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Assessing Differences in Labor Market Outcomes Across Race, Age, and Educational Attainment

Economic Research Department
Federal Reserve Bank of Kansas City

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Assessing differences in labor market outcomes across race, age, and educational attainment*

Economic Research Department
at the Federal Reserve Bank of Kansas City†

April 21, 2017

Abstract

Broad indicators are often used to evaluate the health of the labor market but may mask disparities in outcomes across age, education, gender, and race. Understanding these disparate outcomes is part of the process of monitoring the labor market. As such, this paper summarizes work the research staff of the Federal Reserve Bank of Kansas City has done to better understand differences in labor market outcomes. Some of these findings reinforce earlier work, while others offer novel perspectives. First, differences in outcomes across race remain substantial. Despite a significant increase in educational attainment among black individuals, their wages are lower and their unemployment rate significantly higher than for white individuals, even after controlling for education. Second, black individuals are nearly two times more likely to become long-term unemployed than white individuals. This difference, however, explains only a modest amount of the difference in the overall unemployment rates for these groups. Third, job polarization has affected black individuals relatively more due to an education gap that has made it more difficult for those without a college education to secure high-skill employment.

*The views expressed herein do not necessarily represent those of the Federal Reserve Bank of Kansas City or the Federal Reserve System.

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1 Introduction

Broad labor market indicators, such as the unemployment rate, the labor force participation rate, and the pace of monthly gains in employment are often used to evaluate the health of the labor market and its proximity to full employment. Although these statistics are quite useful, they may mask disparities in labor market outcomes across age, education, gender, and race that are important to monitor when assessing broader labor market dynamics.

As part of that process, this paper summarizes some of the work the research staff of the Federal Reserve Bank of Kansas City has done to better understand differences in labor market outcomes. Understanding these differences is important, as one goal of the Federal Reserve's "dual mandate" is to set monetary policy to promote maximum employment along with stable prices. To ensure labor markets are assessed from multiple perspectives, we first review some general statistics such as unemployment and labor force participation rates across race.[1] To understand some of the broader trends, we then look at the data from two different perspectives: how an unemployed individual's likelihood of transitioning into long-term unemployment varies by race, education, and gender; and how job polarization, which is the downward trend in employment in middle-skill occupations and upward trend in low- and high-skill occupations, has affected workers across race.

This paper has several findings, some of which reinforce earlier work, whereas others offer some novel perspectives. First, differences in labor market outcomes across race remain substantial. Despite a significant increase in educational attainment among black individuals over the past few decades, unemployment rates remain significantly higher for the black population than for the white population. Even after controlling for education level, unemployment rates differ across race. For example, the unemployment rate for black individuals with a bachelor's degree is about the same, both in level and in variation over the business cycle, as the unemployment rate of white individuals that have some college but not a full degree. Second, wages differ significantly between white and black workers over the life cycle, even after controlling for education. While wages for white workers are higher on average, the

[1]The literature on these issues is substantial across various disciplines, so we will not provide a literature overview here. However, see Butler (2012), Altonji and Blank (1999*a*), Bertrand and Mullainathan (2004), Shapiro (2004), Holzer and Neumark (1999), Lang and Manove (2011), Reimers (1983), Carneiro, Heckman and Masterov (2005) for additional references and analysis.

difference remains relatively stable over the business cycle. And although gaps persist in terms of both wages and overall unemployment rates, there is evidence that differences in unemployment rates by age narrow considerably for older workers. For example, the unemployment rate for black individuals 25 years of age has averaged a bit more than 15%, compared with less than 5% for white workers of the same age. In contrast, differences are more modest for workers 55 year of age and are about the same for workers at age 64. Third, black individuals are nearly two times more likely to become long-term unemployed than white individuals, which holds true quite broadly across time, gender, and education level. This difference, however, explains only a modest amount of the persistent difference between the overall unemployment rates for black and white individuals. Instead, separation rates from employment for black individuals are higher and can explain a larger share of the difference between overall unemployment rates. Fourth, job polarization has affected black individuals relatively more due to a persistent education gap that has made it more difficult for those without a college education to secure high-skill jobs.

Together, these findings show that gaps between labor market outcomes for black and white individuals persist even after accounting for education, gender, and age. However, these gaps appear to be only modestly affected by the business cycle. Although some dimensions do experience cyclical variations, the larger and persistent gaps in labor market outcomes suggest the underlying causes are likely unrelated to the business cycle and instead reflect longer-term economic and social trends.

2 Labor market outcomes by race and education

The Current Population Survey (CPS) provides a rich source of labor market and demographic data to use when evaluating different labor market outcomes. We first aggregate monthly CPS data from January 1998 to July 2016 into annual averages for each year to mitigate issues with seasonality and restrict the sample to the working age population, which includes individuals ages 16-64. This population is then split along two additional dimensions: educational attainment and race. For educational attainment, individuals are grouped into four categories: less than high school (LHS), high school (HS), some college including an associates degree (SC), and bachelors degree or more (BA+). Recoding the data based on race is more challenging, because the CPS question regarding race has varied over time. To accommodate the changing

Figure 1: Employment-to-population ratio by race. Source: Current Population Survey.

nature of the race variable, we create four categories: white, black, Asian/Pacific islander, and mixed race/other. For this analysis, we focus on individuals who identify as white or black, though future analysis should focus on additional comparisons across categories.

Figures (1)-(3) show three labor market indicators broken down by race. Figure (1) shows the employment-to-population ratio has trended lower for both white and black individuals since 1998, though the ratio decreased significantly during recessionary periods and increased gradually during recoveries. However, the figure also shows a clear and persistent 10 percentage point gap between the ratios for white and black individuals. Figure (2) illustrates a similar pattern in the labor force participation rate (LFPR). The LFPR has also trended lower since 1998, though with steeper declines during recessionary periods. As with the employment-to-population ratio, the LFPRs of white and black individuals differs persistently by about 6 percentage points on average. Finally, Figure (3) plots the unemployment rates for both black and white individuals. Both rates show a clear pattern of steep increases during recessions, though they differ on average by about 5.6 percentage points over the sample.

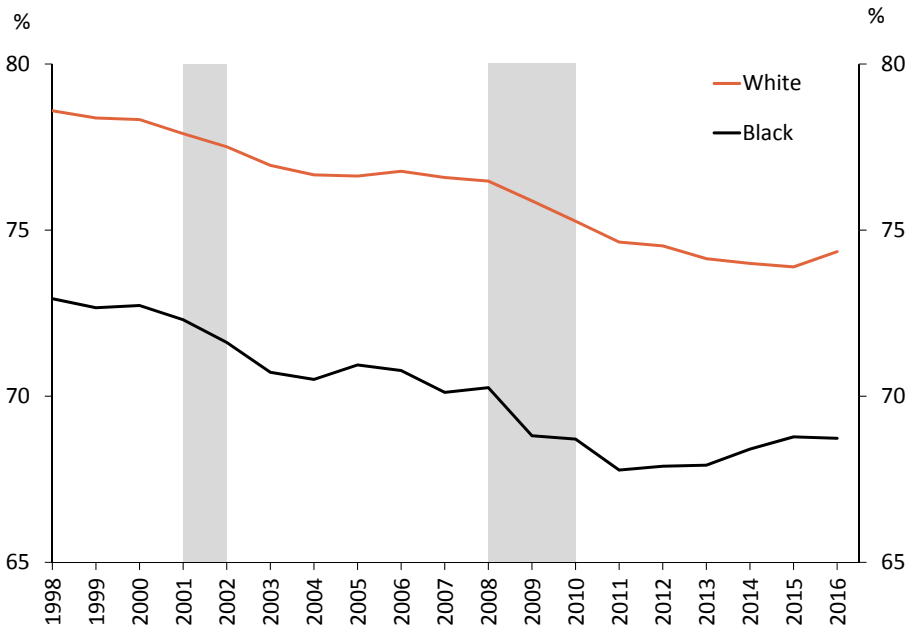

Figure 2: Labor force participation rate by race. Source: Current Population Survey.

Figure 3: Unemployment rate by race. Source: Current Population Survey.

	White	Black
LHS	-3.2%	-8.1%
HS	-4.8%	-2.7%
SC	1.5%	3.5%
BA+	6.6%	7.3%

Figure 4: Changes in educational attainment by race from 1998-2016. Note: Numbers are the percentage point difference between the share of individuals in the population with each level of educational attainment over the period of 1998 to 2016. Source: Current Population Survey.

In general, the indicators highlight significant differences between labor market outcomes for black and white individuals. The differences persist over time, though they move similarly over the business cycle.

Several factors may be contributing to the gaps, but educational attainment is a likely candidate. The overall percentage of black individuals with BA+ remains below that of white individuals, though trends over the sample suggest the gap is closing. Figure (4) shows the total number of black individuals with either HS or LHS education has decreased relative to whites, while the number with SC and BA+ has increased. The largest percentage point changes were for black individuals with LHS (-8.1 percentage points) and with BA+ (7.3 percentage points).

To assess whether educational differences can explain gaps in labor market outcomes, Figures (5)and (6) show the unemployment rate decomposed by educational attainment and race. For example, the unemployment rates in Figure (5) are calculated by dividing the number of unemployed white individuals with a given educational level by the total white labor force. In this way, the sum of all four educational attainment levels produces the total unemployment rate for white individuals. Since 1998, the composition of the unemployment rate for white individuals has been little changed, with those with HS and SC educations making the largest contributions. Likewise, Figure (6) shows that the largest contributors to the unemployment rate for black individuals are those with a HS or SC education.

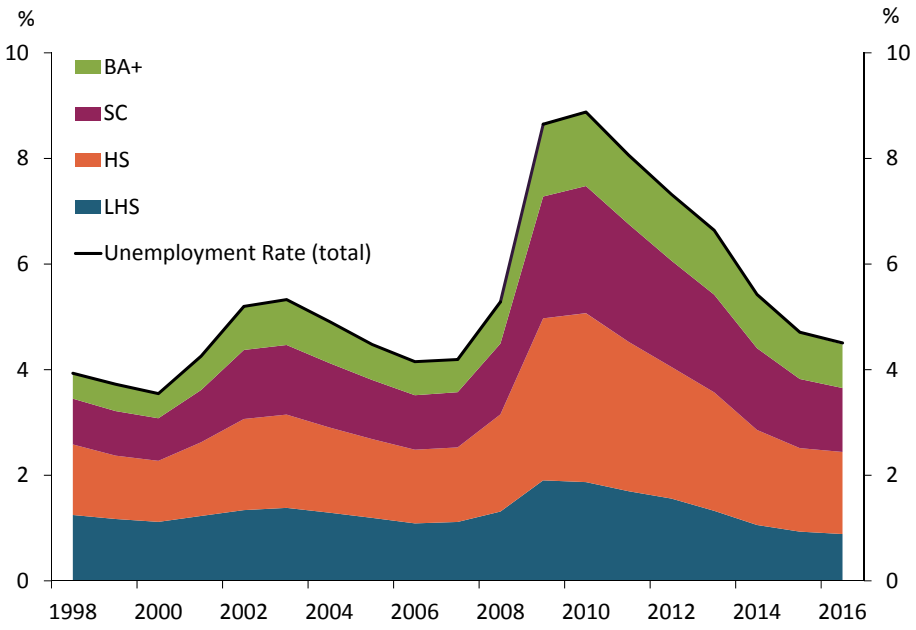

Figure 5: Unemployment rate decomposition by education (White). Source: Current Population Survey.

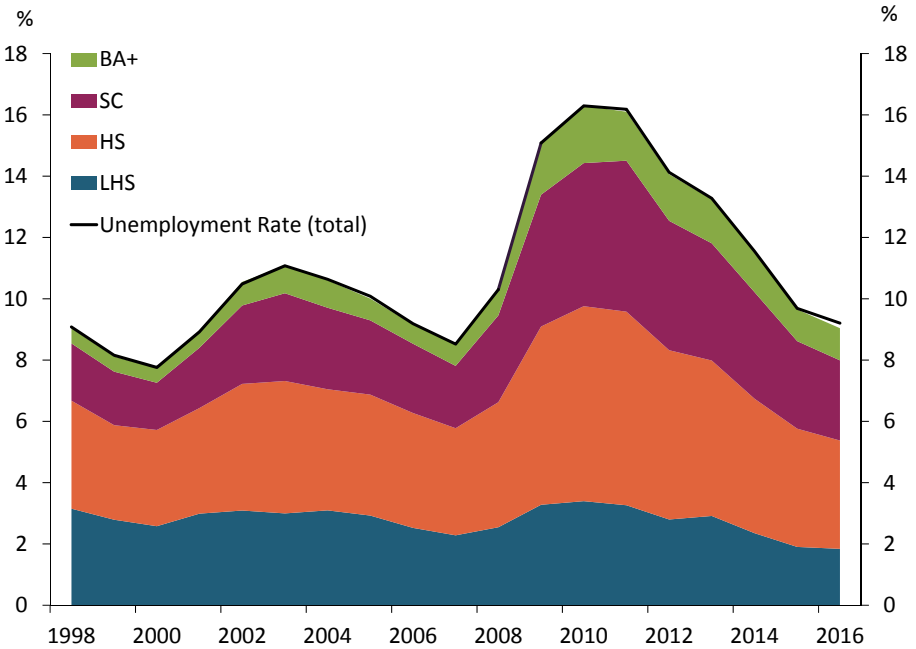

Figure 6: Unemployment rate decomposition by education (Black). Source: Current Population Survey.

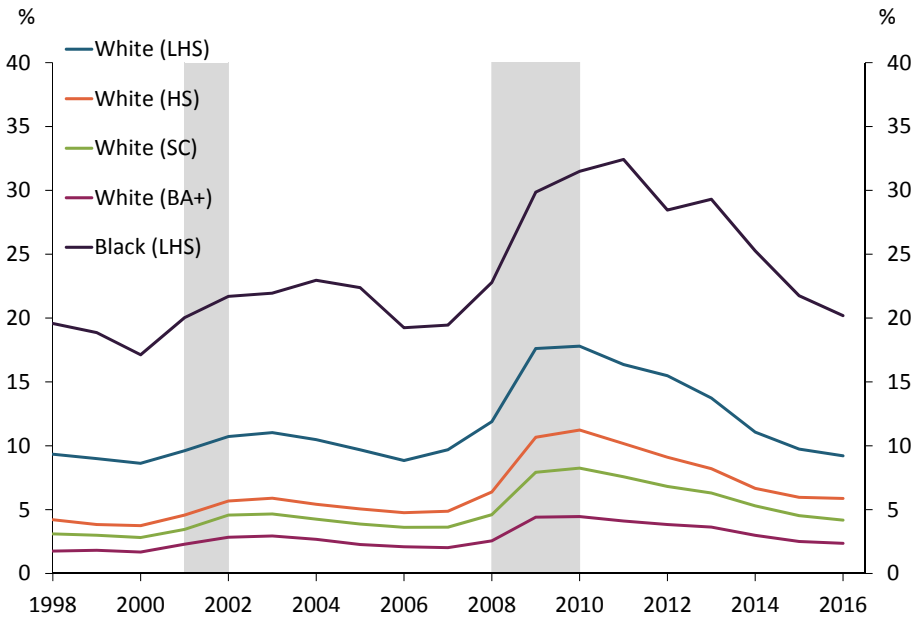

Figure 7: Black LHS unemployment rate vs. white unemployment rates by educational attainment. Source: Current Population Survey.

However, for a given level of educational attainment, the unemployment rates for black and white individuals look quite different. Figures (7)-(10) illustrate these differences by calculating the unemployment rate as the number of either black or white unemployed individuals with a given level of education divided by the total labor force with that same level of education. This approach reveals some notable differences. For example, Figure (7) shows that black individuals with LHS have a higher unemployment rate than any education level of white individuals, while Figure (8) shows black individuals with HS have roughly the same unemployment rate as white individuals with LHS. Since the recession, the unemployment rate for black individuals with HS has been slightly higher than the rate for white individuals with LHS, despite being roughly equivalent over the prior few decades. Figure (9) shows black individuals with SC have a lower unemployment rate than white individuals with LHS but a higher unemployment rate than all other educational attainment levels of white individuals. Finally, Figure (10) shows black individuals with BA+ have an unemployment rate similar to white individuals with SC.

Overall, the analysis reveals some key points about race and the labor market. First, there is clear evidence for persistent racial gaps between major labor market

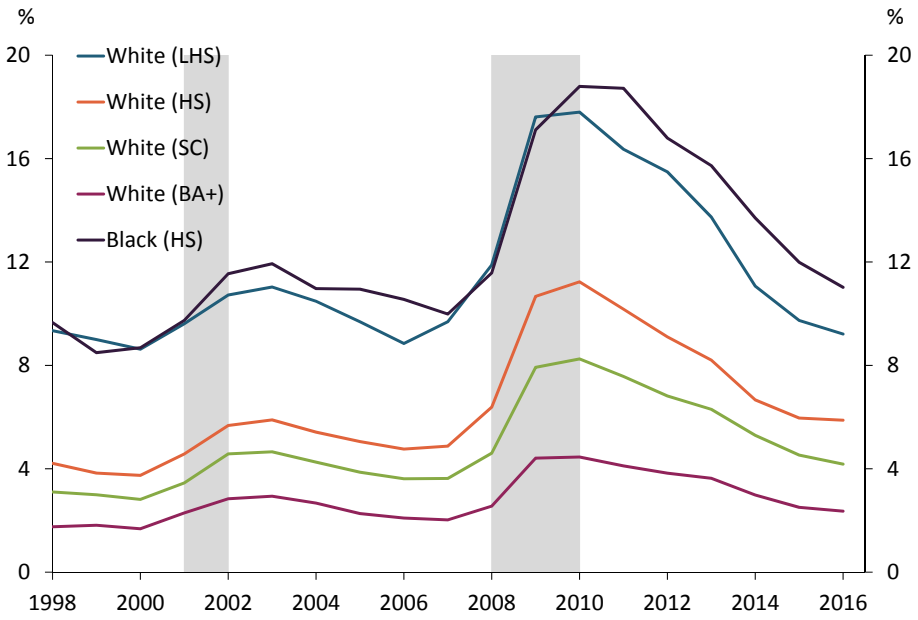

Figure 8: Black HS unemployment rate vs. white unemployment rates by educational attainment. Source: Current Population Survey.

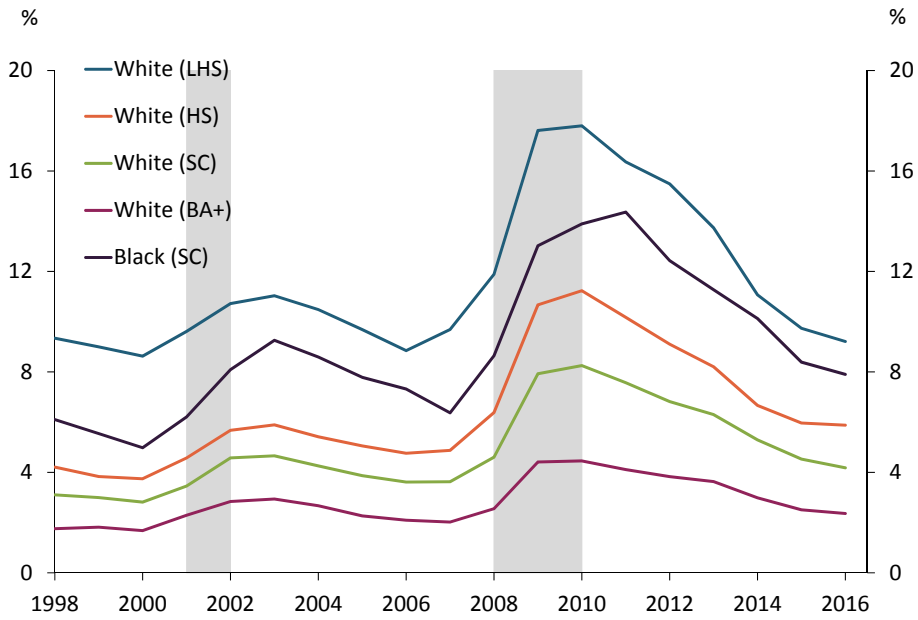

Figure 9: Black SC unemployment rate vs. white unemployment rates by educational attainment. Source: Current Population Survey.

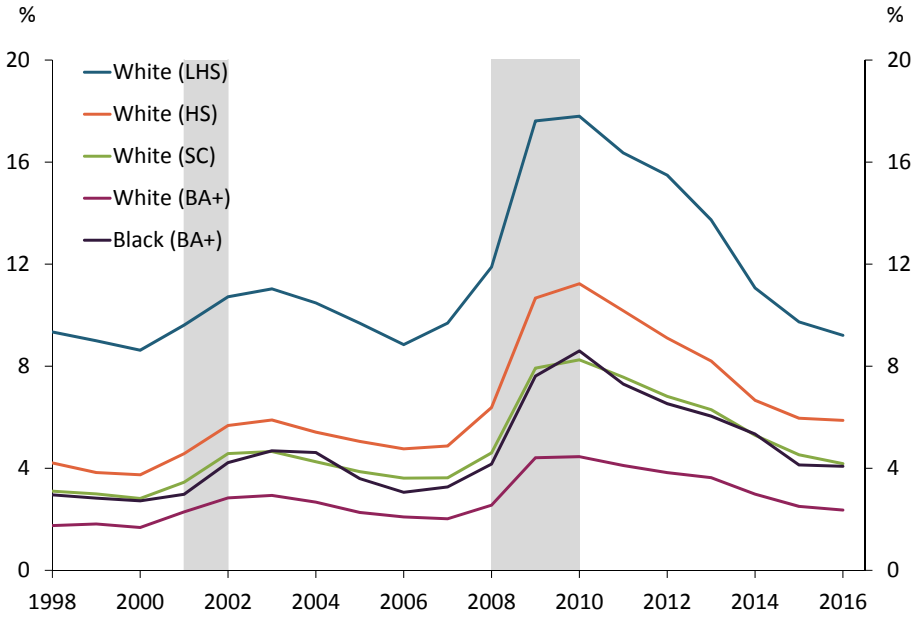

Figure 10: Black BA+ unemployment rate vs. white unemployment rates by educational attainment. Source: Current Population Survey.

variables at the aggregate level. White individuals have a higher employment-to-population ratio and labor force participation rate and a lower unemployment rate. Second, the share of both black and white individuals with higher levels of educational attainment has increased over the sample period. Third, unemployed individuals with HS or SC are the main contributors to the unemployment rates for black and white individuals. Fourth, when controlling for education, black individuals have consistently higher unemployment rates than white individuals with the same level of education. Finally, the persistent gaps between labor market variables for white and black individuals appear largely independent of the business cycle, though there is some differential variation across the cycle. In other words, racial disparities in labor market indicators are likely the result of unobservable and systemic factors, rather than cyclical fluctuations in economic activity.

3 Labor market outcomes across the life cycle

Employment is of central importance when assessing labor market outcomes, but wages and growth in wages over the life cycle are other important dimensions. To

evaluate how earnings vary across racial groups, we turn to the Panel Study of Income Dynamics (PSID), which follows individuals and can provide a rich profile of employment outcomes and wages over time. This data reveals three key takeaways. First, wages for black and white individuals differ persistently over both the business and life cycles. Second, these differences are relatively stable over time and relatively immune to changes in economic conditions. Third, in contrast to the persistent wage gap, we find unemployment rates between white and black workers narrow and are eventually eliminated over the life cycle.

Our analysis uses four decades of PSID data from 1970 to 2013. The panel follows each household for 10 years on average, allowing us to compare the performances of the same households over many years. The total sample consists of 234,806 observations. We deflate nominal wages by the CPI so variations in wages are not subject to changes in inflation.

Figure 11 shows the average annual wage for different groups over the business cycle. The green line shows the average for all workers, while the orange line and the black line show the averages for white and black workers, respectively. The figure highlights that in general, the wage series move roughly together over the business cycle. More significantly, the figure highlights a persistent gap in wages between white and black workers. Figure 12 shows this gap tightened between 1970 and 1990, then fluctuated at a level significantly below its pre-1990 level before growing in the early 2000s.

Figure 13 shows the dispersion of wages over the sample period. The black line, the green line, and the orange line correspond to the first, second, and third wage quartiles in the sample. In general, wage dispersion is relatively stable over the business cycle. To compare particular groups, Figure 14 reports ratios of different quartiles of workers to the median wage in recession and non-recession years. For example, white college-educated workers at the 25th percentile of their wage distribution earn about 64.6% of the wage earned by the median white college-educated worker in recession years. In non-recession years, this ratio is 64.0%, suggesting the ratio does not change significantly over the business cycle. The corresponding ratio for black college-educated workers is similarly stable over the business cycle. In addition, the wage gap between white and the black workers in these quartiles remains relatively stable. This again confirms persistent wage gaps between racial groups, but also suggests the gaps are relatively unaffected by the business cycle.

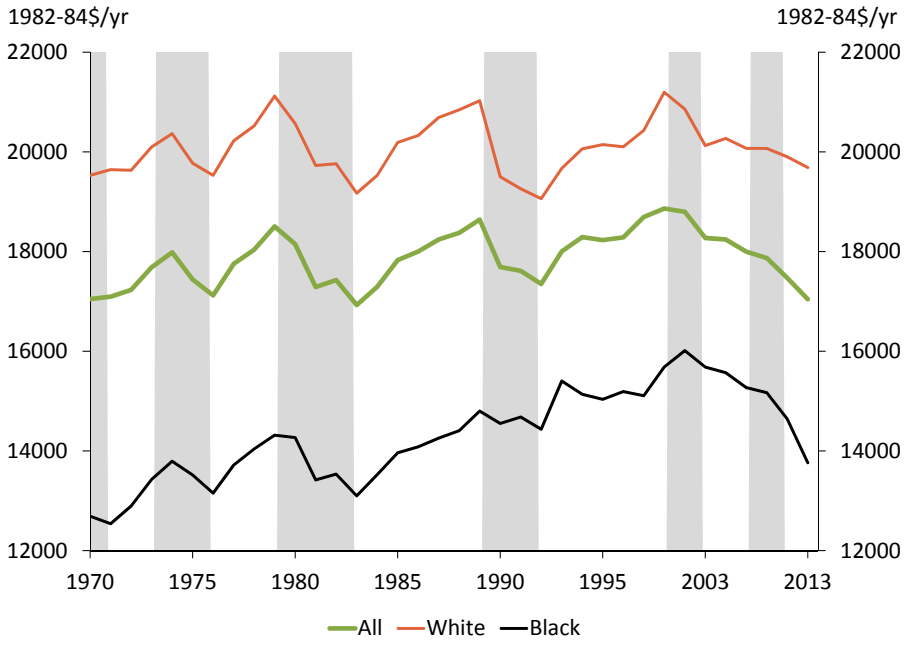

Figure 11: Average annual wages over business cycle

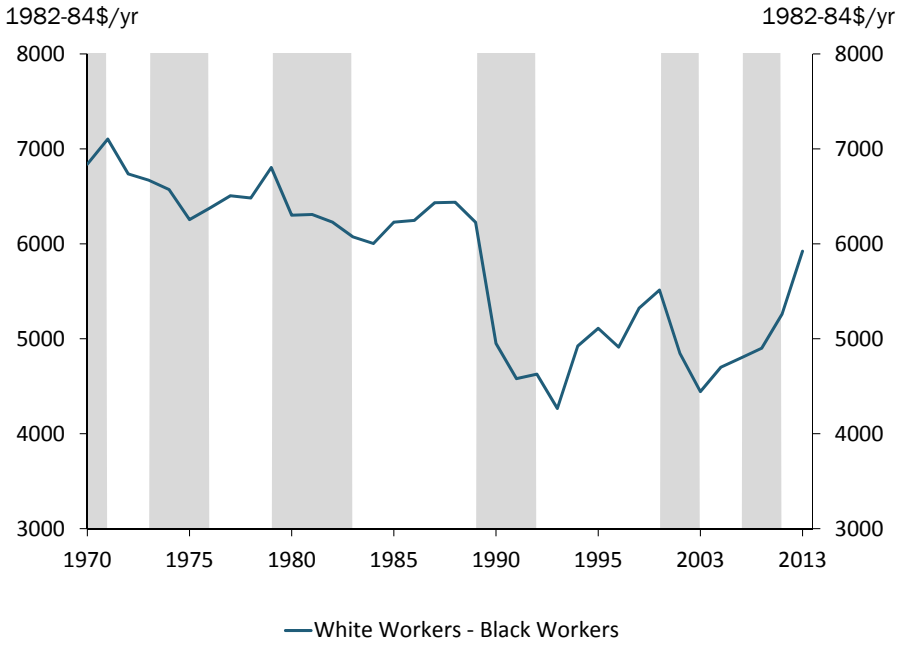

Figure 12: Average annual wages over business cycle: Difference between white and black workers

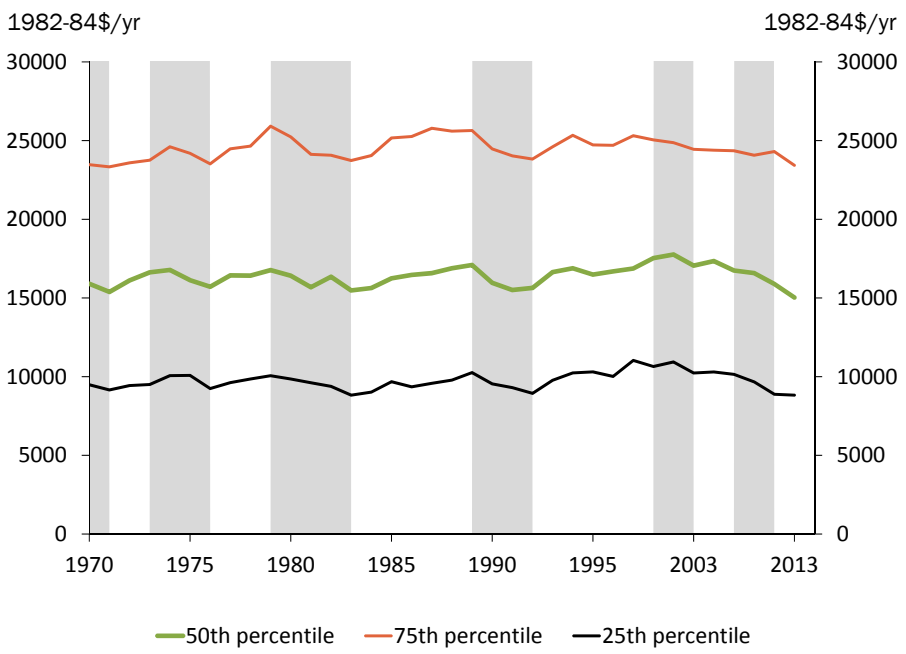

Figure 13: Average annual wage dispersion over business cycle

Panel A: Recession Years		
	White Workers	Black Workers
1st quartile/median	0.646	0.714
3rd quartile/median	1.425	1.418
Panel B: Non-Recession Years		
1st quartile/median	0.640	0.700
3rd quartile/median	1.440	1.401

Figure 14: Comparison of black/white college educated. Note the median represents the ratio within a specific population. For example, 0.646 = (1st quartile of white college-educated workers in recession yrs)/(median of white college-educated workers in recession yrs).

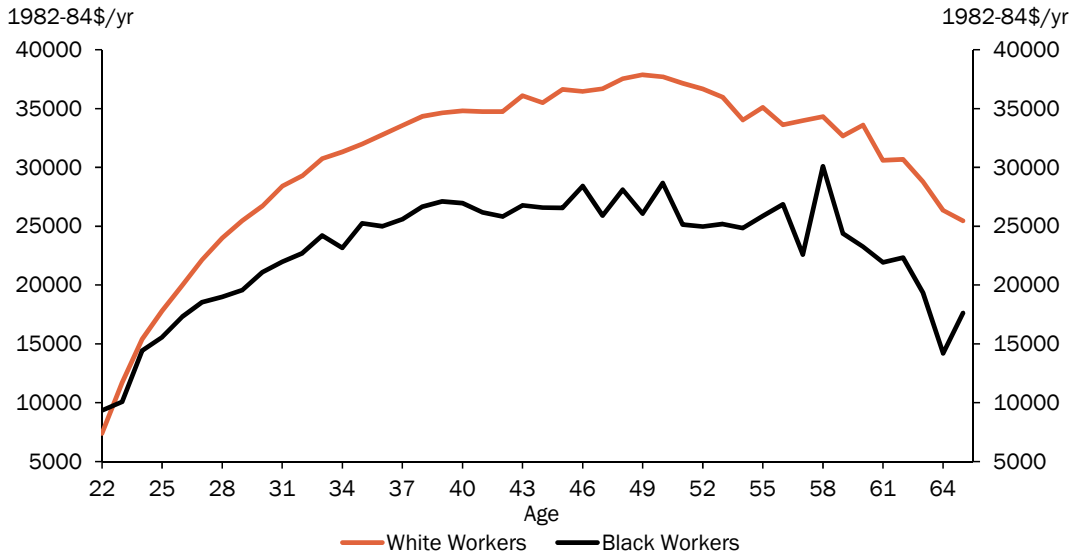

Figure 15: Average annual wages over the life cycle: College educated

Figure 14 and Figure 15 show the wage profile over the life cycle for black and white individuals. As education is an important determinant of wages, Figure 14 focuses on college graduates and Figure 15 focuses on workers without college degrees. Both figures suggest white workers have a steeper wage curve in their earlier working years. For example, Figure 14 shows white college graduates' average wages increased from about \$7,400 to \$36,600 (both measured in 1982-84 dollars) from age 22 to 45 (around the peak), while black college graduates' average wages increased from \$9,300 to \$26,500 over the same age range. These differences result in a persistent wage gap throughout the life cycle.

Finally, Figure 17 shows how the unemployment rates of the two groups vary over the life cycle. It shows that black workers have much higher unemployment rates than white workers during their early career, but the gap narrows and eventually disappears close to the retirement age, 62-64.

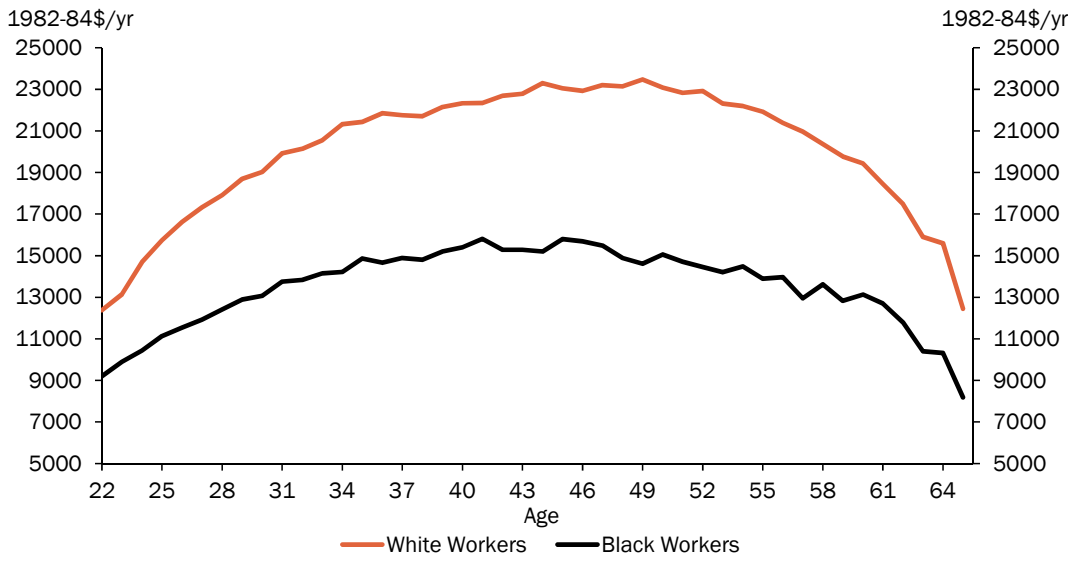

Figure 16: Average annual wages over the life cycle: Not college educated

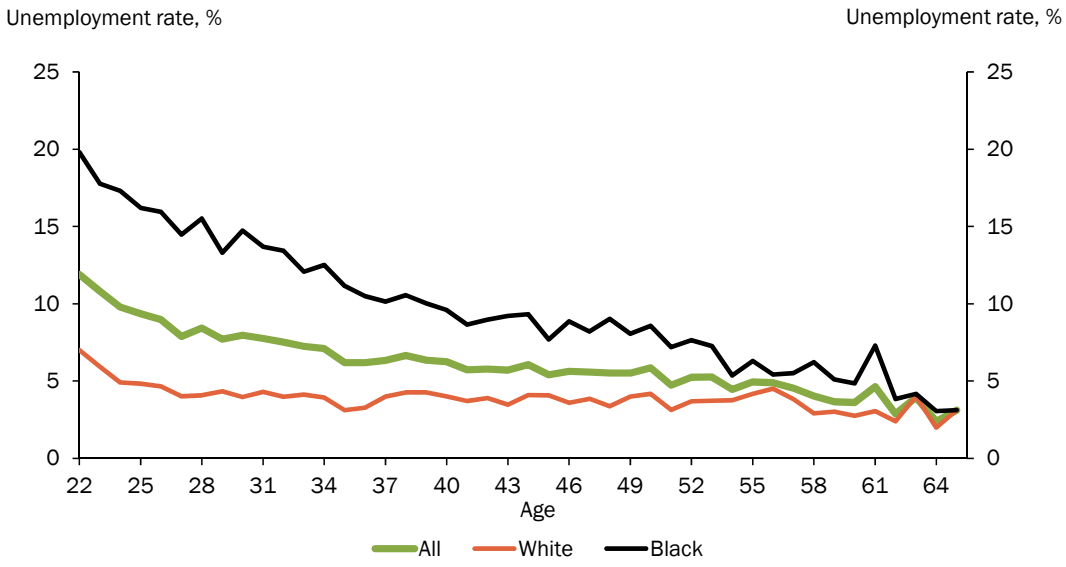

Figure 17: Unemployment rate over life cycle

4 Transitions into long-term unemployment

An important margin that differs for unemployed black and white individuals is their probability of transitioning into long-term unemployment - that is, remaining unemployed for 26 or more weeks.[2] The difference is significant. Upon entering unemployment, black individuals are nearly two times more likely to become long-term unemployed than their white counterparts. This observation holds over time, across genders, and across education levels.[3] However, this difference accounts for a relatively modest amount of the difference between the overall unemployment rates described in Section 2, as higher separation rates from employment for black individuals account for a larger share of the overall black-white unemployment gap.

We use CPS data from 1994 to 2015 for this analysis, and restrict the sample to prime-age individuals (ages 25-54) who can be tracked over two years. During the first interview, individuals must be recently unemployed (for at most five weeks). Individuals are then defined as having transitioned into long-term unemployment (LTU) if, in the subsequent year, they report being unemployed for 26 weeks or more.

To gauge the historical behavior of LTU, Figure (18) presents the probability over time of an unemployed individual moving into the LTU group. The green line represents all individuals, the black line represents black individuals, and the orange line represents white individuals. For both groups, the likelihood of LTU rises in recessions and falls in expansions. However, the probability of LTU is always higher for black individuals. The black line shows that black individuals face on average a 10 percent chance of becoming LTU upon entering unemployment, nearly twice as large as the 5.3 percent risk that white individuals face. The difference between the two remained fairly steady during and after the financial crisis of 2007-09: the probability of black individuals moving into the LTU group increased to a bit over 25 percent, while the probability for white individuals increased to about 13 percent.

One explanation for the difference could be educational attainment. However, Figure (19) shows that even after taking education into account, black individuals

[2]For a detailed profile of the long-term unemployed, see Krueger, Kramer and Cho (2014).

[3]Understanding the causes of long-term unemployment is beyond the scope of this paper. Krueger and Mueller (2011), for example, argue for a supply-side effect: as unemployment duration increases, workers become discouraged and therefore search less intensively. Meanwhile, Kroft et al. (2014) and Ghayad (2013), among others, argue for a demand-side effect: employers discriminate against the long-term unemployed, as they believe there are productivity-related reasons for their joblessness.

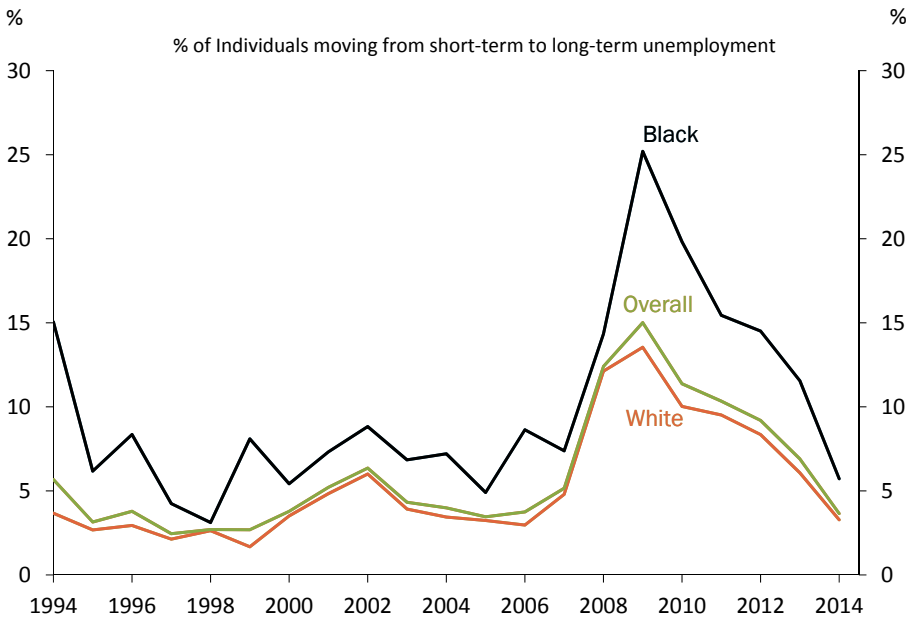

Figure 18: The probability of moving into long-term unemployment is systematically higher for black individuals, regardless of the state of the economy. Sources: Bureau of Labor Statistics and authors' calculations.

are still more likely to become LTU compared with white individuals. The first pair of bars shows that black individuals with LHS (black bar) are 4.4 percentage points (1.8 times) more likely to become LTU than white individuals with LHS (orange bar). The second and third pairs of bars show that this gap holds for individuals with HS or HS+, respectively.

Gender does not explain the LTU gap, either. The first pair of bars in Figure (20) shows that black men (black bar) are 5 percentage points (roughly 1.8 times) more likely than white men (orange bar) to become LTU. The second pair of bars shows that black women (black bar) are 4 percentage points (about 1.9 times) more likely than white women (orange bar) to become LTU.

Given the previous results, a natural question is whether the LTU gap explains the persistent gap in overall unemployment rates between black and white individuals. In fact, LTU differences explain only a minor portion of this gap. Instead, differences in the rates of job separation account for a much larger share.[4] To illustrate, Figure

[4]Whether variation in job-finding or separation rates is more important for understanding unemployment dynamics is a subject of debate. Shimer (2012) finds that the job-finding probability

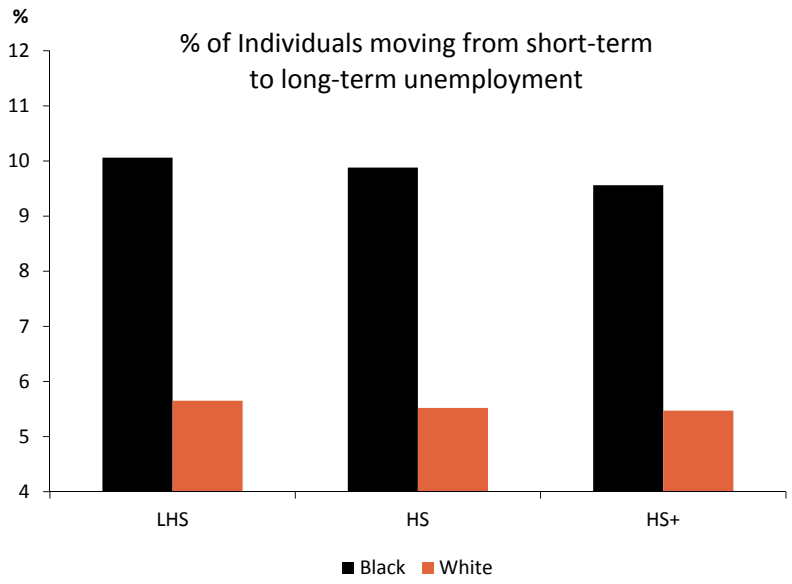

Figure 19: Educational attainment does not explain long-term unemployment differences across races. Sources: Bureau of Labor Statistics and authors' calculations.

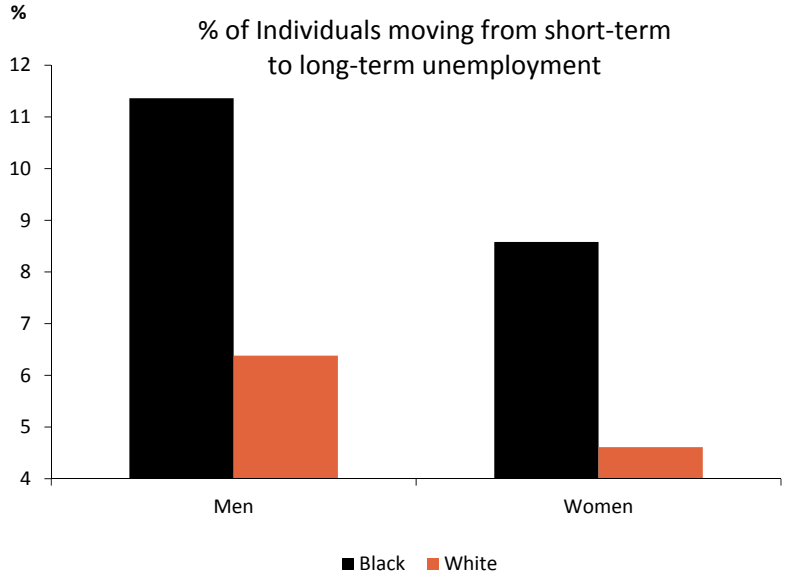

Figure 20: Gender does not explain long-term unemployment differences across races. Sources: Bureau of Labor Statistics and authors' calculations.

(21) shows that the rate at which individuals transition from employment to unemployment - that is, the job separation rate is nearly a percentage point higher (or nearly two times larger) for black individuals than for white individuals. Over the 1994-2015 period, the black unemployment rate was about 4 percentage points higher on average than the white unemployment rate. If black individuals faced the same rate of job separation as white individuals, this gap would fall by 3 percentage points. Thus, the job separation rate accounts for about 75% of the difference between black and white unemployment rates.

For a more detailed picture, we decompose transitions from employment to unemployment further based on whether an individual who was employed the month before reports being "on layoff" or "searching for a job" in the next month. Those "on layoff" are likely to be associated with involuntary job separations, whereas those "searching for a job" are likely to be associated with voluntary job separations. Figure (22) shows that the separation rate for those "on layoff" is nearly identical across blacks and whites. In contrast, Figure (23) shows that the separation rate for those "searching for a job" is nearly twice as large for black individuals than for white individuals. Again, the separation rate accounts for most of the difference between racial unemployment rates.

5 Effects of job polarization on racial groups

Job polarization describes the broad-based phenomenon of employment shifting away from middle-skill occupations toward both high- and low-skill occupations.[5] But as Autor (2010) shows, some subgroups of the population may experience these shifts differently. A key question for the evolving labor force is the supply response of workers - specifically, how are workers adapting to job polarization through changes in educational attainment and skill acquisition?

The data reveal three primary observations with respect to job polarization and its effects on black and white workers. First, job polarization has had a similar

accounts for three-quarters of the fluctuation in the unemployment rate in the United States. On the contrary, Fujita and Ramey (2009) argue that cyclical changes in separation rates explain 50 percent or more of the cyclical variation in the overall unemployment rate.

[5]See Acemoglu and Autor (2011) and Tüzemen and Willis (2013) for additional analyses of job polarization.

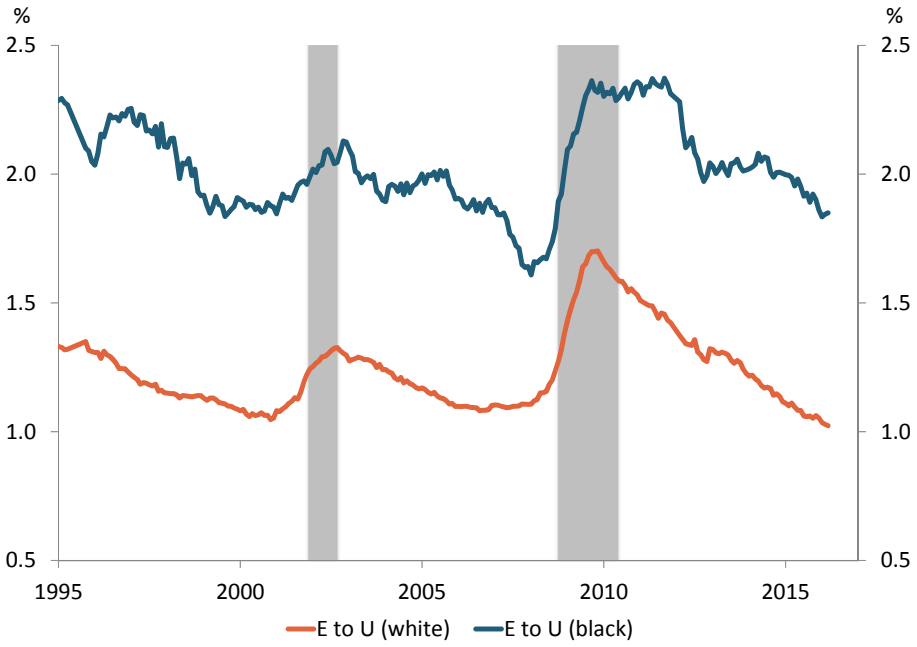

Figure 21: The separation rate for black individuals is always higher than for white individuals. Sources: Bureau of Labor Statistics and authors' calculations.

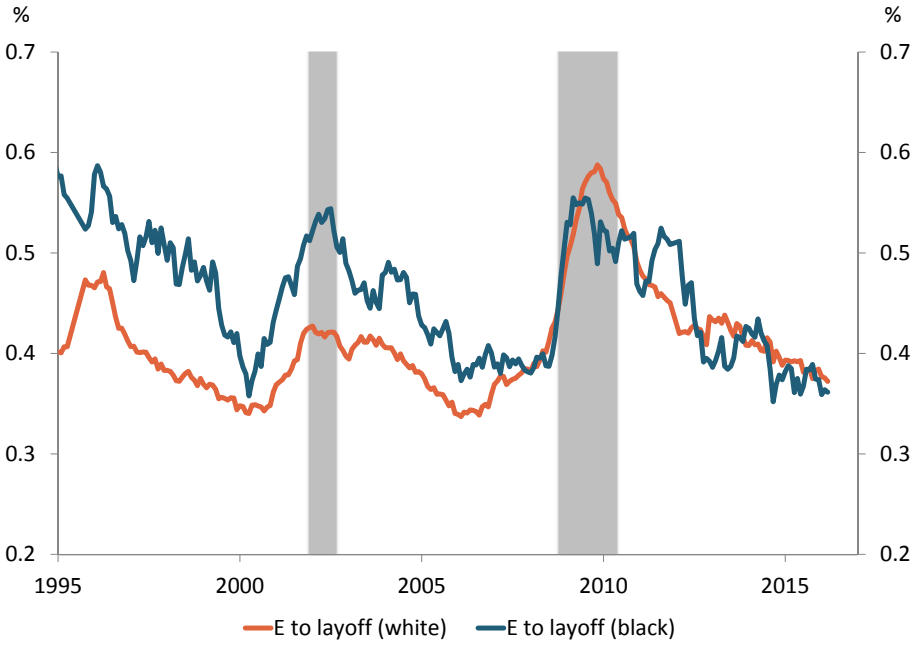

Figure 22: Involuntary layoffs have not differed materially across race the past few years. Sources: Bureau of Labor Statistics and authors' calculations.

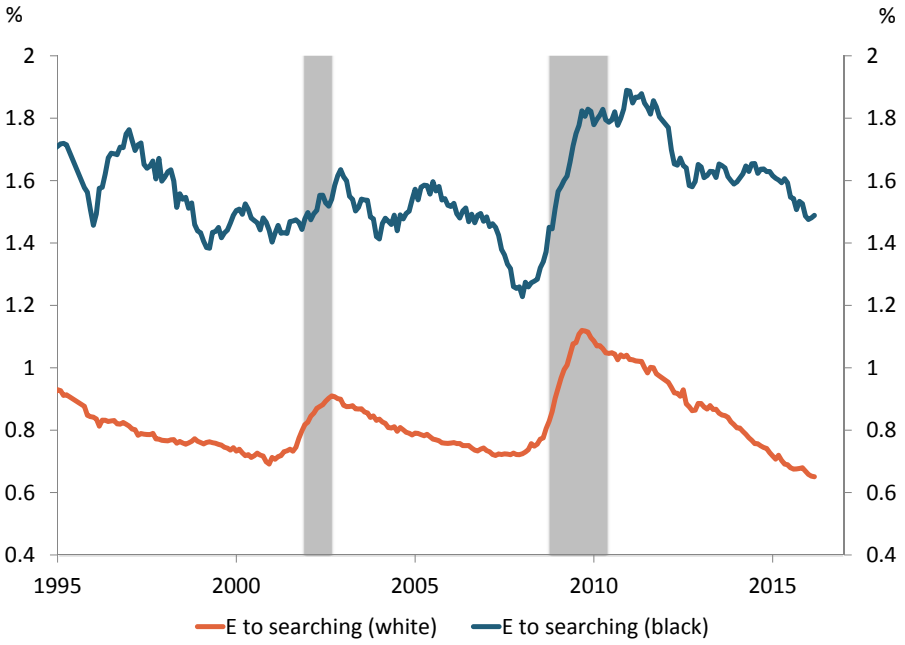

Figure 23: Voluntary job separations to "search" for new work differs across race. Sources: Bureau of Labor Statistics and authors' calculations.

effect on white and black employment over the past two decades. Second, black and white workers have responded to job polarization in similar ways: both groups of workers have obtained higher levels of education than the preceding generation. Third, black and white workers differ primarily by education level and the skill level of their occupations. While both populations are shifting toward higher levels of educational attainment, a larger share of white workers are in high-skill occupations, and a larger share of white workers have a bachelor's degree.[6] For workers without a bachelor's degree, it is difficult on average to obtain a high-skill job. Options are increasingly limited for middle-skill jobs, leaving only low-skill jobs as feasible employment opportunities.

Our analysis uses seasonally adjusted quarterly data from the CPS from 1998 to 2016Q2. We restrict the sample to workers ages 16 to 64 who are not self-employed and not employed in the military or agricultural occupations. The analysis focuses on black and white workers, who account for 92 percent of employment. Hispanic workers account for 16 percent of total employment, but they likely self-identify as white

[6]See Altonji and Blank (1999*b*) for a summary of the substantial literature studying the role of gender, race, and ethnicity in the labor market.

when answering the race question in the CPS. They have the option of identifying as Hispanic in a separate question on ethnicity.

Over the past two decades, both white and black workers have experienced similar shifts in job opportunities consistent with job polarization. Figure (24) shows that for both populations, the employment share of middle-skill jobs declined by 10 percentage points from 1998 to 2016. Employment for both black and white workers shifted toward high- and low-skill jobs, with a stronger shift toward high-skill jobs.

While the employment shifts were similar for both populations, white workers have had a consistently higher share of employment in high-skill occupations. Figure (25) shows that in in 2016, 39 percent of white workers were employed in high-skill jobs compared with 30 percent of black workers. Both populations have a similar share of workers in middle-skill jobs: 44 percent of white workers and 45 percent of black workers. But a larger share of black workers are in low-skill jobs than white workers: 25 percent of black workers and 17 percent of white workers.

As labor demand has increased for high-skill jobs, workers have responded by obtaining higher levels of education. Figure (26) shows the share of workers with a bachelor's degree has increased by approximately 10 percentage points from 1998 to 2016 for both black and white workers. The share of black workers in the SC education category has increased, but the share of white workers with SC has remained stable. The share of workers with HS has dropped by a similar amount for both populations. And the share of workers with LHS declined more for the black population than the white.

A persistent education gap between black and white populations underlies the shift in educational attainment. Figure (27) shows that in 2016, 36 percent of white workers had a bachelor's degree compared with 27 percent of black workers. A larger share of black workers are in the SC and HS education categories than white workers, while both populations have about 8 percent of workers in the LHS category.

The differences in educational attainment are important, as it is increasingly challenging for a worker to obtain a high-skill job without a bachelor's degree. Figure (28) shows that from 1998 to 2016, opportunities for high-skill jobs have improved on average only for individuals with a bachelor's degree or higher. This shift has occurred for both black and white workers. Thus, workers with a high school diploma or some college education have experienced a decrease in their likelihood of obtaining

Figure 24: Changes in employment shares by skill level and race between 1998 and 2016Q2. Sources: Bureau of Labor Statistics, Authors calculations.

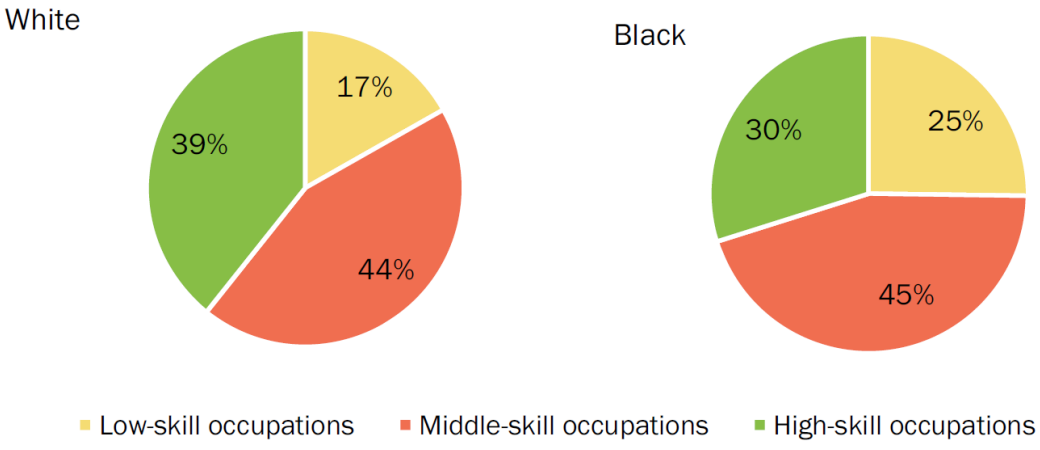

Figure 25: Employment shares by skill and race in 2016Q2. Sources: Bureau of Labor Statistics, Authors calculations.

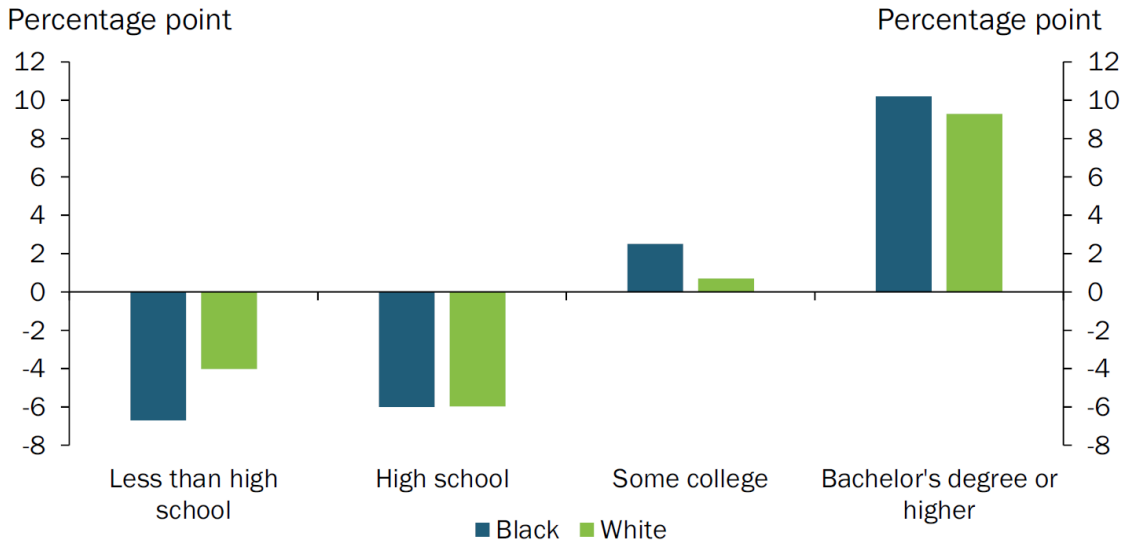

Figure 26: Changes in educational attainment of the employed by race between 1998 and 2016Q2. Sources: Bureau of Labor Statistics, Authors calculations.

a high-skill job. Of particular concern is the divergence in opportunities between those with a bachelor's degree and those with some college. For individuals with a bachelor's degree, the opportunities are clear: high-skill jobs. However, individuals with some college education are not finding the same employment opportunities. Individuals with some college education, especially black individuals, are increasingly ending up in low-skill jobs.

A worker's occupation category has profound implications for their likelihood of being unemployed. Figure (29) shows that workers in high-skill occupations, regardless of race, experience the lowest rates of unemployment. In the second quarter of 2016, the unemployment rate for workers in high-skill jobs was 2.3 percent for white workers and 3.2 percent for black workers. In contrast, the unemployment rate for black workers in low- and middle-skill jobs was approximately 9 percent. For white workers in low- and middle-skill jobs, the unemployment rate was 5 percent. Within a job category, unemployment rate differences between black and white individuals are likely caused by a wide range of unobserved factors that could include differences in educational opportunities; factors related to income, wealth, and parental education levels; and race-based factors in employment practices.

A bachelor's degree is becoming increasingly requisite for high-skill jobs, and there is a large gap between the number of black and white workers with a bachelor's degree

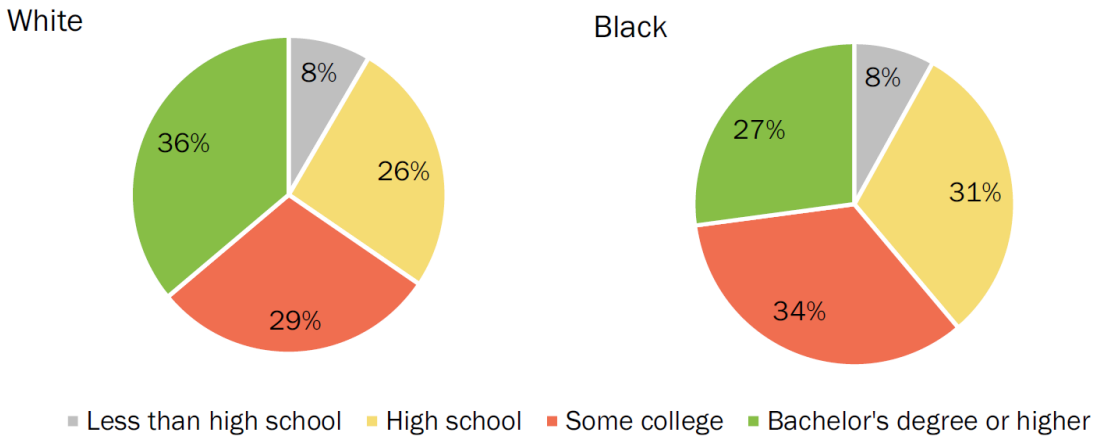

Figure 27: Educational attainment of the employed by race in 2016Q2. Sources: Bureau of Labor Statistics, Authors calculations.

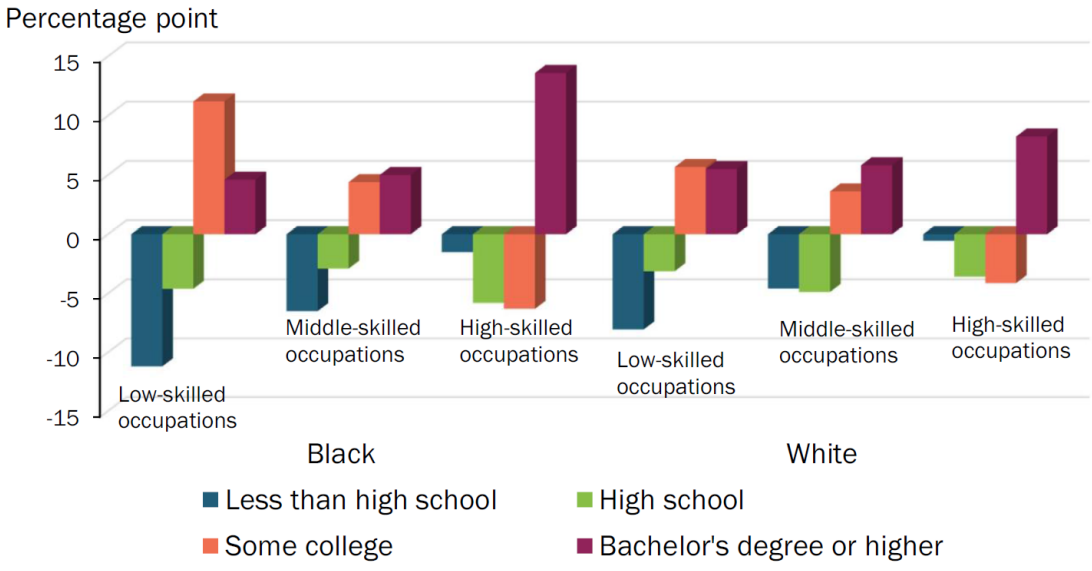

Figure 28: Changes in educational attainment of workers within job categories between 1998 and 2016Q2. Sources: Bureau of Labor Statistics, Authors calculations.

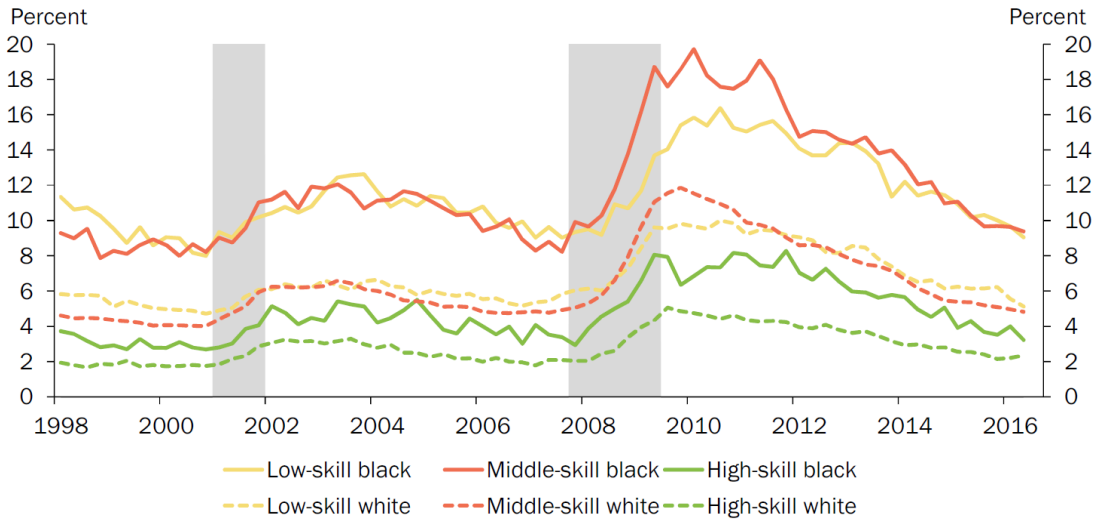

Figure 29: Workers in high-skill jobs experience the lowest unemployment rates. Sources: Bureau of Labor Statistics, Authors calculations.

who are in the labor force. Although the black population has shifted toward higher educational attainment in recent years, part of the shift is into the SC or "some college" category. While additional post-secondary education such as an associate's degree may place one on the path toward a bachelor's degree, this additional education alone does not appear to immediately improve outcomes in a highly competitive labor market, unless the worker is ultimately able to obtain a bachelor's degree.

6 Conclusion

Overall, labor market outcomes continue to vary across a number of dimensions, particularly race. Understanding these variations are important for having a more complete view of the labor market and maximum employment, and is an important topic for future research. Similarly, how monetary policy should respond to these variations merits further study, as attempting to address one issue can have unintended consequences in other areas of the economy.

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