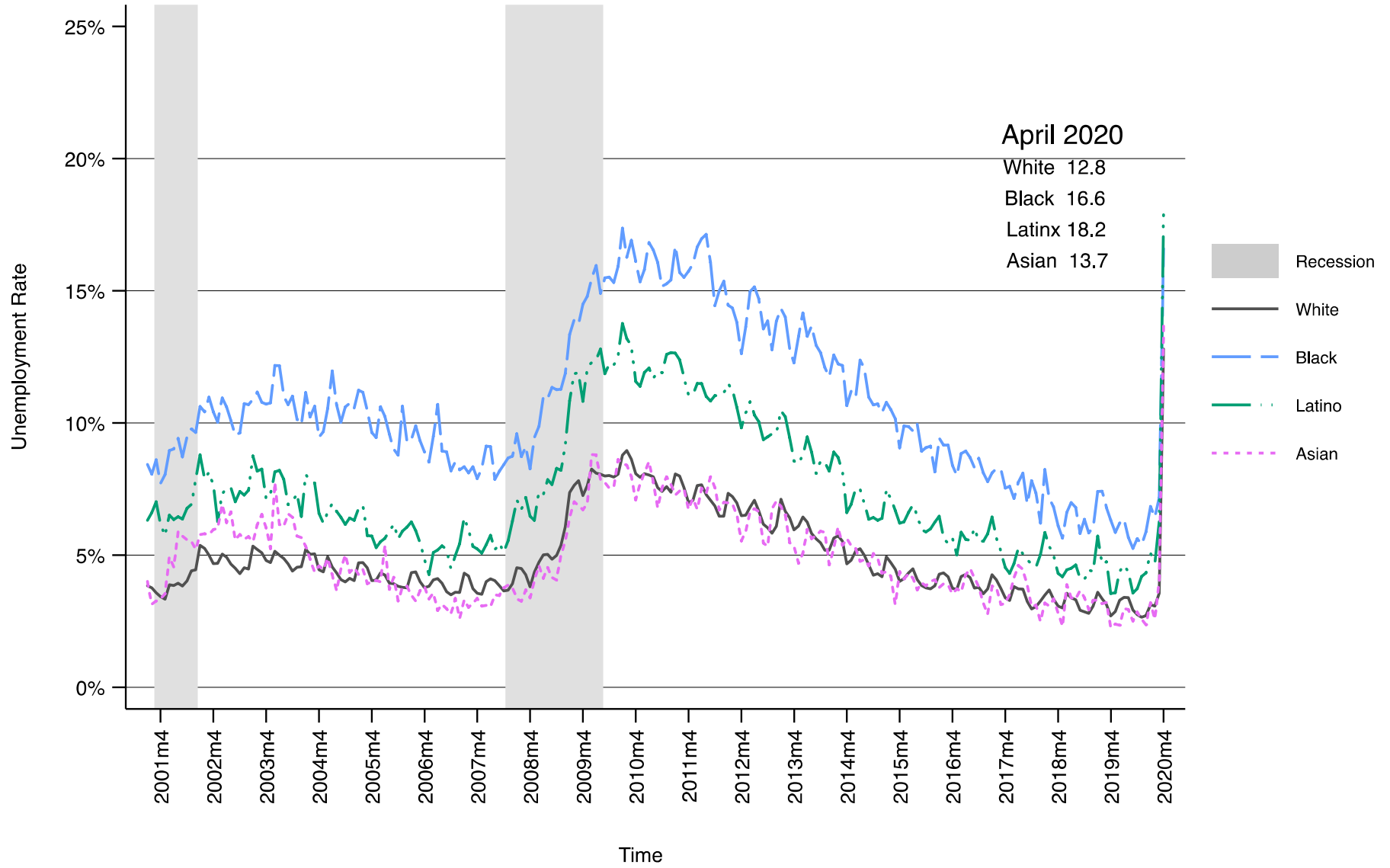


Figure 2: Unemployment Rates before and after COVID-19

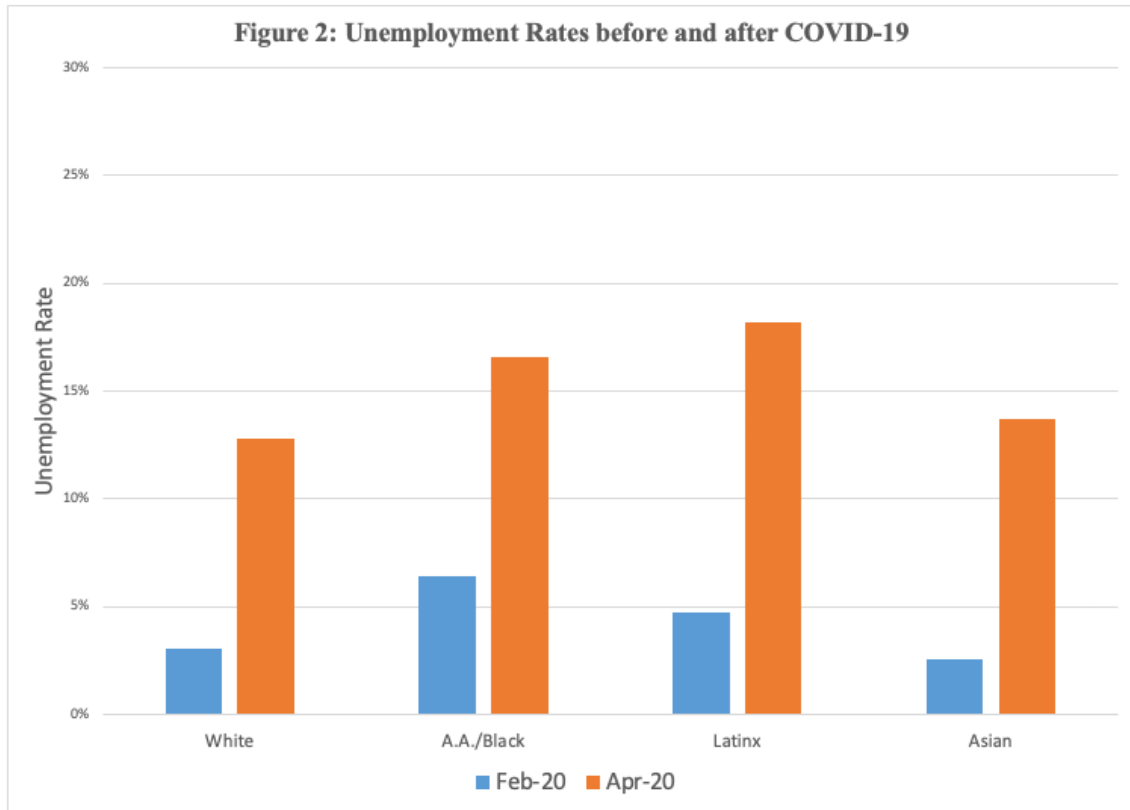
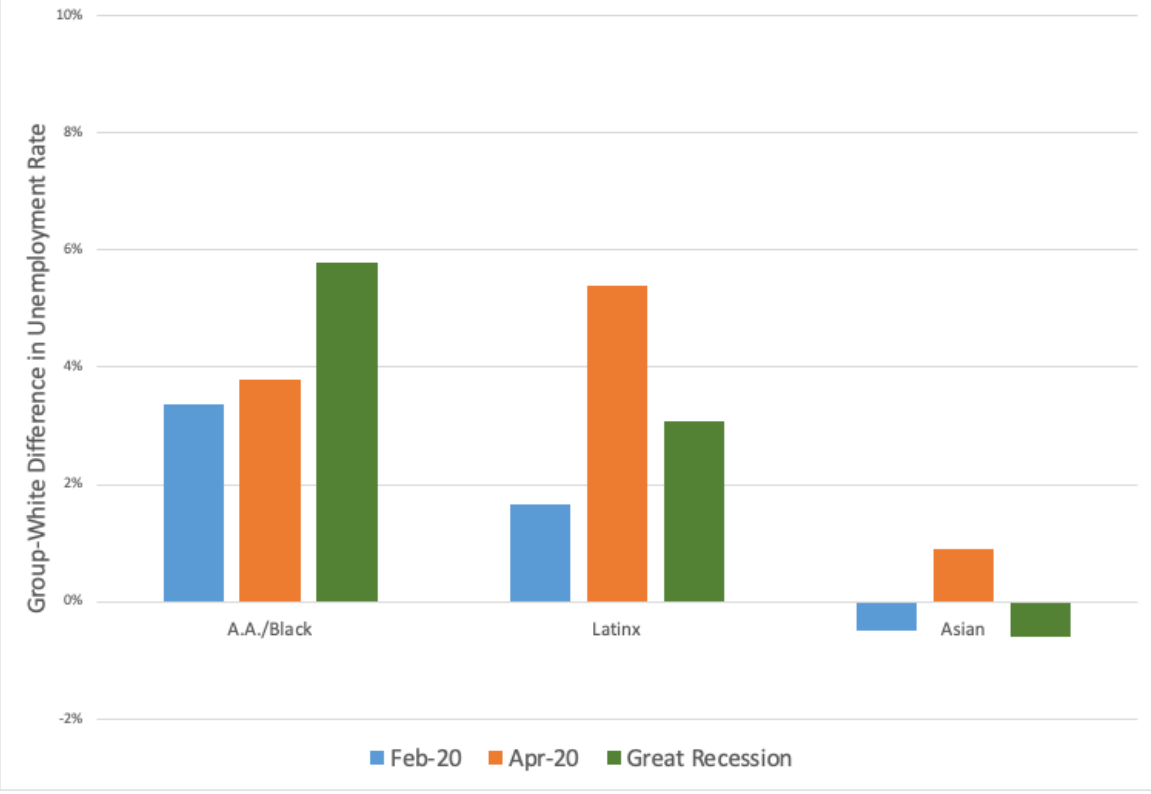
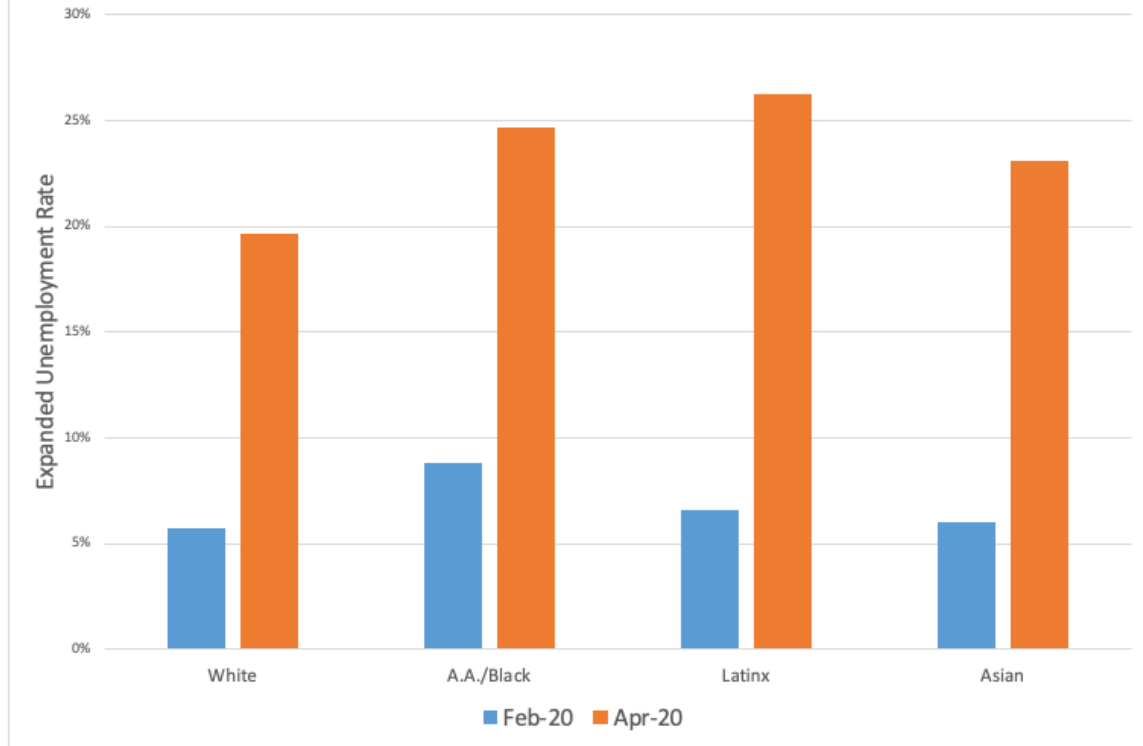


Figure 3: Racial Gaps in Unemployment Rates around COVID-19



**Figure 4: Unemployment Rates before and after COVID-19
(Upper-Bound Measure)**



**Figure 5: Racial Gaps in Unemployment Rates around COVID-19
(Upper-Bound Measure)**

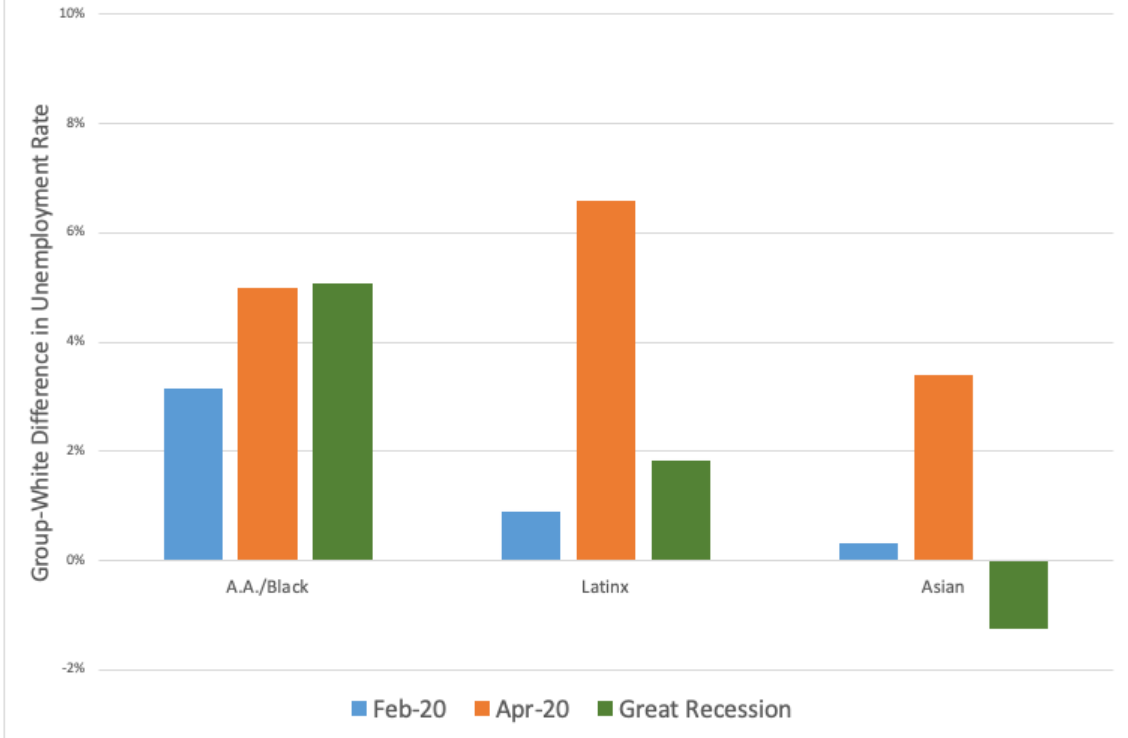


Table 1. Unemployment Rates by Race around Shelter-in-Place Regulations

	Black-White			Latinx-White		Asian-White		Total
	White	Black	Gap	Latinx	Gap	Asian	Gap	
April 2020	12.8%	16.6%	3.8%	18.2%	5.4%	13.7%	0.9%	14.5%
March 2020	3.6%	7.2%	3.6%	6.3%	2.7%	4.0%	0.5%	4.6%
February 2020	3.1%	6.4%	3.4%	4.7%	1.7%	2.6%	-0.5%	3.8%
January 2020	3.1%	6.8%	3.7%	5.1%	2.0%	3.2%	0.1%	4.0%
Jan 2017 - Dec 2019	3.3%	6.8%	3.5%	4.6%	1.4%	3.2%	-0.1%	4.0%
Great Recession								
Dec 2007 - June 2009	5.6%	11.4%	5.8%	8.7%	3.1%	5.1%	-0.6%	6.8%
New unemployment (less than 2 months)								
April 2020	11.5%	14.3%	2.8%	16.3%	4.8%	12.2%	0.7%	12.9%
February 2020	1.7%	3.3%	1.6%	2.6%	0.9%	1.3%	-0.3%	2.0%
Sample sizes								
April 2020	33,631	4,423		5,696		3,065		48,190
March 2020	35,651	4,929		6,385		3,263		51,677
February 2020	39,983	5,715		7,898		3,717		58,982
January 2020	39,806	5,594		7,652		3,570		58,270
Jan 2017 - Dec 2019	1,510,998	216,965		277,756		131,905		2,201,116
Dec 2007 - June 2009	962,486	119,825		139,191		61,269		1,316,170

Notes: Calculated by author using CPS microdata. Estimates for the above race groups will not sum to totals because data are not presented for all races. New unemployment is defined as newly unemployed with duration less than or equal to 2 months and removing prior unemployed (duration more than 2 months) from the sample.

Table 2. Unemployment Rates by Race around Shelter-in-Place Regulations - Definition 2 (Adding NILF Want Job and Absent Job)

	White	Black-White		Latinx-White		Asian-White		Total
		Black	Gap	Latinx	Gap	Asian	Gap	
April 2020	23.5%	31.8%	8.3%	31.4%	7.9%	27.6%	4.2%	26.5%
March 2020	9.8%	15.1%	5.3%	14.1%	4.3%	10.9%	1.1%	11.4%
February 2020	8.0%	13.0%	5.0%	9.5%	1.4%	8.5%	0.5%	9.1%
January 2020	8.3%	13.5%	5.3%	10.3%	2.1%	9.5%	1.2%	9.5%
Jan 2017 - Dec 2019	9.4%	14.0%	4.6%	10.7%	1.2%	9.2%	-0.2%	10.3%
Great Recession								
Dec 2007 - June 2009	11.8%	19.0%	7.2%	14.5%	2.6%	11.1%	-0.7%	13.1%
Sample sizes								
April 2020	35,149	4,847		6,111		3,257		50,868
March 2020	36,537	5,174		6,636		3,362		53,240
February 2020	40,977	5,988		8,152		3,830		60,709
January 2020	40,836	5,870		7,907		3,691		60,040
Jan 2017 - Dec 2019	1,447,157	213,387		268,300		127,358		2,118,890
Dec 2007 - June 2009	989,295	126,771		144,815		63,399		1,359,921

Notes: Calculated by author using CPS microdata. Estimates for the above race groups will not sum to totals because data are not presented for all races. Unemployment rate Definition 2 is an "upper-bound" measure of unemployment to incorporate those employed but absent from work and those not in the labor force who wanted a job.

Table 3. Unemployment Probability Regressions

	Unemployed			Unemployed (Upper-Bound Measure)		
	(1)	(2)	(3)	(4)	(5)	(6)
Black	0.022*** (0.004)	0.027*** (0.001)	0.045*** (0.000)	0.019*** (0.004)	0.022*** (0.001)	0.022*** (0.001)
Latinx	-0.011*** (0.003)	-0.002*** (0.000)	0.002*** (0.000)	-0.022*** (0.004)	-0.006*** (0.001)	-0.010*** (0.001)
Asian	-0.003 (0.003)	-0.003*** (0.001)	0.004*** (0.000)	0.009* (0.005)	-0.007*** (0.001)	-0.007*** (0.001)
COVID	0.101*** (0.002)	0.106*** (0.002)	0.152*** (0.002)	0.139*** (0.003)	0.139*** (0.003)	0.109*** (0.003)
COVID*Black	0.007 (0.008)	0.007 (0.007)	-0.014** (0.007)	0.015* (0.008)	0.016** (0.007)	-0.001 (0.007)
COVID*Latinx	0.037*** (0.006)	0.041*** (0.006)	0.028*** (0.006)	0.053*** (0.007)	0.055*** (0.006)	0.047*** (0.006)
COVID*Asian	0.015* (0.008)	0.012* (0.007)	0.015** (0.007)	0.030*** (0.009)	0.038*** (0.008)	0.044*** (0.008)
Personal controls	Yes	Yes	Yes	Yes	Yes	Yes
Seasonality controls	No	Yes	Yes	No	Yes	Yes
Time trend	No	Yes	Yes	No	Yes	Yes
N	107,172	2,366,558	9,671,560	111,577	2,442,021	3,801,942

Notes: The dependent variable in Specification (1) to (3) is unemployment (0,1). The dependent variable in specification (4) to (6) use the upper-bound definition of unemployment which also includes "employed absent" and "not in the labor force want a job." Specifications (3) and (6) also include a dummy variable for recession and its interactions with all races. The COVID dummy variable is equal to 1 if April 2020 and 0 otherwise. The recession dummy equals to 1 for the months December 2007 to June 2009, or April 2020, 0 for all other months in the sample. Sample period in Specification (1) and (4): February and April 2020; Specification (2) and (5): January 2017 to April 2020; Specification (3): December 2007 to April 2020; Specification (6): December 2007 to June 2009 and January 2017 to April 2020. March 2020 observations are excluded due to partial COVID impacts. Individual, job and geographical controls include education level, years of potential work experience and its square, essential industry indicator, major industry and occupation, and state fixed effects. All specifications are estimated using OLS, CPS sample weights, and robust standard errors. Standard errors in parentheses. *p<0.10, **p<0.05, ***p<0.01

Table 4. Risk Factors for Unemployment from COVID-19

	Black	Latinx	Asian	White	Total	Unemployment Rate April 2020
Essential						
Nonessential industry	16.5%	15.2%	15.9%	15.5%	15.7%	30.0%
Essential industry	83.5%	84.9%	84.1%	84.6%	84.3%	11.9%
Education						
High school dropout	7.9%	23.7%	6.1%	4.9%	8.6%	23.8%
High school grad	31.5%	32.1%	17.0%	24.6%	26.3%	18.7%
Some college	32.5%	25.5%	18.3%	28.4%	27.9%	16.8%
College grad	18.3%	13.3%	32.8%	26.9%	23.8%	10.0%
Graduate school	9.8%	5.3%	25.7%	15.2%	13.4%	6.3%
Region						
Northeast	17.2%	11.8%	19.6%	19.3%	17.7%	15.6%
Midwest	16.2%	9.5%	11.9%	26.9%	21.5%	15.4%
South	57.2%	39.1%	23.7%	34.0%	37.0%	12.8%
West	9.5%	39.6%	44.8%	19.8%	23.8%	15.6%
Potential Experience						
Experience 0 to 10 years	28.0%	27.7%	27.0%	24.1%	25.7%	19.6%
Experience 10 to 20 years	23.8%	23.0%	25.0%	20.0%	21.4%	12.7%
Experience 20 to 30 years	20.2%	21.9%	21.3%	19.3%	19.9%	11.4%
Experience 30 to 40 years	17.2%	16.8%	16.2%	20.9%	19.2%	13.0%
Experience 40 to 50 years	8.8%	8.1%	8.2%	12.5%	10.9%	14.1%
Experience more than 50 years	2.0%	2.6%	2.2%	3.3%	2.9%	18.1%
Major Industry						
Agriculture, forestry, fishing, and hunting	0.4%	2.7%	0.4%	1.7%	1.6%	6.8%
Mining	0.2%	0.6%	0.23%	0.5%	0.5%	10.1%
Construction	3.8%	12.9%	2.6%	7.0%	7.2%	15.6%
Manufacturing	8.4%	9.8%	11.0%	10.3%	10.0%	13.2%
Wholesale and retail trade	12.7%	13.2%	11.8%	13.1%	13.0%	16.7%
Transportation and utilities	8.7%	5.8%	4.9%	4.9%	5.5%	12.1%
Information	1.7%	1.3%	2.3%	2.0%	1.8%	12.0%
Financial activities	5.7%	5.0%	7.8%	7.4%	6.7%	5.5%
Professional and business services	10.4%	11.4%	17.2%	12.6%	12.4%	9.7%
Educational and health services	27.1%	16.5%	21.2%	23.1%	22.4%	11.3%
Leisure and hospitality	10.4%	12.4%	10.3%	8.2%	9.5%	38.0%
Other services	4.3%	5.5%	6.1%	4.7%	4.9%	22.2%
Public administration	6.3%	3.2%	3.4%	4.7%	4.6%	4.7%
Major Occupation						
Management, business, and financial occupations	11.0%	9.6%	17.4%	19.4%	16.5%	6.2%
Professional and related occupations	19.3%	12.5%	34.2%	25.5%	23.0%	8.8%
Service occupations	24.3%	24.1%	16.6%	14.2%	17.5%	27.3%
Sales and related occupations	9.3%	9.4%	8.7%	10.6%	10.1%	17.2%
Office and administrative support occupations	13.4%	10.9%	8.9%	11.2%	11.3%	12.7%
Farming, fishing, and forestry occupations	0.3%	2.3%	0.3%	0.6%	0.8%	12.3%
Construction and extraction occupations	3.2%	11.4%	1.7%	4.7%	5.4%	19.1%
Installation, maintenance, and repair occupations	2.3%	3.5%	1.7%	3.3%	3.1%	12.9%
Production occupations	6.0%	7.4%	5.4%	4.9%	5.5%	18.7%
Transportation and material moving occupations	10.2%	8.3%	4.7%	5.4%	6.5%	18.0%

Notes: Calculated by author using CPS microdata based on February 2017 to February 2020. The last column shows the April national unemployment rate which includes all races.

Table 5. Decompositions - Unemployment April 2020

		Black - White	Latinx-White	Asian-White
Minority Unemployment Rate		16.6	18.2	13.7
White Unemployment Rate		12.8	12.8	12.8
Gap in Unemployment Rate		3.8	5.4	0.9
Essential/Major industry	Contribution	-0.28	0.23	-0.38
	Std. Err.	(0.06)	(0.10)	(0.05)
Major occupation	Contribution	1.34	2.18	-0.25
	Std. Err.	(0.08)	(0.14)	(0.04)
Education level	Contribution	0.53	1.05	-0.77
	Std. Err.	(0.07)	(0.16)	(0.10)
State	Contribution	-0.01	0.13	0.90
	Std. Err.	(0.11)	(0.19)	(0.18)
Potential experience	Contribution	0.17	0.21	0.02
	Std. Err.	(0.04)	(0.04)	(0.03)
Sample Size		48,190	48,190	48,190

Notes: All nonlinear decomposition specifications use pooled coefficient estimates from the full sample of all races. Sampling weights are used in all specifications. Standard errors are reported in parentheses below contribution estimates.

Table A1. Decompositions - Newly Unemployed April 2020

		Black - White	Latinx-White	Asian-White
Minority Newly Unemployed Rate		14.3	16.3	12.2
White Newly Unemployed Rate		11.5	11.5	11.5
Gap in Newly Unemployed Rate		2.8	4.8	0.7
Essential/Major industry	Contribution	-0.41	0.05	-0.39
	Std. Err.	(0.06)	(0.10)	(0.05)
Major occupation	Contribution	1.25	2.02	-0.15
	Std. Err.	(0.08)	(0.13)	(0.04)
Education level	Contribution	0.48	0.88	-0.76
	Std. Err.	(0.06)	(0.14)	(0.10)
State	Contribution	0.05	-0.03	0.79
	Std. Err.	(0.11)	(0.19)	(0.18)
Potential experience	Contribution	0.15	0.22	0.01
	Std. Err.	(0.04)	(0.04)	(0.03)
Sample Size		47,353	47,353	47,353

Notes: All nonlinear decomposition specifications use pooled coefficient estimates from the full sample of all races. Sampling weights are used in all specifications. Standard errors are reported in parentheses below contribution estimates. Newly unemployed is defined as unemployment with duration less than or equal to 2 months. Sample includes April 2020 labor force without individuals unemployed more than 2 months.

Table A2. Decompositions - Unemployment February 2020

		Black - White	Latinx-White	Asian-White
Minority Unemployment Rate		6.4	4.7	2.6
White Unemployment Rate		3.1	3.1	3.1
Gap in Unemployment Rate		3.4	1.7	-0.5
Essential/Major industry	Contribution	-0.34	0.26	-0.04
	Std. Err.	(0.07)	(0.05)	(0.04)
Major occupation	Contribution	0.41	0.57	-0.08
	Std. Err.	(0.06)	(0.07)	(0.02)
Education level	Contribution	0.30	0.59	-0.19
	Std. Err.	(0.05)	(0.08)	(0.05)
State	Contribution	-0.05	0.08	0.15
	Std. Err.	(0.10)	(0.09)	(0.07)
Potential experience	Contribution	0.34	0.13	0.10
	Std. Err.	(0.05)	(0.02)	(0.02)
Sample Size		58,982	58,982	58,982

Notes: All nonlinear decomposition specifications use pooled coefficient estimates from the full sample of all races. Sampling weights are used in all specifications. Standard errors are reported in parentheses below contribution estimates.

Table A3. Decompositions - Unemployment (Adding Absent Job) April 2020

		Black - White	Latinx-White	Asian-White
Minority Unemployment Rate (Adding Absent Job)		24.7	26.3	23.1
White Unemployment Rate (Adding Absent Job)		19.7	19.7	19.7
Gap in Unemployment Rate (Adding Absent Job)		5.0	6.6	3.4
Essential/Major industry	Contribution	-0.09	0.63	-0.41
	Std. Err.	(0.07)	(0.10)	(0.06)
Major occupation	Contribution	1.59	2.56	-0.51
	Std. Err.	(0.09)	(0.15)	(0.06)
Education level	Contribution	0.84	1.65	-1.35
	Std. Err.	(0.08)	(0.19)	(0.13)
State	Contribution	0.12	0.38	1.20
	Std. Err.	(0.13)	(0.22)	(0.22)
Potential experience	Contribution	-0.08	-0.03	-0.21
	Std. Err.	(0.04)	(0.04)	(0.04)
Sample Size		48,190	48,190	48,190

Notes: All nonlinear decomposition specifications use pooled coefficient estimates from the full sample of all races. Sampling weights are used in all specifications. Standard errors are reported in parentheses below contribution estimates. Unemployment includes individuals reporting employment but absent work during survey week. NILF wanting work are not included because of missing industry and occupation information.