Placeholder Title: The Impact of Recessions on the Black Working and Professional Classes: Wages, Essential Work, and Occupational Safety Risks

Ofronama Biu, The New School, Christopher Famighetti, The New School, Darrick Hamilton, The New School

Introduction

Black workers have have always faced disadvantages in the labor market. For instance, the average unemployment rate is much higher for Black workers than it is for White workers. Since 1972, when the relevant data series began, the unemployment rate has averaged 11.8 percent for Blacks and 5.5 percent for Whites (BLS 2020). Prior to April of this year, the unemployment rate for White workers had *never* been as high as 11.8 percent—the rate it has averaged for Black workers (ibid). The unemployment rate for Whites has been as high as 8.7 percent less than 5 percent of the time (ibid).

Blacks are also hardest hit during recessions. During the 2008 Recession, Blacks were 0.94 percentage points more likely to lose their jobs (Kopelman and Rosen 2015). The likelihood of job loss was consistent across sectors and recessions, with the exception of state government employees—there Blacks and Whites faced an equal likelihood of unemployment.

These labor market differences cannot be fully explained by education or any other individual characteristics typically controlled for in empirical studies—for example, in 2019, the unemployment rate for Blacks with a bachelor's degree (3.1 percent) was 32 percent higher than of Whites with a bachelor's degree (2.1 percent) and the rate for Blacks with a master's degree (2.3) was 35 percent higher than that of their White counterparts (1.7) (BLS 2019). Blacks with some college (4.7) percent) have a higher unemployment rate than Whites with a high school diploma (3.2 percent) (ibid.).

The most plausible explanation for the portion of unemployment differentials that cannot be explained based on observable characteristics such as educational attainment is discrimination. Conventional wisdom holds that education is the "great equalizer" for economic security and social mobility. Yet in many dimensions of life—such as unemployment—racial disparity persists or worsens with higher levels of education, including college degree attainment (Lewis, 1985). Likewise, Black workers have been systematically crowded into low wage occupations and crowded out of high wage roles which require college degrees, even when they have the requisite educational requirements (Hamilton 2013).

In this paper, we provide descriptive statistics on how wages vary across race, gender, and class. Next, we examine racial and gender disparities in the most recent 2020 recession, which is unprecedented in that *employment* can have an adverse impact on health. We analyze occupational crowding—the degree to which a group is over-, under-, or proportionally represented in an occupation given their educational attainment and the educational requirement for the role—in "essential" work *and* work that has high physical proximity to customers and/or colleagues. This analysis implicitly takes into account the working class—those with a bachelor's degree or less—and the "professional" class. We look at crowding in essential and high physical proximity work overall and stratified across working class and professional roles. We then analyze Black and White wage disparities and discrimination across business cycles— including the Great Recession—paying specific attention to the working and professional classes.

Summary Statistics: Class Affiliation and Wages by Race and Gender

Using data from the 2017 CPS Annual Social and Economic Supplement (ASEC), we provide a set of descriptive statistics relevant to our investigation of racial disparity, gender

disparity, and class affiliation. Here, we define the professional class as those with a college degree or higher and the working class as those with less than a college degree.

We find that across both the average and median annual wage income, White men have the highest earnings. Unsurprisingly, we also find that professional class average and median annual wage income is higher than those of the working class across all groups. In Table 1, describing the average annual wage income, we find that White men in the professional class have an average annual wage income of $102,555, relative to an average annual wage income of $53,650 for White men in the working class. This is higher than the average annual wage income for all other groups, by race and gender, in both the professional and working classes. White women have an average annual wage income of $66,457 among professional class workers and $35,299 for working class workers. By way of comparison, Black men and Black women in the professional class have an average annual wage income of $80,656 and $57,993, respectively. Among working class workers, Black men and Black women have an average annual wage income of $39,528 and $30,716, respectively.

Table 1 Average Annual Wage Income by Class Affiliation, Race and Gender

	Black Men	White Men	Black Women	White Women	Overall
Overall (sd)	$50,776 (70,455)	$73,946 (84,337)	$39,592 (45,069)	$50,063 (62,014)	$57,254 (71,973)
Professional Class (sd)	$80,656 (111,352)	$102,555 (107,721)	$57,993 (44,702)	$66,457 (78,501)	$81,186 (91,936)
Working Class (sd)	$39,528 (41,304)	$53,650 (54,170)	$30,716 (42,492)	$35,299 (36,052)	$41,579 (49,157)

Based on estimates from the 2017 CPS-ASEC. Analysis is of working age, positive wage earners in civilian population. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Table 2 summarizes the median annual wage income by class affiliation, race, and gender. The table demonstrates that White men in the professional class have a median annual

wage income of $76,000, relative to a median annual wage income of $45,000 for White men in the working class. This is higher than the median annual wage for all other groups, by race and gender, in both the professional and working classes. White women have a median annual wage of $52,000 among professional class workers and $30,000 for White women in the working class. In contrast, Black men and Black women in the professional class have a median annual wage income of $59,000 and $50,000, respectively. Among working class workers, Black men and Black women had a median annual wage of $33,000 and $26,000, respectively. [1]

Table 2 Median Annual Wage Income by Class Affiliation, Race and Gender

Median Hourly Wage	Black Men	White Men	Black Women	White Women	Overall
Overall (sd)	$37,002 (70,454)	$55,000 (84,337)	$30,000 (45,068)	$40,000 (62,014)	$42,000 (71,973)
Professional Class (sd)	$59,000 (111,352)	$76,000 (107,721)	$50,000 (44,702)	$52,000 (78,501)	$60,000 (91,936)
Working Class (sd)	$33,000 (41,304)	$45,000 (54,170)	$26,000 (42,492)	$30,000 (36,052)	$33,280 (49,157)

Based on estimates from the 2017 CPS-ASEC. Analysis is of working age, positive wage earners in civilian population. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Race, Gender, and COVID-19 Health Risk

The 2020 economic crisis is unlike most recent recessions because, in addition to the harms of unemployment, in many cases, those who continue to work are at higher risk of illness and death due to COVID-19 exposure. In this section, we examine how race and gender groups—specifically Black women, Black men, White women, and White men—are differentially exposed to the risk of COVID-19 in "essential" and "nonessential" work and occupations with high physical proximity to colleagues and customers.

---

[1] Additional data on sorting by race and gender into professional and working classes, geography, and household structure can be found in the Appendix.

Methodology for Occupational Crowding and Essential Work

There is no one definition of essential work (Tomer and Kane, 2020). For this analysis, we modified essential work categories established by Celine McNicholas and Margaret Poydoc's Economic Policy Institute (EPI) report on essential workers and unionization. We ended with 13 essential sectors based on a combination of census occupations and industries. [2]

Barbara Bergmann's (1971) crowding theory held that Black workers, as a result of labor market discrimination, are largely excluded from high paying jobs and systematically sorted into lower paying, less desirable jobs. This study uses an update to Bergmann's method as described in Hamilton (2013) that more explicitly controls for education by limiting the pool of eligible workers for a particular job to those with the prerequisite degree attainment. We measure occupational crowding as the degree to which workers are over-, under-, or proportionally represented in essential work sectors based on their race and gender and prerequisite educational attainment for particular categories. To do so, we count as eligible for a particular sector only those individuals whose educational attainment fits between the 20th and 80th percentiles of the educational distribution for that category.

Occupations in which the actual share of a given group exceeds the expected share by more than 10 percent are considered to be cases of overrepresentation (crowding score of more than 1.1) while occupations in which the actual share falls short of the expected share by more than 10 percent are considered to be cases of underrepresentation (crowding score of less than .9). Occupations where the expected number of the relevant group does not exceed nor is less than 10 percent (between .9 to 1.1) are considered proportionally represented.

---

[2] Our categorization of what is and is not "essential" work is not based on a qualitative assessment of social value. Instead this is our attempt to operationalize essential work, modifying categories defined in Celine McNicholas and Margaret Poydoc's Economic Policy Institute (EPI) report and following the guidance from the Department of Homeland Security's initial recommendations during the pandemic.

$$CROWD\_INDEX^i_X = \left\{\frac{Actual\ Share^i_X}{Expected\ Share^i_X}\right\} = \left\{\frac{\frac{X^i}{Y^i}}{\frac{X^{k^i}}{Y^{k^i}}}\right\}$$

Reflecting on Mary King's (1993) "access model" that posits a social hierarchy where White men have the most access to desirable jobs, for most of our analyses, White men are positioned as the reference by which we compare race, gender, and their intersections. When focusing on White men, we compare them to a baseline of all workers, to measure their degree of "advantage" in the economy overall. We also compare Black women to White women to isolate racial disparity particularly as much of essential work is "gendered" (McNicholas and Poydoc 2020).

Results: Disparities in Essential Work and Pay

In Table 3, we show crowding—the degree to which workers are over-, under-, or proportionally represented given their educational attainment—for essential work in any of the 13 essential sectors using data from the 2018-5 year American Community Survey.[3] We find that White men are crowded *out of* essential work, even after considering the educational levels of each race and gender group. In comparison to White men, Black women and Black men are crowded *into* essential work. [4]White women are proportionally represented in essential work (crowding index of 1.0). Black women are also crowded into essential work in comparison to White women. All groups—*with the exception of White men*—earn below average annual wages,

---

[3] For both essential and non-essential work overall, people in the 20th percentile of educational attainment hold a high school degree or a GED, in the 80th, they hold a four-year college degree. For variations by sector, see the Appendix.

[4] The authors have also researched crowding among Latinx women and men and observed crowding in essential work, particularly in the dangerous and low paid food and agriculture sector. These findings are forthcoming,

with Black women earning the least in both essential work (54 cents on the dollar as compared to

White men), followed by Black men (69 cents), and finally White women (87 cents).

Table 3 Occupational Crowding and Essential Work

Reference Group	Essential Work; Average Income: $54,362			Working Class Essential Work; Average Income: $36,048			Professional Essential Work; Average Income: $75,460		
	Crowd Index	Share of Avg. Wages*	Change in Crowding as Wages Increase by $10K	Crowd Index	Share of Avg. Wages*	Change in Crowding as Wages Increase by $10K	Crowd Index	Share of Avg. Wages*	Change in Crowding as Wages Increase by $10K
Black women									
V White women	1.2	0.81	-.04***	1.3	0.98	-0.051	1.0	0.86	-0.034**
V White men	1.3	0.61	-.16***	1.1	0.63	-0.554***	1.4	0.58	-0.208***
Black men									
V White men	1.1	0.69	-.09***	1.1	0.82	-0.259***	1.1	0.67	-0.094***
White women									
V White men	1.0	0.83	-.05***	0.87	0.71	-0.297***	1.17	0.80	-0.076***
White Men									
V Everyone	0.87	1.3	.07***	0.94	1.3	0.358***	0.82	1.4	0.081***

Crowding index: <.9=underrepresented, .9-1.1=proportionally represented, >1.1=overrepresented
*Note: The share of average income refers to the average annual income of the two comparison groups (e.g., Black women and White men)
Data source: *American Community Survey 2018 5 Year Estimates*. Minneapolis, MN: IPUMS, 2020.

Within essential work, the highest paying work is dominated by White men. There are over 400 unique occupations within the 13 essential sectors listed. We estimated bivariate regressions of average occupational wages (measured in $10,000 increments) on occupational crowding to examine the relationship between crowding and wages across the various essential worker occupations (Table 1; see Hamilton, 2006 for more information on this approach). For every $10,000 increase in average occupational wages, for Black women, there was an estimated 16 percentage point reduction in their representation in each essential occupation category relative to White men. Similarly, there were decreases of nine percentage points for Black men and five percentage points for White women in their respective representation in comparison to White men with every $10,000 increase in wages in an essential work occupation.

Conversely, there is a *positive* relationship between wages and crowding for White men as (compared to all workers) —as wages of a particular occupation increase by $10,000, the estimated proportion of White men in that occupation rises by seven percentage points. All findings were statistically significant. To summarize, not only are White men less exposed to the coronavirus as a result of their under-representation in essential work, when they are employed as an essential worker, they tend to work in occupations with higher wages. On the other hand, Black women are not only more likely to be sorted into essential work, and thereby vulnerable to greater COVID-19 exposure, they are sorted into essential work occupations that receive the lowest wages.

We also examined occupational crowding by educational requirement, separating roles into those that are "professional" and require at least a bachelor's degree and "working class" roles that do not. We derived educational requirements from the attainment of those within the

roles, within the 20th and 80th percentiles. Less than half of individuals in essential work (49%) are in roles requiring a bachelor's degree or more.

In occupations that are essential and do *not* require a bachelor's degree, Black women and Black men are proportionally represented as compared to White men while White women are slightly underrepresented (Table 3 above). White men are proportional as compared to the economy. While Black women are proportionally represented as compared to White men, they are overrepresented as compared to White women in working class essential work. Notably, in comparison to White men, Black women earn the lowest wages; only White men earn more than the average share of wages (131 percent).

In essential work that requires a bachelor's degree, White men are crowded out overall while Black men are proportional and Black women and White women are overrepresented. This may reflect the prevalence of occupations in the healthcare and government sector that are dominated by women. Despite their overrepresentation in professional class essential work, Black women still earn the lowest share of average wages in comparison to White men, and this rate (58 percent) is even lower than in working class essential work (63 percent). For instance, in the specific category of physicians, White men earn 120 percent of average wages, Black men earn 90 percent, White women earn 78 percent, and Black women are last, earning 67 percent. Black women and Black men earn less in professional essential work than in working class essential work, while the reverse is true for White women. White men have even more of an advantage in essential work that requires a bachelor's degree, even as they are crowded out. These findings—that Black women and men have lower earnings in professional occupations than in working class ones—comport to the theory that Black workers are even worse off in "high stakes" positions.

Results: High Proximity Work and the Risk of COVID-19

As the pandemic proceeds, state and local governments have to decide when to relax or tighten shelter-in-place orders and when to allow various businesses to resume operations. Some workers are at even greater risk of illness and death due to their physical proximity to other workers and/or customers. Using listings of physical proximity from the U.S. Department of Labor Employment and Training Administration's O*NET OnLine, we designated occupations with a rating of 75 and above—those "moderately close [that is] at arm's length" or closer —as "high physical proximity" and all others as "low proximity."

Among the 435 occupations that were matched to O*NET, 26 percent had high physical proximity to colleagues and/or customers. High proximity occupations include occupations in fields like healthcare, as well as nonessential roles like hairdressers and waiters and waitresses. Occupations in the high physical proximity category have lower average wages ($47,614) than those with lower physical proximity ($59,986).

As shown in Table 4, White men are underrepresented in high physical proximity work as compared to everyone else. All groups in comparison to White men—with the exception of Black men, who are proportionally represented—are crowded into occupations with high physical proximity. The crowding index is highest for Black women (1.8), who are 80 percent more likely than White men to be in an occupation with high physical proximity. Black women are proportional compared to White women. In high physical proximity occupations, White men are paid the highest share of average wages (140 percent of average wages for all workers) while Black women are again paid the least (63 percent of average wages compared to White men). In contrast, in lower physical proximity occupations, Black women are crowded out as compared to White men. All other groups are proportionally represented.

Table 4 High Physical Proximity and Occupational Crowding

Reference Group	All High Physical Proximity Work; Average Income: $47,614		Working Class; Average Income: $35,846		Professional Class; Average Income: $80,143	
	Crowd Index	Share of Average Income*	Crowd Index	Share of Avg. Wages*	Crowd Index	Share of Avg. Wages*
Black women						
V White women	1.1	0.86	1.6	1	1	0.94
V White men	1.8	0.63	1.8	0.65	1.4	0.63
Black men						
V White men	1.1	0.72	1.1	0.79	1	0.71
White women						
V White men	1.4	0.84	1.1	0.7	1.3	0.82
White Men						
V Everyone	0.6	1.4	0.7	1.4	0.7	1.4

Crowding index: <.9=underrepresented,.9-1.1=proportionally represented, >1.1=overrepresented
*Note: The share of average income refers to the average annual income of the two comparison groups (e.g., Black women and White men)
Data source: *American Community Survey 2018 5 Year Estimates*. Minneapolis, MN: IPUMS, 2020.

We also stratified high physical proximity work by educational requirement (Table 4 above). High physical proximity that is working class pays much less ($35,846) than professional work ($80,143). In both categories, Black women are overrepresented, Black men are proportional, and White men are underrepresented. White women are relatively advantaged in that they are only crowded into high physical proximity work that requires a bachelor's degree. White women also earn more in professional high physical proximity work than working class high proximity work, while the reverse is true for Black women and Black men. White men earn the most—140 percent of average wages in both working class and professional high proximity work.

These findings are of particular concern for Black workers as more individuals return to work. A survey from the National Employment Law Project (2020) found that Black workers are more likely to "work under conditions that are both hazardous and repressive" and are more likely to face retaliation if they raise concerns about safety.

Black-White Wage Disparity Across Business Cycles: Working & Professional Classes

It is commonly thought that Black workers do worse across business cycles because of how they are positioned in the distribution of worker labor market skill requirements — specifically with regard to educational attainment. Earlier, we noted that educational attainment is central to how workers sort into working class and professional class positions. To better understand how the business cycle affects wage disparity, we examine how the demographic and socioeconomic attributes of individuals in the professional and working classes explain wage disparity during the 1990-91 recession, the 2001 recession, and the 2007-09 Great Recession.

Methodology for Wage Disparities Across Business Cycles

We utilize repeated Blinder-Oaxaca decompositions — as adapted by Jann (2008) — to understand what portion of the Black-White wage disparity over the last three decades can be can be empirically attributed to discrimination or structural barriers versus the portion of disparity that can be attributed to an individual's socioeconomic and demographic characteristics (Blinder 1973, Oaxaca 1973, Jann 2008).[5] We use data from the Current Population Survey's

---

[5] Blinder-Oaxaca decompositions decipher which portion of the difference in wage (log wage) is due to: (a) average racial differences in wage related characteristics vs. (b) racial differences in the manner in which a given level of characteristics are translated into a given wage (also referred to as racial differences in wage regression coefficients). The latter component, the way in which the coefficients are translated into wages, is indicative of structural and uncontrolled racial differences in wages. For this exercise, we complete these decompositions annually and present trends across decades analyzed. For more information about the measurement of racial disparity, and the associated use of Blinder-Oaxaca decompositions, see Hamilton (2000). There is some debate if the uncontrolled difference after controlling for various indicators of wage, is indicative of discrimination. The "clear and convincing evidence" generally comes from experimental or audit studies. Two relevant studies that use experimental methods to evaluate labor market discrimination are Bertrand and Mullainathan (2004) and Pager, Bonikowski and Western (2009) For a review of the literature, *see Fix, Galster, and Struyk (1993)*. Moreover, what is particularly relevant for this paper are the trends in the component not explained by observable characteristics (e.g. what we are interpreting as labor market discrimination) across business cycles. Hence, even if there is concern — with regard to point in time measurement error to the extent that this potential measurement error is time irrelevant — our analysis regarding the extent of racial inequality across business cycles not explained by observable characteristics remains valid.

Annual Social and Economic Supplement (CPS-ASEC) from 1988 to 2017 (Flood, et al. 2019), to perform repeated cross-sectional decompositions to demonstrate the trend in labor market discrimination during roughly 30-year period. We decompose annual wage income, converted into log form (to generate a more normal distribution), with controls for worker characteristics including education, age, family structure, metropolitan area designation, region, occupation, and industry. Next, we isolate Black and White workers, in the professional and the working class, to examine if wage disparities and differential labor market treatment persist across business cycles even for those workers with the most advanced levels of educational attainment.[6] The final set of results repeats the analysis for men only, in order to isolate race effects from potentially confounding gender effects.[7]

Below, we report the findings from our decompositions of wage disparity between Black workers and White workers. We also report descriptive findings on the Black-White wage disparity across the period studied. We focus our analysis on four groups: (1) working class workers, (2) professional class workers, (3) men workers in the working class, and (4) men workers in the professional class. In all four analyses, we find that Black workers see a lower return to their labor market characteristics during recessions — and this finding becomes more pronounced for the Black professional class. A more complete analysis would include an intersectional account of gender. For example, an examination of the wage difference between Black women and White men could capture both gender and race effects, especially if contextualized in particular labor market domains. Conversely, an examination of Black women

---

[6] As part of our robustness checks, we ran decompositions that specifically analyzed: (1) workers with less than a high school degree, (2) workers with a high school degree and some college (or an associate degree) and (3) workers with a college degree or higher. We perform these decompositions for all worker and men workers. We find that the trends demonstrated, below, are not substantially different from the trends produced by our supplemental analyses. These results are included in Appendix 3 as Figure B and C.

[7] In this paper we use the Census variable "sex" as a proxy for "gender." The Census does not currently ask participants about gender identity and acknowledges that the gender of the respondent may not correspond to sex. This also reduces our analysis to a binary that is not indicative of the full range of gender. For more information, see the Census glossary here: https://www.census.gov/glossary/#term_Gender

in relation to White women might presume to indicate a race effect, but might ignore the ways in which White women's wages are shaped by gender discrimination.[8] For this reason, and given the ubiquity of patriarchy in the American context — and the complicated ways in which gender and race interact, as well as time and resource limitations in the production of this paper — we did not conduct those analyses in this section. More research is merited to address these questions and will be forthcoming.

Results: Black-White Wage Disparities During Recessions

We find that wage disparity between Black and White workers is persistent from 1988 to 2017 (*Figure 1* and *Figure 2)*. While the wage disparity trend starts as and ends slightly narrower among Black and White workers in the professional class, relative to that of Black and White working class workers, we find that among professional class workers the wage disparity is: (1) considerably more volatile across the period studied and (2) noticeably more sensitive to recession. In other words, while the wage gap between Black professional workers and White professional workers starts and ends smaller in the trend — relative to Black and White working class workers — wages for Black professional class workers tend to be more unstable and take a more substantial hit during recessions.

---

[8] A study that may be helpful to consider in reference to this analysis is Chetty, Hendren, Jones and Porter (2018), which found that Black men raised in higher income households — with access to plentiful local resources, such as quality schools — have lower earnings in early adulthood than White men raised in similar environments. Chetty, et al. also found that Black men grow up to work in substantially different occupations than White men, while on the other hand, Black women grow up to work in similar occupations and make similar salaries relative to White women. However, their analysis does not consider how Black women are situated in the labor market relative to White men – which, as we state above, would offer a point of comparison that would capture both race and gender effects. Other scholars have argued that Chetty, et al.'s analysis might have considered more deeply the costs — in regard to physical and mental health — of the diminished returns to social and economic resources for Black people relative to White people. For instance, see Hamilton and Cohen, J. (2018).

Figure 1 Average Black Annual Income Wage as a Percent of White Average Annual Wage Income for (1) Working Class Workers and (2) Professional Class Workers, 1988-2017
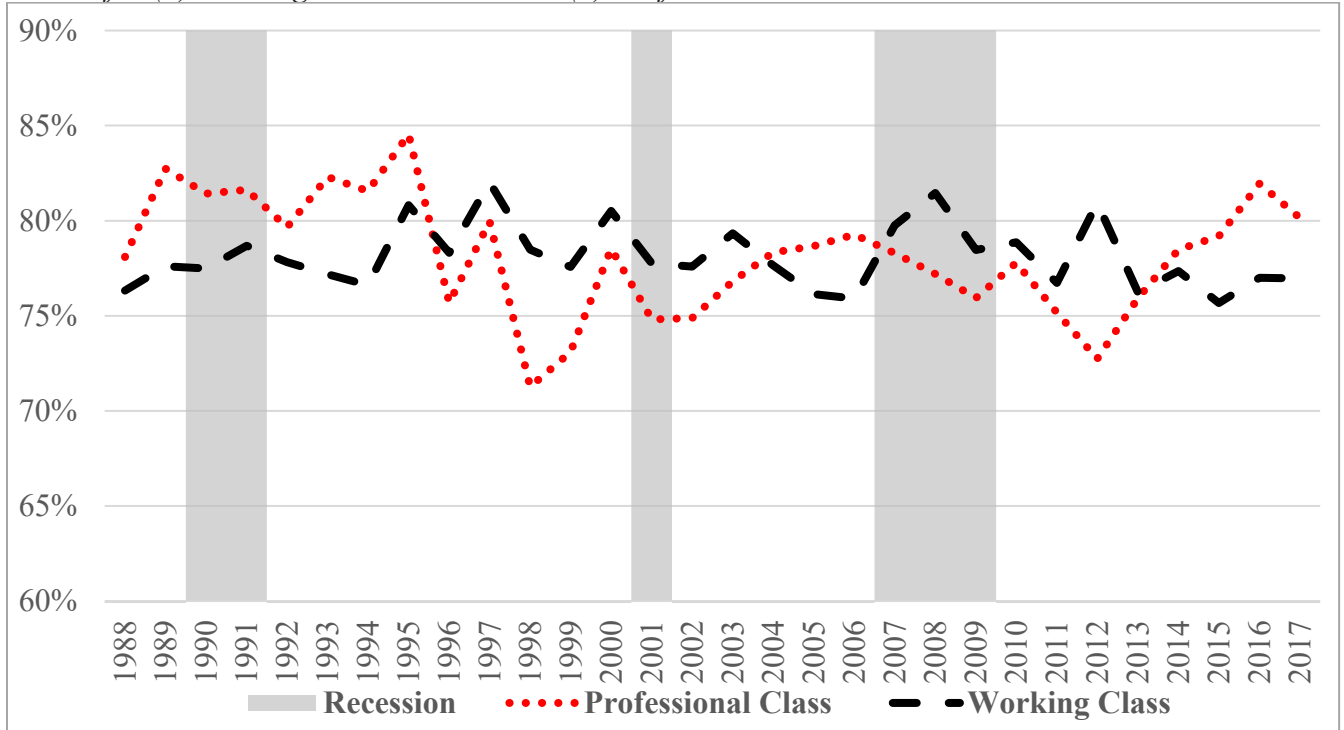
Trends are based on estimates from repeated cross sections of CPS-ASEC, 1988 to 2017. Analysis is of working age, positive wage earners in civilian population. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Figure 2 Average Black Men's Annual Wage Income as a Percent of Average White Men's Annual Wage Income for (1) Working Class Workers and (2) Professional Class Workers, 1988-2017
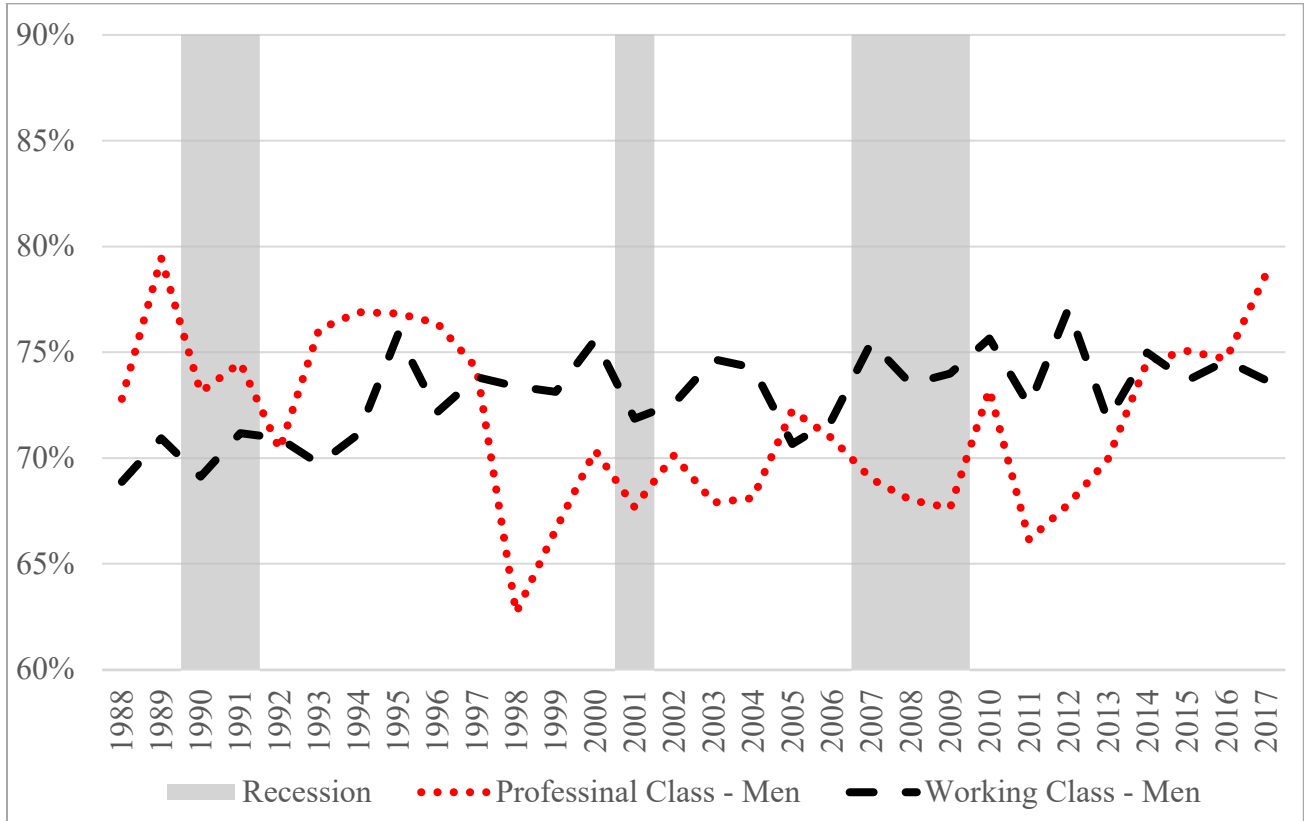
Trends are based on estimates from repeated cross sections of CPS-ASEC, 1988 to 2017. Analysis is of working age, positive wage earners in civilian population. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

In *Figure 1* and *Figure 2*, we demonstrate the above trends by plotting average Black wages as a percent of average White wages across the period studied. In each chart, we pull out professional class workers to examine the degree to which being employed in a position requiring more education and training impacts Black-White wage disparity. Specifically, in *Figure 1*, we provide both a trendline of the wage disparity among all Black and White professional class workers and a trendline of the wage disparity for all Black and White working class workers. In *Figure 2*, we repeat the above analysis focusing specifically on men workers.

In both *Figure 1* and *Figure 2*, whether for all workers or men, we find that being in the professional class tends to reduce wage disparity in a healthy economy. In both charts, we also

find that Black professional class workers face unique declines in their relative wage position, as compared to White professional class workers, during recessionary periods. An overarching implication of our descriptive analysis of wage disparity is that Black professional class workers suffer more during and after recessions relative to their White counterparts.

For instance, in *Figure 1* we demonstrate that among all Black and White professional class workers, the wage disparity increased during, and in the aftermath, of recessions. In the same chart, when looking at the Black and White working class, we find relative stability in the wage disparity.

Further, for *Figure 2*, the general shape of our findings in regard to men reflects those described for all workers. We find that the wage disparity among Black and White men in the professional class is both more volatile and more responsive to economic downturns relative to working class workers. In particular, we find that the Great Recession had a particularly damaging and persistent effect on wage disparity among Black and White men in the professional class. While there is an observable decrease in the wage disparity in 2011 in *Figure 2*, among Black and White men in the professional class, we find that the wage disparity does not sustainably return to its prerecession level for professional class workers until 2015.[9]

Results: Differences in Labor Market Treatment by Race

We examined annual wage decompositions across business cycles to demonstrate trends in racial differences in the rates of return to labor market characteristics — racial differences in labor market treatment are presented as trend lines in *Figure 3* and *Figure A* (see Appendix 3).[10]

---

[9] Since our wage disparity trend includes positive wage earners, the disparity in the immediate aftermath of the Great Recession may have been uniquely affected a large increase in zero wage earners, due to higher unemployment (and associated disparities) resulting from the 2007-2009 economic downturn.

[10] Our analysis includes controls, specifically variables indicating a worker's industry and occupation. Including these controls is likely to lower estimates of discrimination because the racial sorting across industry and occupation itself could be indicative of discrimination (making our estimates, arguably, conservative). What is most relevant to our decompositions of wages, and central to our investigation of labor market

Among all Black and White professional class workers, we find that the percentage of the wage disparity that is *not* explained by the characteristics of workers *increases dramatically during recessions – with an especially prolonged effect in the aftermath of the Great Recession.*

We performed decompositions of wages for (1) Black and White men workers in the working class and (2) Black and White men workers in the professional class.[11] The results show that the portion of the Black-White wage disparity attributable to how characteristics are treated in the labor market increases during recessions. These effects are especially pronounced for Black men in the professional class, and the increases are dramatic and persistent during and after the Great Recession.

With regard to working class Black and White men, *Figure 3* demonstrates that trend is comparably more stable and consistent relative to the professional class.

---

discrimination, is how trends change over time and vary in regard to discrimination. See Hamilton (2000) for a general discussion of debates around statistical methods for examining racial disparity.

[11] Appendix 3, Figure A, exhibits the decomposition of wage disparity for (1) working class Black and White workers and (2) Black and White workers in the professional class. While this broader analysis of Black and White workers demonstrates that Black workers face enhanced levels of racially differential treatment in the labor market during recessions, the results are confounded by gender effects. That is, the pattern is similar, but the results do not isolate the specific effect of race on differential labor market treatment.

Figure 3 The Component of Racial Wage Disparity Due to Differential Treatment of Labor Market Characteristics for (1) Working Class Black and White Men Workers and (2) Professional Class Black and White Men Workers, 1988-2017
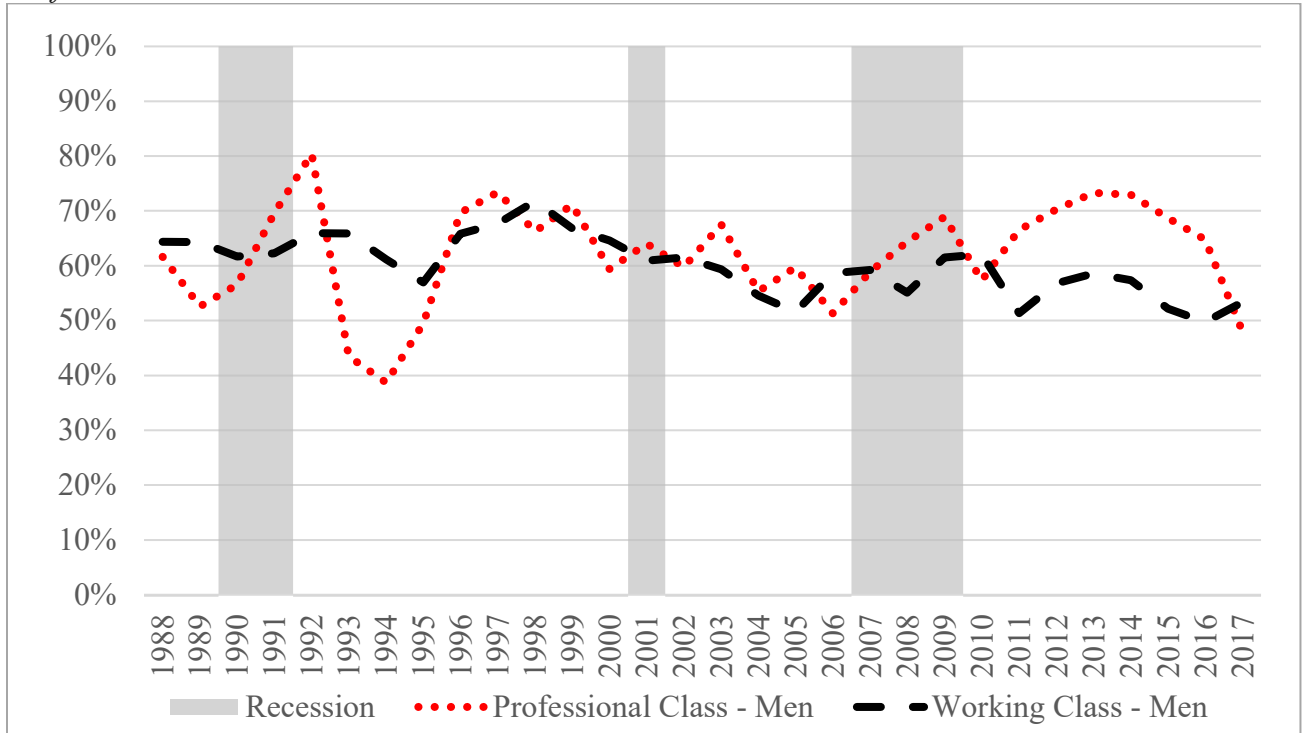
Overall, the results indicate that Black workers, relative to White workers, have a lower rate of return to their labor market characteristics and that the intensity of this lower rate of return worsens during recessions. Furthermore, this phenomenon is more pronounced among professional class workers. Unsurprisingly, within each group, being in the professional class is associated with relatively better outcomes in healthy economic times—that is higher wages based on within race comparisons. However, the irony is that across groups, Black professional class workers are especially harmed relative to similarly qualified White workers during recessions.

Discussion

The findings in thus study demonstrate that education is far from a panacea to address long-standing and socially and politically deeply entrenched racial economic disparity, especially during recessions. The 2020 recession, like others before, is marked by inequity across race and gender, even among those with high levels of education—although in this case, harms include both unemployment and increased risk of sickness and death from COVID-19. In fact, structural components of racial inequality widen the most among those with a college degree around recessions. Racism is not an individual quirk nor a random taste preference, but rather a structural force in American life.

To identify ways forward, we must investigate the processes that exacerbate racial inequities in education, the economy, politics, policy, culture, and society. Understanding those processes requires a wide variety of disciplinary tools and investigative techniques, drawing not just from education and traditional economics, but also from political science, policy analysis, and sociology. Indeed, stratification economics predicts that racial discrimination is likely more pronounced among the highest educated because it is in that stratum where Black people pose the greatest threat to the most desired outcomes—and therefore it is in this stratum that discriminatory structures and actions are most relevant to the preservation of social hierarchy (Hamilton, 2017). Nobel Laureate economist W.A. Lewis (1985) argues that White people maintain their top position in the economic hierarchy in two ways. First, policies and practices limit Black people from accessing credentials that may be rewarded in the marketplace, preventing many from competing in the first place. Lewis refers to this as rendering them "non-competing." Then, for those who are able to overcome structural impediments and acquire "competing" credentials (for the purpose of this analysis, a college degree), outright

discrimination is deployed. His proposition predicts that highly educated Black people, those who pose the greatest threat to the preferred economic position of White people, are likely to face the greatest relative extent of labor market discrimination.

In the US context, economics, policy and politics cannot be separated from race. The current recession itself was created by policy choices with racially disparate impacts. Recovery, too, will be shaped by policy choices. The key question is whether those policies will build an equitable or inequitable recovery. Going forward, policymakers should invest in ending the pandemic *and* invest in social safety nets (such as stimulus payments, unemployment insurance, and food assistance) to help all in the U.S.—especially Black communities— survive the immediate and long-term impact of this current recession.

References

Bergmann, Barbara R. 1971. The effect on white incomes of discrimination in employment. Journal of Political Economy 29(2), 294–313.

Bertrand, Marianne, and Sendhil Mullainathan. 2004. Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination. American Economic Review 94, no. 4: 991–1013. https://doi.org/10.1257/0002828042002561.

Blinder, Alan S. Wage Discrimination: Reduced Form and Structural Estimates. *The Journal of Human Resources* 8, no. 4 (1973): 436-455. https://doi.org/10.2307/144855.

Bureau of Labor Statistics, U.S. Department of Labor, The Economics Daily, Unemployment rate rises to record high 14.7 percent in April 2020 on the Internet at https://www.bls.gov/opub/ted/2020/unemployment-rate-rises-to-record-high-14-point-7-percent-in-april-2020.htm (visited November 29, 2020).

Bureau of Labor Statistics, U.S. Department of Labor, Current Population Survey. Household Data Annual Averages. Employment status of the civilian noninstitutional population 25 years and over by educational attainment, sex, race, and Hispanic or Latino ethnicity. Retrieved from: s://www.bls.gov/cps/tables.htm

Chetty, Raj, Nathaniel Hendren, Maggie R Jones, and Sonya R Porter. Race and Economic Opportunity in the United States: an Intergenerational Perspective. 2019. *The Quarterly Journal of Economics* 135, no. 2 : 711–83. https://doi.org/10.1093/qje/qjz042.

Couch, Kenneth A., and Robert W. Fairlie. 2010. Last hired, first fired? black white unemployment and the business cycle. *Demography*, 47(1), 227–247. doi: 10.1353/dem.0.0086

Cunningham, Evan. 2018. Great Recession, Great Recovery-Trends from the Current Population Survey. *Monthly Lab. Rev.* 141: 1-27. https://doi.org/10.21916/mlr.2018.10.

Durand, Jorge, Edward Telles, and Jennifer Flashman. The demographic foundations of the Latino population. In *Hispanics and the future of America,* edited by Tienda, Marta, and Faith Mitchell, 66-99. Washington (DC): The National Academies Press, 2006.

Fix, Michael, George C. Galster, and Raymond J. Struyk. An overview of auditing for discrimination. In *Clear and convincing evidence: Measurement of discrimination in America*, edited by Fix, Michael, 1-57. Washington: Urban Inst. Press, 1993.

Flood, Sarah, 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

Flood, Sarah, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren. Integrated Public Use Microdata Series, American Community Survey 2018 5 Year Estimate [dataset]. Minneapolis, MN: IPUMS, 2020.

Golden, Lonnie. Still falling short on hours and pay: Part-time work becoming new normal. *Available at SSRN 2881673* (2016). http://dx.doi.org/10.2139/ssrn.2881673

Hamilton, Darrick. 2000. Issues concerning discrimination and measurements of discrimination in US labor markets. *African American Research Perspectives* 6, no. 3. 116-120.

Hamilton, Darrick. 2006. The Racial composition of American jobs. In George Curry (ed.), *The 2006 State of Black America*. The National Urban League.

Hamilton, Darrick, and Jennifer Cohen. 27 March 2018. Race Still Trumps Class for Black Americans. The Guardian. Guardian News and Media. https://www.theguardian.com/commentisfree/2018/mar/27/race-trump-class-black-americans.

Hamilton, Darrick. 2013. Occupational crowding. In *International Encyclopedia of Race and Racism*, Patrick Mason (Ed.), Second Edition. New York, NY: Macmillan Reference USA.

Jann, Ben. 2008. The Blinder–Oaxaca Decomposition for Linear Regression Models. *The Stata Journal: Promoting communications on statistics and Stata* 8, no. 4: 453–79. https://doi.org/10.1177/1536867x0800800401.

King, Mary. 1993. Black women breakthrough into clerical work: An occupational tipping mode. *Journal of Economic Issues*, 27,(4), 1097–1127.

Kopelman, Jason L., and Harvey S. Rosen. 2014. Are public sector jobs recession-proof?:Were they ever? *National Bureau of Economic Research Working paper series*. no. 20692.

McNicholas, Celine and Margaret Poydock. 19 May 2020. Who are essential workers? A comprehensive look at their wages, demographics, and unionization rates. [Web blog post]. *Economic Policy Institute*. Retrieved from https://www.epi.org/blog/who-are-essential-workers-a-comprehensive-look-at-their-wages-demographics-and-unionization-rates/

National Employment Law Project. 2020. Silenced about COVID-19 in the workplace. *National Employment Law Project*. Retrieved from: https://s27147.pcdn.co/wp-content/uploads/Silenced-About-COVID-19-Workplace-Fear-Retaliation-June-2020.pdf

O*NET OnLine Help: Find Occupations. 2020). *O*NET OnLine*. Retrieved from https://www.onetonline.org/help/online/find_occ

Oaxaca, Ronald. Male-Female Wage Differentials in Urban Labor Markets. 1973. *International Economic Review* 14, no. 3, 693-709. **https://doi:10.2307/2525981**.

Pager, Devah, Bart Bonikowski, and Bruce Western. Discrimination in a Low-Wage Labor Market. 2009. *American Sociological Review* 74, no. 5: 777–99. https://doi.org/10.1177/000312240907400505.

Pettit, Becky. 2012. *Invisible men: Mass incarceration and the myth of black progress*. Russell Sage Foundation.

Tomer, Addie and Joseph W. Kane. 10 June 2020. To protect frontline workers during and after COVID-19, we must define who they are. *Brookings Institution*. Retrieved from https://www.brookings.edu/research/to-protect-frontline-workers-during-and-after-covid-19-we-must-define-who-they-are/

Appendix 1

Table 1: Percent of Population by Class, Race and Gender

	Black Men	White Men	Black Women	White Women
Overall	5.7%	30.0%	6.5%	31.0%
Professional Class	3.4%	34.8%	4.8%	37.8%
Working Class	6.5%	28.5%	7.1%	28.8%

Based on estimates from the 2017 CPS-ASEC. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Table 2: Median Age by Class, Race and Gender

	Black Men	White Men	Black Women	White Women	Overall
Overall (sd)	32 (21.6)	42 (22.9)	35 (22.2)	44 (23.3)	37 (22.8)
Professional Class (sd)	44 (15.1)	50 (16.7)	44 (14.9)	47 (16.4)	46 (16.3)
Working Class (sd)	28 (21.9)	35 (23.9)	31 (23.0)	41 (25.3)	32 (23.8)

Based on estimates from repeated cross sections of CPS-ASEC, 2017. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Table 4. Percent Living in Metropolitan Area by Class Affiliation, Race and Gender

Percent Metro. Area	Black Men	White Men	Black Women	White Women	Overall
Overall	91.2%	82.3%	90.6%	82.2%	86.2%
Professional Class	95.4%	90.5%	94.7%	89.3%	91.6%
Working Class	90.4%	79.1%	90.0%	79.2%	84.4%

Based on estimates from the 2017 CPS-ASEC. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Table 5: Educational Attainment by Race and Gender

Educational Attainment	Black Men	White Men	Black Women	White Women	Overall
Percent College	22.64%	37.84%	25.71%	38.30%	34.16%
Percent Less Than College	77.36%	62.16%	74.29%	61.70%	65.84%

Based on estimates from the 2017 CPS-ASEC. Analysis of population 25 years of age and older. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Table 6: Percent Married by Class Affiliation, Race and Gender

Percent Married	Black Men	White Men	Black Women	White Women	Overall
Overall	38.33%	58.90%	29.77%	55.03%	52.98%
Professional Class	53.8%	70.2%	41.1%	62.9%	64.2%
Working Class	34.4%	52.8%	26.3%	50.6%	47.8%

Based on estimates from the 2017 CPS-ASEC. Analysis of population 18 years of age and older. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Table 7: Percent Living in Household w. Child Under 18 by Class Affiliation, Race and Gender

Percent w. >= 1 child under 18	Black Men	White Men	Black Women	White Women	Overall
Overall	20.46%	25.12%	33.81%	29.27%	28.77%
Professional Class	36.7%	36.2%	44.2%	39.6%	40.0%
Working Class	17.7%	20.8%	31.6%	24.9%	25.2%

Based on estimates from the 2017 CPS-ASEC. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Table 8: Percent Living in Household w. Child Under 5 by Class Affiliation, Race and Gender

Percent w. >= 1 child under 5	Black Men	White Men	Black Women	White Women	Overall
Overall	5.64%	7.02%	8.44%	7.65%	7.87%
Professional Class	11.7%	11.1%	10.4%	11.9%	12.0%
Working Class	4.6%	5.4%	8.0%	5.9%	6.6%

Based on estimates from the 2017 CPS-ASEC. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Appendix 2

A. Defining Essential Workers

For this analysis, we modified essential work categories established by Celine McNicholas and Margaret Poydoc's Economic Policy Institute (EPI) report on essential workers and unionization. EPI modeled their definitions of essential workers after the Center for Economic and Policy Research report, adding occupations required in Executive Orders in Maryland and California.

We modified the EPI designations based on the guidelines from the Department of Homeland Security's initial critical infrastructure workforce recommendations. We excluded occupations that likely would be considered non-essential regardless of the sector (e.g. barbers and manicurists). We also removed other occupations that may not widely be considered essential (e.g. teachers), added jobs/industries to existing categories (e.g. ensuring more healthcare workers were deemed essential), and added a Defense sector.

Below are examples of industries and occupations within each sector:

Chemical Sector
Includes chemical engineers, chemical technicians, hazardous waste removal workers, and chemical processing workers.

Commercial Services
Includes workers in waste management and remediation services industry and services to buildings and dwellings industry and workers in occupations such as construction workers, laundry and dry-cleaning services workers, and construction laborers.

Communications and IT
Includes workers in broadcasting and telecommunications industries and workers in occupations such as switchboard operator, telecommunications line stallers, and telephone operators.

Critical Manufacturing
Includes workers in occupations such as sheet metal workers, metal furnace operators, engine and other machine setters, and tool and die makers.

Defense
Includes workers in industries such as the U.S. Air Force, U.S. Navy, and Military Reserves or National Guard.

Emergency Services
Includes occupations such as police officers, firefighters, and emergency medical technicians, and emergency management directors

Energy
Includes workers in industries such as coal mining and gas extraction and workers in occupations such as electrical engineers, electrical power-line installers, and extraction workers.

Financial Sector
Includes workers in occupations such as financial analysts, tellers, credit authorizers and clerks, and credit counselors.

Food and Agriculture
Includes workers in industries such as supermarket and grocery, convenience stores, and pharmacy and drug stores and workers in occupations such as farmers, butchers, and food processing workers.

Healthcare
Includes workers in all healthcare industries and workers with healthcare occupations, including respiratory therapists, physicians, occupational therapists, and nursing assistants.

Government and Community Based Service
Includes workers in industries such as individual and family services and community food, housing, and emergency and child care industries and workers in occupations such as social and community services managers, probation officers and correctional treatment specialists, and legal support workers.

Transportation, Warehouse, and Delivery
Includes workers in industries such as postal service, warehousing and storage, bus service and urban transit and workers in occupations such as couriers, postal service workers, and bus drivers.

Water and Wastewater management
Includes workers in the water and wastewater treatment plant and system operator occupation.

Nonessential
This includes all workers not captured in the sector above and excludes other workers in occupations that would not be considered essential regardless of sector (e.g. a barber who works in a healthcare setting).

Table 1A. Distribution of Workers Age 25-64 Across Essential and Nonessential Sectors

	Total employed (in millions)	Share of workers
Total	112.82	1.00
Nonessential	62.79	0.56
Essential	50.03	0.44
Chemical Sector	0.22	0.002
Commercial Services	4.84	0.04
Communications and IT	3.53	0.03
Critical Manufacturing	1.64	0.01
Defense	1.23	0.01
Emergency Services	1.41	0.01
Energy Sector	1.13	0.01
Financial Sector	2.38	0.02
Food and Agriculture	8.27	0.07
Government and Community Based Services	2.83	0.03
Health Care	17.02	0.15
Transportation, Warehouse, and Delivery	5.45	0.05
Water and Wastewater management	0.08	0.001

Data source: American Community Survey 2018 5 Year Estimates. Minneapolis, MN: IPUMS, 2020.

Table 2A. Share of Essential Workers by Race and Gender

Workers aged 25-64	Share of Nonessential workers	Share of essential workers	Total
Black	0.11	0.15	0.13
Women	0.06	0.09	0.06
Men	0.05	0.07	0.06
White	0.72	0.64	0.69
Women	0.34	0.32	0.33
Men	0.38	0.32	0.37

Data source: American Community Survey 2018 5 Year Estimates. Minneapolis, MN: IPUMS, 2020.

Table 3A. Share of Workers who are in Essential Work by Race and Gender

Workers aged 25-64	Share in essential jobs
Black	0.52
Women	0.55
Men	0.50
White	0.42
Women	0.43
Men	0.40

Data source: American Community Survey 2018 5 Year Estimates. Minneapolis, MN: IPUMS, 2020.

B. Essential Work

Table 1C. Occupational Crowding and Essential Work

Reference Group	Essential work		Nonessential work	
	Average Income: $54,362		**Average Income: $59,153**	
	Crowd Index	**Share of Avg. Wages***	**Crowd Index**	**Share of Avg. Wages***
Black women V White women	1.2	0.81	0.8	0.85
Black women V White men	1.3	0.61	0.78	0.56
Black men V White men	1.1	0.69	0.83	0.64
White women V White men	1.0	0.83	0.99	0.76
White Men V Everyone	0.87	1.31	1.0	1.3

Data source: American Community Survey 2018 5 Year Estimates. Minneapolis, MN: IPUMS, 2020.

Table 2C. Essential Sectors and Occupational Crowding

Sector		Black women V White women	Black women V White men	Black men V White men	White women V White men	White Men V Everyone
Chemical Sector	Crowd Index	0.89	0.28	0.75	0.42	1.6
Avg Inc: $72,049; P20 Educ: HS/GED; P80 Educ: BA/BS	Pct of avg wages	0.8	0.6	0.8	0.8	1.1
Commercial Services	Crowd Index	1.1	0.2	0.7	0.2	1.3
Avg Inc: $41,419; P20 Educ: 10th Grade; P80 Educ: Some college	Pct of avg wages	0.8	0.5	0.7	0.6	1.3
Communications and IT	Crowd Index	1.3	1.3	1.1	1.0	0.9
Avg Inc: $54,598; P20 Educ HS/GED; P80 Educ: BA	Pct of avg wages	0.8	0.6	0.7	0.8	1.3
Critical Manufacturing	Crowd Index	1.1	0.2	0.7	0.2	1.7
Avg Inc: $44,393; P20 Educ: HS/GED; P80 Educ: Some college	Pct of avg wages	0.9	0.7	0.8	0.7	1.1
Defense	Crowd Index	1.9	0.6	1.4	0.4	1.5
Avg Inc: $71,737; P20 Educ: Some college; P80 Educ: MA/Prof	Pct of avg wages	0.9	0.9	0.9	1.0	1.1
Emergency Services	Crowd Index	1.5	0.3	0.8	0.2	1.8
Avg Inc: $73,116; P20 Educ: HS/GED; P80 Educ: BA/BS	Pct of avg wages	0.9	0.8	0.9	0.9	1.0
Energy Sector	Crowd Index	0.7	0.0	0.5	0.1	2.0
Avg Inc: $68,457; P20 Educ: HS/GED; P80 Educ: Some college	Pct of avg wages	0.9	0.8	0.8	1.0	1.0
Financial Sector	Crowd Index	0.8	0.9	0.6	1.1	1.0
Avg Inc: $96,916; P20 Educ: Some college; P80 Educ: BA/BS	Pct of avg wages	0.8	0.4	0.6	0.7	1.5
Food and Agriculture	Crowd Index	1.0	1.1	1.2	1.1	0.8
Avg Inc: $32,015; P20 Educ: HS/GED; P80 Educ: Some college	Pct of avg wages	0.9	0.6	0.7	0.8	1.3
Government and Community Based Services	Crowd Index	1.2	2.0	1.2	1.3	0.7

| Sector		Black women V White women	Black women V White men	Black men V White men	White women V White men	White Men V Everyone
Avg Inc: $75,067; P20 Educ: Some college; P80 Educ: MA/Prof	Pct of avg wages	0.8	0.4	0.5	0.7	1.7
Health Care	Crowd Index	1.2	2.9	1.3	1.6	0.4
Avg Inc: $59,266; P20 Educ: HS/GED; P80 Educ: BA/BS	Pct of avg wages	0.8	0.6	0.6	0.8	1.7
Transportation, Warehouse, and Delivery	Crowd Index	1.4	0.5	1.4	0.5	1.3
Avg Inc: $45,554; P20 Educ: HS/GED; P80 Educ: Some college	Pct of avg wages	1.0	0.7	0.9	0.8	1.1
Water and Wastewater management	Crowd Index	0.5	0.0	0.5	0.1	2.2
Avg Inc: $53,040; P20 Educ: HS/GED; P80 Educ: Some college	Pct of avg wages	0.8	0.7	0.9	0.9	1.0
Nonessential industry/occupation	Crowd Index	0.8	0.8	0.8	1.0	1.0
Avg Inc: $59,153; P20 Educ: HS/GED; P80 Educ: BA	Pct of avg wages	0.9	0.6	0.6	0.8	1.3

*Note: The share of average income refers to the average annual income of the two comparison groups (e.g. Black women and white men)

Data source: American Community Survey 2018 5 Year Estimates. Minneapolis, MN: IPUMS, 2020.
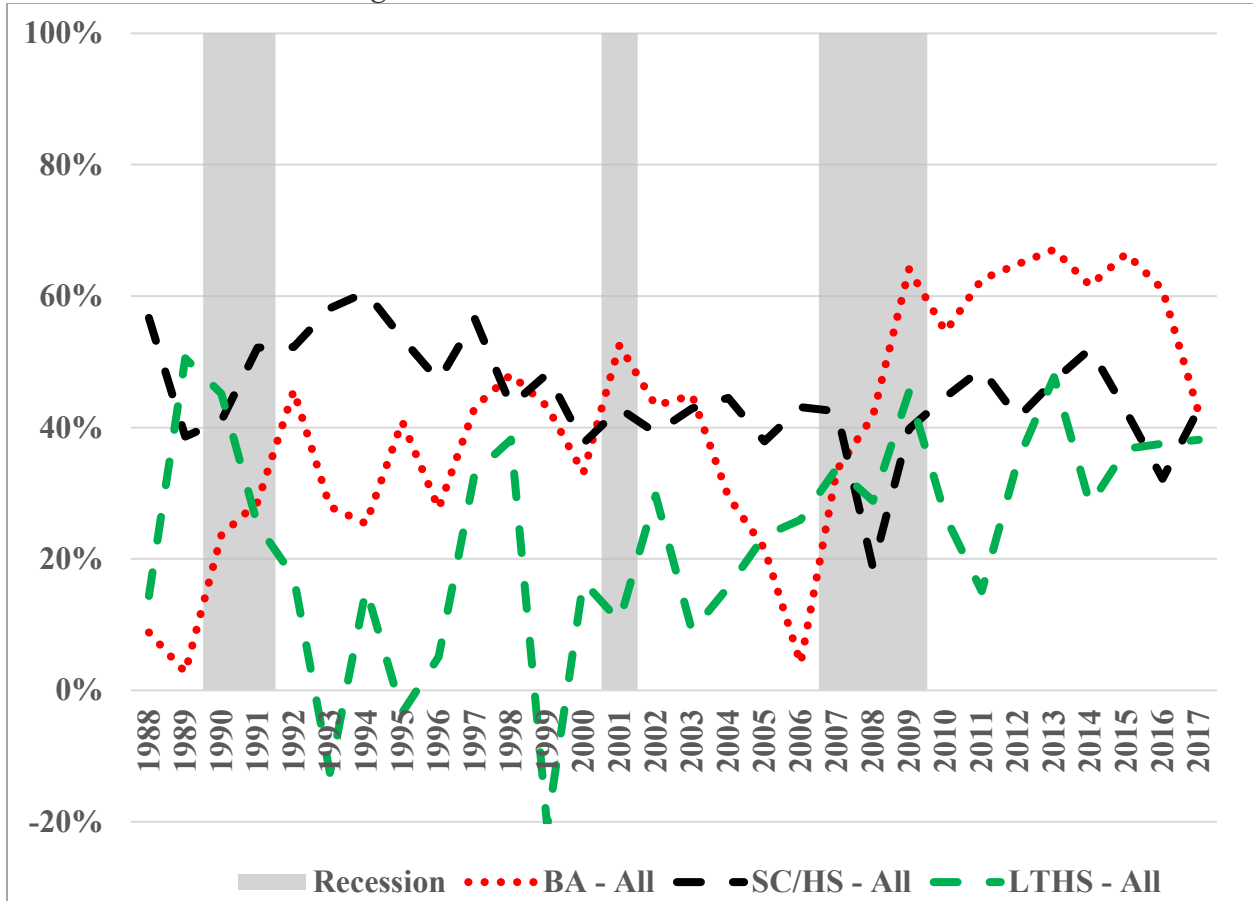
Appendix 3

Figure A The Component of Racial Wage Disparity Due to Differential Treatment of Labor Market Characteristics for (1) Black and White Professional Class Workers and (2) Black and White Working Class Workers, 1988-2017
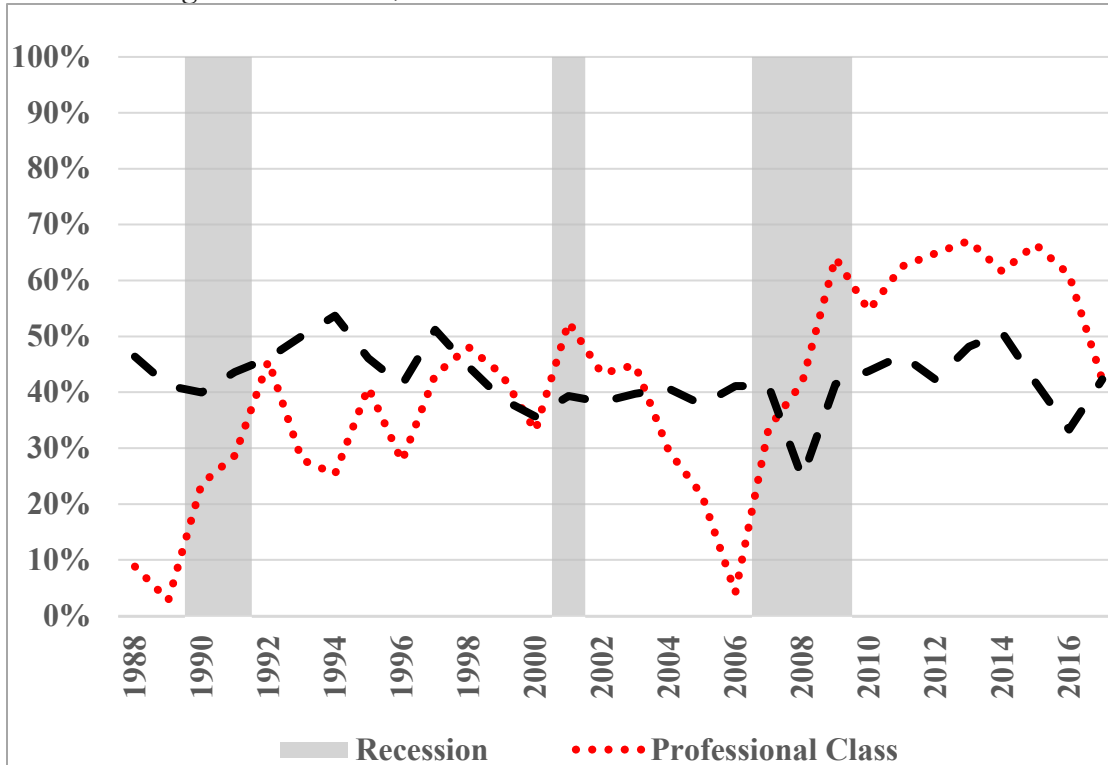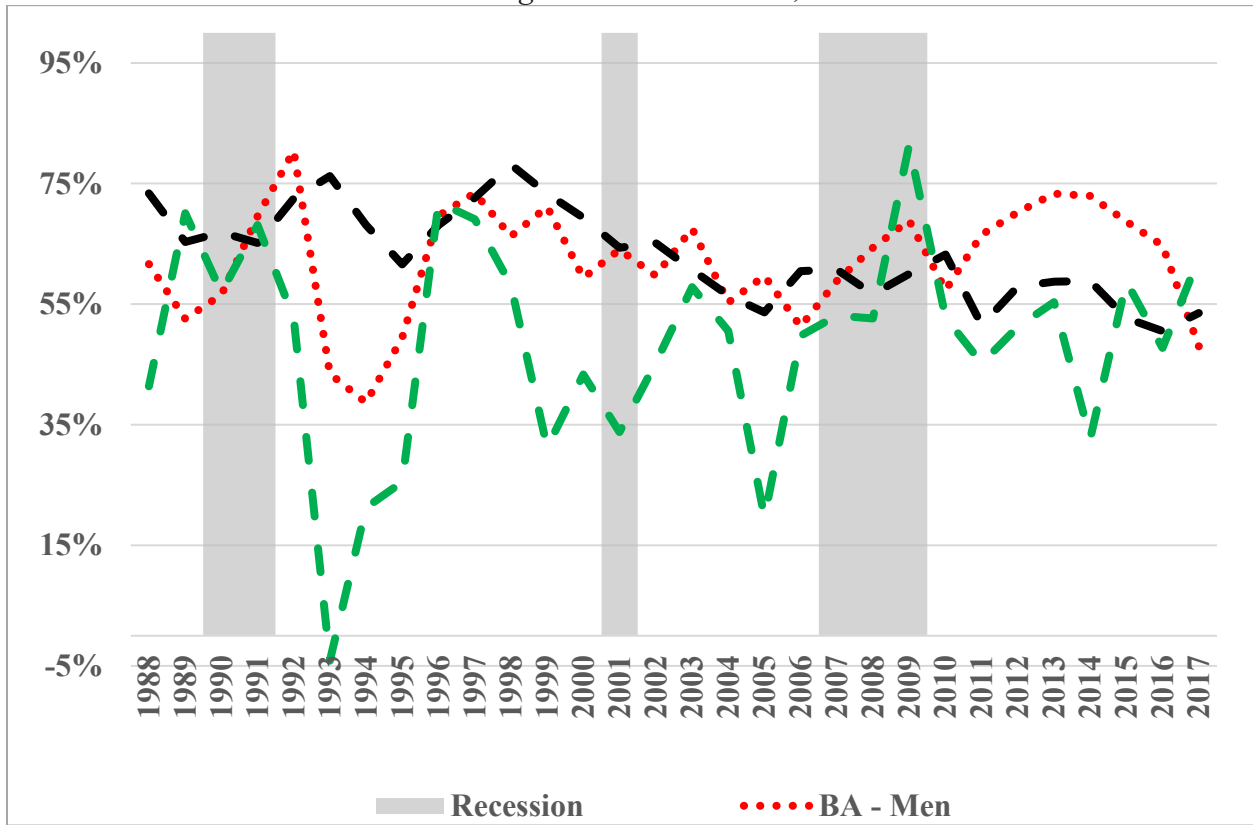

Trends are based on estimates from repeated cross sections of CPS-ASEC, 1988 to 2017. Analysis is of working age, positive wage earners in civilian population. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Figure B The Component of Racial Wage Disparity Due to Differential Treatment of Labor Market Characteristics for (1) Black and White College Educated Workers and (2) Black and White Workers with Some College or a High School Education, and (3) Black and White Workers with Less than a High School Education , 1988-2017

Trends are based on estimates from repeated cross sections of CPS-ASEC, 1988 to 2017. Analysis is of working age, positive wage earners in civilian population. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.

Figure C The Component of Racial Wage Disparity Due to Differential Treatment of Labor Market Characteristics for (1) College Educated Black and White Men Workers and (2) Black and White Men Workers with Some College or a High School Education, and (3) Black and White Men Workers with Less than a High School Education , 1988-2017

Trends are based on estimates from repeated cross sections of CPS-ASEC, 1988 to 2017. Analysis is of working age, positive wage earners in civilian population. Data Source: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren (2020). "Integrated Public Use Microdata Series, Current Population Survey: Version 7.0" [dataset]. Minneapolis, MN: IPUMS.