

Did Racist Labor Policies Reverse Equality Gains for Everyone?

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Abstract

Labor protection policies in the 1950s and 1960s helped many low- and middle-wage white workers in the United States achieve the American Dream. This coincided with historically low levels of inequality across income deciles. After the Civil Rights Act of 1964, many of the policies that had previously helped build the white middle class reversed, especially in states with a larger Black population. Calibrating a labor search model to match unemployment benefits, minimum wages, and bargaining power before and after the Civil Rights Act, I find declining labor protections explain 60 percent of the rise in 90/10 wage inequality since the 1960s.

JEL: E24, J78, J64, J30

Keywords: Wage Inequality, Segregation, Labor Protections, Unemployment Insurance, Minimum Wage, Bargaining Power, Unions.

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1 Introduction

Income inequality in the United States has been rising since the 1960s. Typical explanations include technological change and competition from abroad (Acemoglu and Restrepo, 2021; Wolcott, 2021). What is puzzling, though, is that comparable countries with similar rates of technological change and competition from abroad have not experienced the same rise in inequality. While the top 10 percent income share in the United State has grown to nearly half, in France, top income shares have declined since the 1960s (Saez, 2021).¹

One factor that is unique to the U.S. experience is the country was founded on the institutionalization of slavery. Violence, discrimination, and bias towards Black Americans has persisted long after emancipation and is pervasive throughout American society (Bertrand and Mullainathan, 2004; Cook, 2014; Kendi, 2016). In a compelling book, McGhee (2021) argues that following forced desegregation in the 1960s, policymakers chipped away at New Deal policies that helped build the white middle class. In other words, racism reduced protections for white and Black Americans alike, and this contributed to rising income inequality for all.²

One example of an explicitly racist policymaker opposed to a New Deal program was Senator Harry Byrd of Virginia, who in 1937 wrote the following about Old Age Assistance for all Virginians.

[Under this proposed plan] negroes will be placed on the same basis as white people. The result will be that practically all negroes over sixty-five years will be pensioned, receiving from \$30.00 to \$40.00 per month, and all their children and grandchildren, cousins and aunts will live on them... it will simply mean that nearly all the colored population of the South will stop working. (Sato, 1991)

Byrd vehemently resisted desegregation, and after *Brown v. Board of Education* advocated for closing public schools over integrating them (MacLean, 2018)—another example of racism harming more than the intended group.

This paper tests the hypothesis that racism reversed equality gains for everyone. It hones

¹Guvonen et al. (2014) make a similar point about income inequality in the U.S. outpacing Europe and study the role of income tax policy.

²This paper asks whether racism has affected the income distribution for everyone, which is distinct but complementary to work on racial gaps. See for example, Boerma and Karabarbounis (2021), Brouillette et al. (2021), and Derenoncourt et al. (2022)

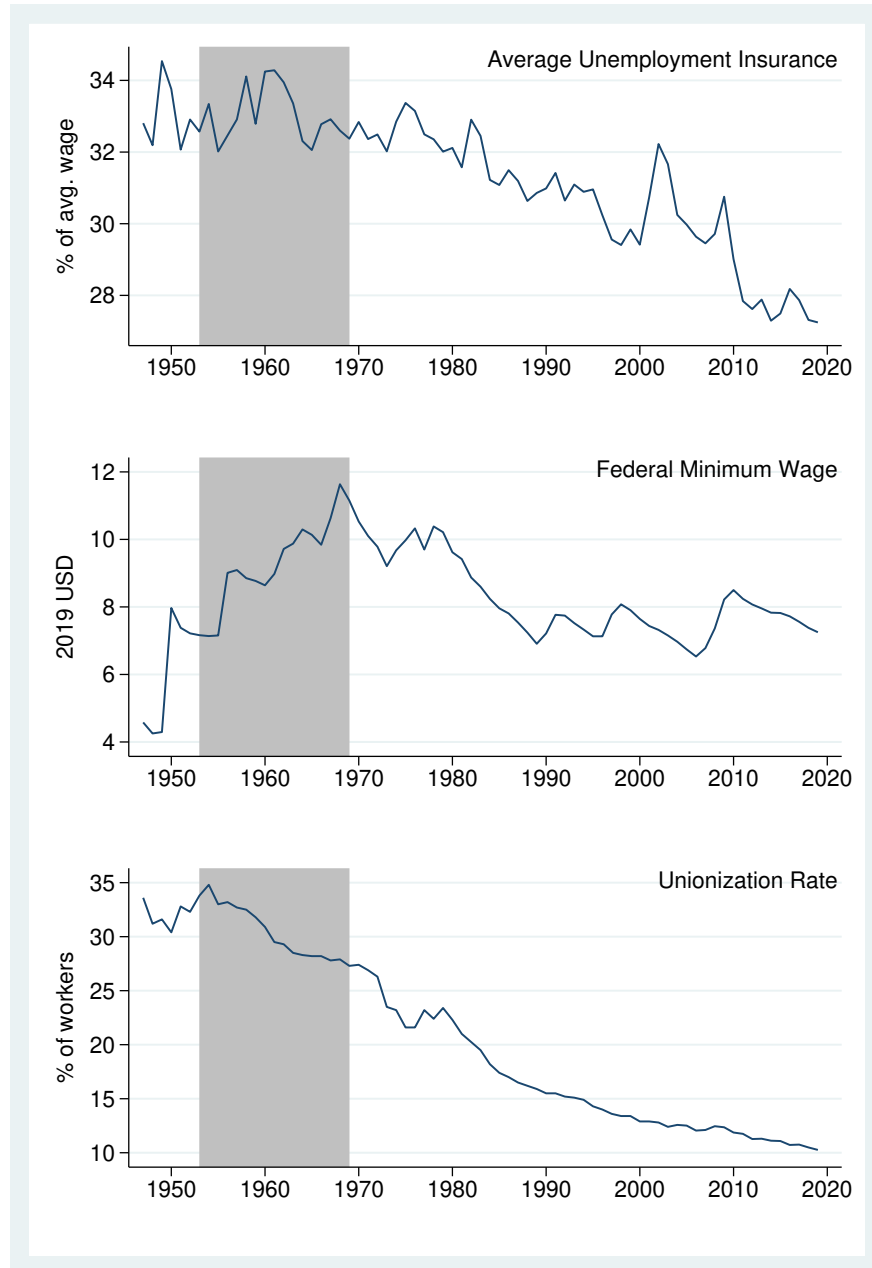
in on labor protection policies and uses a two-step approach. First, I examine whether policymakers eroded labor protections after (and because of) the Civil Rights Act. Second, I examine whether these observed policy changes can explain the rise in wage inequality since the 1960s.

Figure 1 shows three prominent labor protections precipitously declined after the civil rights movement. The decline in average unemployment insurance and the federal minimum wage are policy changes. The 70 percent decline in the unionization rate is a policy outcome. Even though union protections increased in the early 20th century, enforcement waned in the 1970s and 1980s (Farber and Western, 2002; Godard, 2003; Brudney, 2004). What is more challenging to uncover is the motivation behind these policy changes. Was racism causing their decline? The timing certainly suggests so. New Deal policies initially excluded agriculture and a subset of service workers from the federal minimum wage, unemployment benefits, and recognized labor unions precisely because these occupations were disproportionately Black (Katznelson, 2005; Rothstein, 2017). It was not until after the civil rights movement, these occupations were finally covered (Derenoncourt and Montialoux, 2021; Price, 1985; Rothstein, 2017).³ Moreover, using state-level regressions, I find that states with a larger Black share of the population were more likely to cut labor protections after the Civil Rights Act of 1964. This empirical evidence is far from a smoking gun. However, together with qualitative evidence documenting policy changes for other public provisions such as closing public pools, parks, and schools instead of desegregating, it suggests racially motivated policy changes harming Americans of all races was commonplace following civil rights legislation.

The second part of the paper measures the extent to which declining labor protections contributed to rising inequality. I build and calibrate a search model in the spirit of Diamond (1982), Mortensen (1982), and Price (1985) (DMP henceforth). I augment the model with heterogeneous workers and target the wage distribution, unemployment benefits, bargaining power, and minimum wages before the Civil Rights Act to uncover the model’s latent parameters. I then re-estimate the model with the observed changes in labor protections and technological change to uncover how the decline in unemployment benefits, bargaining power, and minimum wages altered the wage distribution. I find the decline in unemployment benefits and worker bargaining power explain 60 percent of the rise in 90/10 wage inequality since the 1960s.

³Starting in 1964, The National Labor Relations Board refused to certify whites-only unions (Rothstein, 2017, pp 161).

Figure 1: Declining Labor Protections



Notes: Author's calculations using data from the CPS, FRED, Department of Labor, and Mayer (2004). Civil rights movement (1954-1968) shaded in gray. Average unemployment insurance is the average weekly benefits for each state aggregated with population weights and divided by the BEA's national series for wage and salary accruals per full-time equivalent employee.

A large literature studies why U.S. wage inequality has been on the rise. Autor et al. (2008) categorize the literature into (1) traditionalist papers positing technological change along with the erosion of labor market institutions are to blame (Katz and Autor, 1999; Goldin and Katz, 2001; Acemoglu, 2002) and (2) revisionist papers positing labor market institutions are to blame (Freeman, 1992; Blau and Kahn, 1996; Card, 1998; Lee, 1999; Card and DiNardo, 2002; Card et al., 2003; Callaway and Collins, 2018; Collins and Niemesh, 2019; Farber et al., 2021). Most papers either study a specific factor in isolation, ignore general equilibrium effects, or do not quantitatively disentangle the drivers.⁴ To my knowledge, none of this literature connects policy changes to racism.

Separately, there are papers connecting racial animosity to less redistribution and fewer public goods (Alesina et al., 1999). Alesina et al. (2001) find a strong negative relationship between welfare generosity and the share of a state that is Black in 1990. de Souza (2022) finds some voters are against redistribution because they do not want to benefit Black individuals.

In this paper, I advance our understanding of inequality by not only accounting for the general equilibrium effects of policy and technology in a quantitative model, but by investigating why the labor policies contributing to wage inequality changed in the first place. The paper proceeds as follows. Section 2 estimates state-level regressions and details qualitative evidence for the motivations behind declining labor protections. Section 3 builds and estimates a structural model of the labor market to measure the impact of declining labor protections on inequality. Section 4 concludes.

2 Why Did Labor Protections Decline?

Labor protection policies in the United States have declined since the 1960s, but their decline has not been geographically uniform. Because minimum wage policy and unemployment insurance are largely state-run programs, their levels vary across states.⁵ In what follows, I show that states with a larger Black population have seen their unemployment benefits and minimum wages increase by less. This might reflect a causal relationship, but it might also reflect a third factor driving the reduced-from relationship. To understand the mechanism,

⁴For example, DiNardo et al. (1996) use an Oaxaca decomposition and find unionization rates, worker composition, changes in supply and demand, and the minimum wage, explain the rise in inequality in the 1980s, but state that their “decompositions ignore general equilibrium effects.”

⁵In 1938, the U.S. federal government instituted a federal minimum wage applicable to employees involved in interstate commerce. Changes have been made over the years, but aside from the federal wage floor, state governments set their own minimum wage policy.

I perform a series of empirical tests and augment the analysis with qualitative evidence. It was not uncommon for local governments, especially in the South, to provide fewer public provisions after court-ordered desegregation. By extension, it is highly plausible racism is also behind declining labor protections.

2.1 Data

Unemployment Insurance. Data for weekly unemployment insurance benefits is from the 2021 Unemployment Insurance Financial Data Handbook published by the BLS. The average weekly amount is the benefits paid for total unemployment during the year divided by the number of weeks for which benefits were paid. I use annual data from 1950 through 2000.

Minimum Wages. State-level minimum wages for 1950 through 1980 are from Derenoncourt and Montialoux (2021). The authors build a minimum wage dataset from a 1981 report by the Minimum Wage Study Commission. State-level wages for 1981 through 2000 are from the Department of Labor.⁶ Prior to 1991, some states differentiated minimum wage by gender. In the regression analysis, I use minimum wages for men but results are similar for women. Many states have a zero entry for their minimum wage or a minimum wage below the federally mandated minimum wage. In the baseline specification I use the state-specified minimum wage instead of the effective minimum wage because: (1) the federal minimum wage does not cover all industries, and (2) the state-specified minimum wage likely reflects the state government’s desired policy. The constructed dataset runs from 1950 through 2000 and is for January of each year.

Racial Composition. Data for the Black share of the U.S. population in 1960 is from a five percent sample of the Census via IPUMS-USA (Ruggles et al., 2021). Data exists for 50 states. Black is assigned to respondents categorized as “Black,” “African American,” or “Negro” in the U.S. Census.

2.2 State-Level Regressions

The 1963 March on Washington for Jobs and Freedom—ending with Dr. Martin Luther King Jr.’s “I Have a Dream” speech—broadcast demands for equal opportunities in the labor market and beyond. A year later, the Civil Rights Act of 1964 outlawed discrimination

⁶<https://www.dol.gov/agencies/whd/state/minimum-wage/history>. Minimum wages in the later dataset only cover non-farm employment.

based on race in hiring, promoting, and firing. Economic historian Gavin Wright argues that, “[The] long-entrenched industry tradition changed abruptly following enactment of the Civil Rights Act of 1964.” A stark example is the textile industry. In South Carolina just four percent of textile workers were Black in 1960. That abruptly changed after 1964, and by the 1970s, 30 percent of textile workers were Black (Wright, 2013). After the Civil Rights Act, middle class occupations opened up to Black workers and occupational segregation declined (Butler et al., 1989; Spriggs and Williams, 1996; Rawlston and Spriggs, 2002). Because Black workers now had access to other opportunities, Appendix A shows that the share of Black agriculture and service workers fell steeply throughout the 1970s.

The Civil Rights Act also prohibited discrimination for federally funded programs. Unemployment insurance, the federal minimum wage, and federally recognized labor unions excluded agriculture and a subset of service workers at their inception in the 1930s often explicitly because these occupations were disproportionately Black. Commonly referred to as the devil’s bargain, southern senators opposed protections for Black workers and northern senators opposed discriminating explicitly on the basis of race (Katznelson, 2005). In the decade after the Civil Rights Act, most of these New Deal programs were amended to cover agriculture and service workers (Price, 1985; Derenoncourt and Montialoux, 2021).

The year 1964 was a watershed (Wright, 2013). For this reason, I compare labor policies before and after 1964. Before 1964, many Black workers were excluded from middle class jobs and labor protections. After 1964, Black workers had more access to middle class jobs and labor protections. Although it took time for average unemployment benefits and the federal minimum wage depicted in Figure 1 to fall, starting in the late 1970s, they did so irreversibly. Moreover, the following regressions show that states with a larger Black share saw the largest erosion of their labor protections for everyone.

Let $Y_{s,t}$ represent the nominal weekly unemployment benefit or the nominal state minimum wage in state s at year t . The empirical specification is then,

$$Y_{s,t} = \alpha + \beta (ShareBlack_{s,1960} \times \mathbb{1}\{Post1963\}) + \gamma ShareBlack_{s,1960} + \delta \mathbb{1}\{Post1963\} + X_{s,t} + \epsilon_{s,t} \quad (1)$$

where $ShareBlack_{s,1960}$ is the share of the population that identifies as Black in state s and year 1960; $\mathbb{1}\{Post1963\}$ equals one if the year is after 1963; $X_{s,t}$ is the annual average income in state s and year t ; and $\epsilon_{s,t}$ is the residual. The coefficient of interest β measures the association between a state’s Black share and the change in labor policies after 1963.

Standard errors are clustered at the state level.

Table 1 displays results for unemployment insurance. Column (1) includes the full pre- and post-1963 periods for which I have data with all states. A one percentage point larger Black share is associated with a 46 cent smaller weekly unemployment benefit. This is statistically significant and large. The sample mean before 1964 is only \$26 dollars per week, meaning a one percentage point larger Black share is associated with a two percent smaller benefit.

One may worry that states with more Black workers have lower wages and therefore lower unemployment benefits. Column (2) includes average income to control for income differences across states. Because state-level income data from the Current Population Survey (CPS) only goes back to 1963, this trims the pre-period so that it only includes 1963. The coefficient on average income is positive and significant but small. Moreover, the coefficient of interest on the interaction term is larger than that in Column (1). A one percentage point larger Black share is now associated with a 69 cent smaller weekly unemployment benefit, suggesting income differences across states are not driving the results.

Another concern is that southern states may be driving the results. Is it possible that the relationship in columns (1) and (2) is because the South simultaneously had a larger Black population and more libertarian political views unrelated to race? To test this, I exclude the 11 former Confederate states (referred to as the South in this paper) and the results do, in fact, disappear. However, as shown in column (3), if I only include the 11 former Confederate states, results are statistically significant and larger than the full-sample, suggesting the relationship is driven by what was happening *within* the South, not just because the South, on average, had more Black residents. The Civil Rights Act forced desegregation on the South. Federally mandated desegregation targeting the South and Jim Crow Laws is likely why southern states were the ones to chip away at labor policies.⁷ Another reason the results are driven by what was happening within the South is purely mechanical. In 1960 the Black population outside the South was small and there was little variation across states resulting in less of a relationship between Black shares and policy change.

Column (4) in Table 1 tests whether the two states with the largest share of Black residents drive the results. Mississippi in 1960 was 42% Black and South Carolina was 35% Black. Excluding these two states from the full-sample reduces the magnitude of the coefficient but

⁷(Derenoncourt, 2022) documents that northern backlash from the influx of Black residents during the Great Migration resulted in more targeted policy changes such as shifts away from infrastructure and education spending towards police spending.

Table 1: Unemployment Insurance and Black Population Share

VARIABLES	(1) UI Benefit	(2) UI Benefit	(3) UI Benefit	(4) UI Benefit
<i>ShareBlack</i> \times <i>Post1963</i>	-0.458*** (0.124)	-0.693*** (0.141)	-0.744** (0.239)	-0.364** (0.157)
<i>ShareBlack</i>	-0.196*** (0.0353)	-0.0743 (0.0495)	0.0125 (0.0446)	-0.203*** (0.0521)
<i>Post1963</i>	89.74*** (2.394)	28.90*** (2.809)	95.85*** (7.366)	89.22*** (2.478)
<i>Avg.Income</i>		0.00634*** (0.000237)		
<i>Constant</i>	27.69*** (0.643)	11.41*** (1.149)	20.67*** (0.959)	27.73*** (0.678)
Observations	2,550	1,250	561	2,448
R-squared	0.361	0.859	0.368	0.359
States	All	All	South	Excl. MS, SC
Pre-period	1950-1963	1963	1950-1963	1950-1963
Post-period	1964-2000	1977-2000	1964-2000	1964-2000

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

does not change the main takeaways.

Table 2 displays results for the minimum wage. Column (1) includes the full pre- and post-1963 periods for which I have data with all states. A one percentage point larger Black share is associated with a 5 cent smaller state minimum wage. This is statistically significant and large. The sample mean before 1964 is only \$0.17 dollars per hour, meaning a one percentage point larger Black share is associated with a 30 percent lower minimum wage.

Column (2) includes average income to control for income differences across states. With this control, the coefficient of interest on the interaction term is larger than that in Column (1). A one percentage point larger Black share is now associated with a 6 cent lower minimum wage.

Column (3) restricts the sample to the 11 former Confederate states. The coefficient of interest is the same magnitude as that in column (1) and still statistically significant at the 10 percent level, indicating results are again being driven by variation within the South. Like Table 1, results are also robust to excluding Mississippi and South Carolina (not shown),

Table 2: Minimum Wage and Black Population Share

VARIABLES	(1) Min. Wage	(2) Min. Wage	(3) Min. Wage	(4) Binding MW
<i>ShareBlack</i> \times <i>Post1963</i>	-0.0472*** (0.0105)	-0.0595*** (0.0133)	-0.0519* (0.0261)	-0.00148*** (0.000460)
<i>ShareBlack</i>	-0.00864*** (0.00246)	-0.0112** (0.00479)	-0.000873 (0.00124)	-0.000308 (0.000285)
<i>Post1963</i>	2.352*** (0.118)	1.133*** (0.213)	2.286** (0.881)	2.118*** (0.0107)
<i>Avg.Income</i>		0.000132*** (9.67e-06)		
<i>Constant</i>	0.246*** (0.0586)	-0.0562 (0.105)	0.0531 (0.0460)	0.906*** (0.00795)
Sample Mean	1.57	2.70	0.73	2.43
Observations	2,550	1,250	561	2,550
R-squared	0.350	0.539	0.190	0.438
States	All	All	South	All
Pre-period	1950-1963	1963	1950-1963	1950-1963
Post-period	1964-2000	1977-2000	1964-2000	1964-2000

Standard errors clustered at the state level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

the two states with the largest Black population shares.

Columns (1) through (3) in Table 2 use state minimum wages that in many cases are below the binding federal minimum wage. One may worry that a minimum wage below the binding federal minimum wage does not reflect a state's desired policy, but rather, a lack of incentive to update the minimum wage when the federal minimum wage is the desired policy. Column (4) uses the federal minimum wage in instances where the state minimum wage is nonbinding. The coefficient of interest is still negative and statistically significant but smaller. A one percentage point increase in the Black share is associated with a tenth of a cent lower minimum wage. Appendix C plots state minimum wages against the federal minimum wage for the 11 former Confederate states ordered by the share of their population that is Black. While half of the states increased their minimum wage at a slower pace than the federal minimum wage, the other half chose not to adopt a minimum wage at all. This latter half is concentrated among states with a larger Black population. In other words, states with a larger Black share experienced a relative decline in their minimum wage (whether state or federal) after 1963 because they chose to have the lowest possible minimum wage.

Table 1 and Table 2 compare policy before and after 1963. Although 1963 was a watershed moment for the civil rights movement, the movement began a decade earlier. Moreover, the post-1963 period (1964–2000) is long and other forces, aside from racial animus, could drive the negative relationship between racial composition and labor protections. For instance, starting in the 1990s, the Republican party typically won most elections in the South.⁸ Appendix B displays the relationship between Black population shares in 1960 and policy changes in the South over time. Before 1964, the relationship between Black shares and unemployment insurance or minimum wage is weak. After 1963, the relationship is larger and often statistically significant. Policy changes are most correlated with the 1960 Black share in the 1980s and 1990s. It makes sense the relationship is stronger further away from 1963 because states did not lower nominal unemployment benefits or their nominal minimum wage, they failed to increase it during an inflationary period, and this takes time.

The third labor protection this paper focuses on is unions, and unfortunately, data on state unionization rates from the CPS begins in 1983. This does not provide a pre-1964 period to implement equation (1). Nevertheless, I can examine the conditional correlation between the Black population share and unionization rate in state s and year t . Appendix D shows that states with a one percentage point larger Black share are associated with a 20 basis point lower unionization rate. Unlike results for unemployment insurance and minimum wages, when I restrict the sample to the 11 former Confederate states, the relationship is smaller and no longer statistically significant. Another difference is the relationship between unionization rates and Black population shares is stable over time, while for unemployment insurance and minimum wages, the relationship grows stronger with each passing decade.

It was not uncommon in the 1950s and 1960s for local governments to close public facilities after desegregation. McGhee (2021) describes city governments throughout the country filling in public swimming pools—a once favored pastime among white Americans—because of desegregation. Wright (2013) writes about city governments closing public parks after court-ordered desegregation. MacLean (2018) details a nearly successful campaign in Virginia to close public schools rather than integrate after *Brown v. Board of Education*. Even though the Virginia campaign was unsuccessful, some counties went without public education for a decade. Given these examples of policymakers forgoing public provisions in response to Black Americans now having access, it is plausible a similar response, either consciously or unconsciously, permeated labor policy.

⁸<https://www.npr.org/sections/itsallpolitics/2015/06/25/417154906/dixies-long-journey-from-democratic-stronghold-to-republican-redoubt>

As a corollary, policy changes in the opposite direction reduced the Black-white gap. Derenoncourt and Montialoux (2021) and Wursten and Reich (2021) find increases in the minimum wage disproportionately *helped* Black workers.

3 Structural Model of Wage Inequality

The goal of this section is to build a tractable model of the labor market capturing the conditions workers face when choosing whether or not to work and the conditions firms face when choosing whether or not to hire. For simplicity, the model only includes two labor force statuses, employment (e) and unemployment (u), and $M > 1$ types of workers. To capture the empirical observation that job openings and job seekers simultaneously exist, I build a DMP model where a friction in the labor market prevents job openings and job seekers from perfectly matching up. For the application at hand, it is important to use a model where unemployment exists in equilibrium so I can test how changes in unemployment insurance affect the labor market. I augment the standard model with heterogeneous workers so the model generates measures of income inequality comparable to the data.

3.1 Racial Composition of the Wage Distribution

The structural model is intended to represent the entire U.S. labor market. The estimated parameters for job separations, productivity, unemployment benefits, minimum wages, bargaining power represent those for the aggregate economy. In other words, the model does not explicitly model race. One might wonder: without accounting for race, could the increase in U.S. inequality be driven by compositional changes instead of policy changes? For instance, what if the growing share of Black Americans—who are disproportionately disadvantaged and discriminated against—is the reason behind increasingly unequal incomes?

Table 3 shows that even though Black Americans make up a larger share of the workforce today, they are less concentrated at the bottom of the wage distribution.⁹ Black workers went from occupying 25 percent of the first decile in the 1960s to only 15 percent in the 2000s. Black workers also went from occupying just 0.2 percent of the top decile in the 1960s to 5 percent in the 2000s. Table 3 looks similar when computing non-white shares of the wage distribution. Table 3 displays the inverse when calculating white shares. Notably, white workers make up a larger share of the bottom decile in the 2000s than in the 1960s. Assuming Black workers are disadvantaged relative to white workers, racial composition

⁹The CPS top codes survey respondents so Table 3 is unable to accurately capture the top of the wage distribution.

Table 3: Black Share of the Wage Distribution

Years	Hourly Earnings Percentile										Total
	(0,10]	(10,20]	(20,30]	(30,40]	(40,50]	(50,60]	(60,70]	(70,80]	(80,90]	(90,100]	
1962–1963	.25	.14	.11	.09	.06	.05	.05	.03	.02	.002	.08
2005–2006	.15	.15	.15	.15	.12	.12	.10	.09	.07	.05	.12

Notes: Author’s calculations using data from IPUMS-CPS. Income deciles are calculated for individuals who worked full-time and at least 48 weeks in the calendar year. Salary and wage income is then divided by 50 weeks and 40 hours per week. Black workers are respondents identifying as “Black/Negro”.

cannot not explain the rise of inequality across wage deciles. Because of this, and to only include the necessary components for the question at hand, I do not explicitly model race. Instead, the model tests whether policy changes (plausibly motivated by racism) reversed equality gains for everyone.

Before turning to the mechanics of the model, I will highlight that if labor protections disproportionately help the very bottom of the wage distribution, then their currently low levels hurt white worker just as much as, if not more than, Black workers because of the large share of white workers at the bottom.

3.2 Model Environment

Time is discrete and indexed by $t \in \{0, 1, 2, \dots, \infty\}$.

Workers. Workers are heterogeneous in their endowed productivity. I consider an economy populated by M types of workers indexed by $x_m \in \{x_1 < x_2 < \dots < x_M\} > 0$. Endowed productivity is permanent and perfectly observable to employers.¹⁰ I ex-ante sort workers into submarkets based on their endowment. Therefore, the aggregate labor market is organized into M submarkets indexed by worker endowment x . In each submarket there is a measure $M(x)$ of infinitely lived workers of type x (with $\sum_x M(x) = 1$) who are either employed $e(x) \in [0, 1]$ or unemployed $u(x) \in [0, 1]$. The total population is then $\sum_x (e(x) + u(x))M(x) = 1$. Since there are as many submarkets as there are endowed productivity levels, there is no crowding out between workers with different endowments. This choice simplifies the model so that a firm’s expected value of meeting a worker does not depend on who is in the unemployment pool, which is a plausible assumption if the job

¹⁰When calibrating the model in Section 3.6, I focus on deciles such that there are $M = 9$ types of workers separating 10 deciles.

application process effectively screens candidates.

Each worker is endowed with one unit of labor. For simplicity, on-the-job search is ruled out. Workers have risk-neutral preferences and discount future payoffs at rate $\beta \in (0, 1)$.

Firms. The economy is populated by an infinite mass of identical and infinitely lived employers who either produce output $y(x)$, or post job vacancies $v(x)$ aimed at a specific worker type x . Employers have risk-neutral preferences and also discount the future by β . I assume directed search following Moen (1997) and Menzio and Shi (2010), such that firms target a specific submarket x to post a vacancy and only post in one submarket at a time.

Production Technology. The production technology has two inputs: (1) a worker's endowed productivity and (2) aggregate productivity. Think of endowment x as a measure of a worker's background. Where did they grow up? What was the quality of their primary education? Did their family income or wealth allow for unpaid apprenticeships, extra curricular activities, and network opportunities that enhanced their productivity? Were they able to make riskier career moves because they did not have school debt to pay off? Think of aggregate labor productivity as human capital investment and technological advancement. Output per employed worker at time t for submarket x is then:

$$y_t(x) = Ax, \quad (2)$$

where aggregate labor productivity is $A \geq 1$.

Matching Technology. Markets are frictional. In each submarket x there exists a constant returns to scale matching technology:

$$m_t(x) = \phi_t(x) u_t^\alpha v_t^{1-\alpha}, \quad (3)$$

where $\alpha \in (0, 1)$ and $\phi_t(x)$ is the submarket-specific matching efficiency. Let $\theta_t = \frac{v_t}{u_t}$ denote market tightness in submarket x at time t . The job finding rate is then $f_t(x) = \frac{m_t(x)}{u_t} = \phi_t(x) \theta_t^{1-\alpha}$. Similarly, the job filling rate is $q_t(x) = \frac{m_t(x)}{v_t} = \phi_t(x) \theta_t^{-\alpha}$.

Bargaining Power. Because markets are frictional, a surplus exists from a firm-worker match. I assume workers take home a share $\pi(x) \in (0, 1)$ of that surplus, where

$$\pi(x) = p_0 + p_1 m_x. \quad (4)$$

Bargaining power $\pi(x)$ is weakly increasing in endowed productivity ranking $m_x \in [1, M]$ because higher skilled workers tend to have more bargaining power (Cahuc et al., 2006; Dumont et al., 2012). When estimating the model, I assume different values for p_0 and p_1 before and after the Civil Rights Act to reflect the decline in unionization rates and other evidence of shifting bargaining power across skills.

Minimum Wage. In this economy, there is a wage floor. Let $\underline{\omega}$ be the minimum hourly wage any firm pays a worker. The observed wage, after the minimum wage has taken effect, is then $\tilde{\omega}(x) = \max\{\omega(x), \underline{\omega}\}$.

Timing. Employers post job vacancies and unemployed workers search for jobs given the model parameters next period. Unemployed workers meet firms at time t and if profitable, produce output at $t + 1$.

3.3 Equilibrium

Firm's Problem. Let $V_t(x)$ be the value to a firm of posting a vacancy for a worker with endowment x .

$$V_t(x) = -\kappa + \beta \left[q_t(x) J_{t+1}(x) \right], \quad (5)$$

where κ is the cost of posting a vacancy. $J_{t+1}(x)$ is a firm's surplus next period from matching with a worker in submarket x . Firm surplus this period equals:

$$J_t(x) = y_t(x) - \omega_t(x) + \beta \left[(1 - \delta) J_{t+1}(x) \right], \quad (6)$$

where δ is the exogenous separation rate. Here, all workers separate from their job at rate δ . The separation rate is exogenous because "endogenizing" it with a stochastic process would unnecessarily complicate the model.

Worker's Problem. On the worker side, the value of being matched with a job is the discounted value of retaining that match or entering the unemployment pool next period,

$$W_t(x) = \omega_t(x) + \beta \left[(1 - \delta) W_{t+1}(x) + \delta U_{t+1}(x) \right], \quad (7)$$

The value of being unemployed $U_t(x)$ is defined by the following condition:

$$U_t(x) = b + \beta \left[f_t(x) W_{t+1}(x) + (1 - f_t(x)) U_{t+1}(x) \right], \quad (8)$$

where b is the flow value of unemployment benefits. In the U.S. unemployment benefits

depend on a claimer's previous wage. However, because the weekly amount is capped, 30 percent of unemployed claimers receive the maximum allocated amount instead of a replacement rate proportional to their previous wage. The remaining claimers receive a replacement rate around 70 percent of their previous wage, depending on the state (Doniger and Toohey, 2022). This means that among the unemployed and employed, the threat value of benefits is relatively constant across income levels.¹¹ This is also the mechanism through which changes in unemployment benefits have distributional consequences. A decline in the weekly benefit of a flat amount hurts workers at the bottom of the income distribution more because their outside option as a share of their wage fell by more than workers at the top of the income distribution.

Nash Bargaining. Workers and firms in each submarket negotiate a contract dividing match surplus according to the Nash bargaining solution, where previously defined $\pi(x)$ is the worker's bargaining weight. Total match surplus is calculated by adding up firm value $J_t(x)$ and worker value $W_t(x)$ minus values of the outside options $V_t(x)$ and $U_t(x)$. Let $S_t(x) = \max\{J_t(x) + W_t(x) - V_t(x) - U_t(x), 0\}$ denote total match surplus in submarket x . Workers receive $\pi(x)S_t(x)$ from a match and firms receive $(1 - \pi(x))S_t(x)$. The worker and firm will agree to continue the match if $S_t(x) > 0$, otherwise they will separate, in which case $S_t(x) = 0$.

Free Entry. I assume an infinite number of firms are free to enter each submarket and post vacancies, thereby pushing down the value of posting a vacancy to zero. Free entry implies $V_t(x) = 0, \forall t, x$.

3.4 Steady State

The following subsection derives three expressions summarizing the steady-state equilibrium, namely, the job creation curve, wage equation, and minimum wage condition. To simplify notation, let any steady state variable $Z_t = Z_{t+1} = Z$ for the remainder of the paper.

Job Creation Curve. In steady state, combining equation (5), equation (6), and the free

¹¹An alternative way to model this would be to make benefits a function of wages up to the cap. The downside with this approach is that empirically, the replacement rates and caps have not declined relative to wages the same way average benefits have illustrated in Figure 1. Since unemployment benefits affect wages by providing an outside option and since they are calculated from a complex formula that varies by state, neither workers nor firms know exactly what benefits will be if a worker chooses unemployment. Therefore, I calibrate a fixed b to the average national benefit.

entry condition yields:

$$y(x) - \omega(x) - \frac{\kappa(\beta^{-1} + \delta - 1)}{q(x)} = 0. \quad (9)$$

The DMP literature refers to this expression as the job creation curve. If the firm had no hiring costs, κ would be zero and equation (9) would be the standard condition where the marginal product equals the wage. In DMP models, nonzero vacancy posting costs cut into total surplus, and under Nash bargaining, that cut translates into lower wages.

Steady State Wages. Under Nash bargaining and free entry, equations (1)-(6) endogenously determine wages:

$$\omega(x) = (1 - \pi(x))b + \pi(x)(y(x) + \kappa\theta) \quad (10)$$

Workers benefit from a tight labor market and are rewarded for helping firms save on hiring costs. They also enjoy a share of the output and unemployment benefits b .¹² Wages in this economy are subject to a minimum wage $\underline{\omega}$, and so the realized wage is represented by:

$$\tilde{\omega}(x) = \max\{\omega(x), \underline{\omega}\}. \quad (11)$$

Equations (9), (10), and (11) determine the steady-state equilibrium.

3.5 Comparative Statics

It is relatively straightforward to intuit how a change in the minimum wage affects the income distribution. It is less straightforward to intuit how a change in unemployment benefits or bargaining power affects the income distribution. In what follows, four propositions highlight the mechanisms at play and how declining minimum wages and unemployment benefits, and changing bargaining power parameters increase income inequality.

Proposition 1. *Wage ratio $\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$, where $L, H \in \{1, 2, \dots, 9\}$ and $L < H$, is decreasing in minimum wage $\underline{\omega}$, $\forall \underline{\omega}$ satisfying $\omega(x_L) \leq \underline{\omega} < \omega(x_H)$.*

Proof. The derivative of $\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$ with respect to $\underline{\omega}$ is less than zero. Because of the defined

¹²See Pissarides (2000) for a derivation of steady state wages.

range of $\underline{\omega}$, $\frac{\partial \tilde{\omega}(x_H)}{\partial \underline{\omega}} = 0$, while $\frac{\partial \tilde{\omega}(x_L)}{\partial \underline{\omega}} = 1$. Therefore, by the quotient rule,

$$\begin{aligned}\frac{\partial}{\partial \underline{\omega}} \left(\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)} \right) &= \frac{\tilde{\omega}(x_L) \times 0 - \tilde{\omega}(x_H) \times 1}{(\tilde{\omega}(x_L))^2} \\ &= \frac{-\tilde{\omega}(x_H)}{\underline{\omega}^2} < 0\end{aligned}$$

□

Proposition 1 shows that wage decile ratios greater than one—for example the 90/10 percentile ratio—are decreasing in minimum wage if the minimum is binding for submarket x_L but not for x_H . When the minimum wage increases, realized wages for x_L also increase but wages for x_H are unaffected, thereby reducing income inequality. When the reverse happens and a binding minimum wage *decreases*, income inequality increases.

Proposition 2. *Wage ratio $\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$, where $L, H \in \{1, 2, \dots, 9\}$ and $L < H$, is decreasing in unemployment benefits b , $\forall b$ satisfying $\frac{1-\pi(x_H)}{1-\pi(x_L)} < \frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$.*

Proof. The derivative of $\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$ with respect to b is less than zero for the specified range of values. Note that $\frac{\partial \tilde{\omega}(x_H)}{\partial b} = 1 - \pi(x_H)$ and $\frac{\partial \tilde{\omega}(x_L)}{\partial b} = 1 - \pi(x_L)$. Therefore, by the quotient rule,

$$\begin{aligned}\frac{\partial}{\partial b} \left(\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)} \right) &= \frac{\tilde{\omega}(x_L)(1 - \pi(x_H)) - \tilde{\omega}(x_H)(1 - \pi(x_L))}{(\tilde{\omega}(x_L))^2} < 0 \\ \frac{1 - \pi(x_H)}{1 - \pi(x_L)} &< \frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}\end{aligned}$$

□

Proposition 2 shows that wage ratios greater than one are decreasing in unemployment benefits if the ratio of firm bargaining power is less than the wage ratio. Recall, $(1 - \pi(x))$ is the share of surplus going to the firm. For intuition, suppose $\pi(x_H) = 1$. This means the ratio between firm bargaining power is zero and Proposition 2 would imply that wage inequality is always decreasing in unemployment benefits. When the reverse happens and unemployment benefits *decrease*, income inequality increases.

Proposition 3. *Wage ratio $\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$, where $L, H \in \{1, 2, \dots, 9\}$ and $L < H$ is decreasing in*

bargaining power intercept p_0 , $\forall p_0$ satisfying $\frac{Ax_H + \kappa\theta - b}{Ax_L + \kappa\theta - b} < \frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$

Proof. The derivative of $\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$ with respect to p_0 is less than zero for the specified range of values. Note that $\frac{\partial \tilde{\omega}(x_H)}{\partial p_0} = Ax_H + \kappa\theta - b$ and $\frac{\partial \tilde{\omega}(x_L)}{\partial p_0} = Ax_L + \kappa\theta - b$. Therefore, by the quotient rule,

$$\frac{\partial}{\partial p_0} \left(\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)} \right) = \frac{\tilde{\omega}(x_L)(Ax_H + \kappa\theta - b) - \tilde{\omega}(x_H)(Ax_L + \kappa\theta - b)}{(\tilde{\omega}(x_L))^2} < 0$$

$$\frac{Ax_H + \kappa\theta - b}{Ax_L + \kappa\theta - b} < \frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$$

□

Proposition 3 shows that wage ratios greater than one are decreasing in bargaining power intercept for a set of parameter values. For intuition, suppose labor productivity A equals zero. This means the wage ratio is always decreasing in p_0 . When the reverse happens and the bargaining power intercept *decreases*, income inequality increases.

Proposition 4. Wage ratio $\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$, where $L, H \in \{1, 2, \dots, 9\}$ and $L < H$ is increasing in bargaining power dispersion p_1 , $\forall p_1$ satisfying $\frac{(Ax_H + \kappa\theta - b)H}{(Ax_L + \kappa\theta - b)L} < \frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$

Proof. The derivative of $\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$ with respect to p_1 is greater than zero for the specified range of values. Note that $\frac{\partial \tilde{\omega}(x_H)}{\partial p_1} = (Ax_H + \kappa\theta - b)H$ and $\frac{\partial \tilde{\omega}(x_L)}{\partial p_1} = (Ax_L + \kappa\theta - b)L$. Therefore, by the quotient rule,

$$\frac{\partial}{\partial p_1} \left(\frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)} \right) = \frac{\tilde{\omega}(x_L)(Ax_H + \kappa\theta - b)H - \tilde{\omega}(x_H)(Ax_L + \kappa\theta - b)L}{(\tilde{\omega}(x_L))^2} > 0$$

$$\frac{(Ax_H + \kappa\theta - b)H}{(Ax_L + \kappa\theta - b)L} > \frac{\tilde{\omega}(x_H)}{\tilde{\omega}(x_L)}$$

□

Propositions 4 shows that wage ratios greater than one are increasing in bargaining power dispersion for a set of parameter values. In other words, when there is more variation in bargaining power across worker types, wage inequality increases.

3.6 Calibration

The goal of this section is to calibrate the structural model to match the U.S. wage distribution at its historical low, right before the Civil Rights Act. In doing so, I recover a set of latent parameters. I then use those latent parameters and policy changes from Figure 1 to predict the recent post-civil rights era wage distribution. The difference between the predicted and actual wage distribution sheds light on the extent to which policy changes increased inequality.

I choose two periods to calibrate the model: (1) 1962–1963 because this is before the Civil Rights Act of 1964 and CPS data starts in 1962, and (2) 2005–2006 because this is many decades after the Civil Rights Act, to allow time for policy changes, but is in a similar part of the business cycle. Notably, both periods averaged a 6 percent unemployment rate and 6 percent annual growth rate.

Table 4 lists parameter estimates I supply to the model. The top panel contains parameters from the literature I assume do not change over time. I calibrate the model to match monthly observations and accordingly set the discount rate to 0.9967. The job separation rate δ from Shimer (2012) is the average monthly transition rate from 1960–2004. Labor market tightness is from Wolcott (2021) which calculates the ratio of vacancies to unemployed workers for the 1970s and 2000s for different skill levels. Estimates hover around 2.5. I choose a time-invariant tightness ratio because as noted by Martellini and Menzio (2020), there has been a remarkable lack of secular change in the Beveridge curve over the last century. Parameter M designates the number of productivity types (i.e. submarkets). I choose $M = 9$ such that they split the population into 10 deciles. The other parameter values for matching elasticity α and vacancy posting costs κ are standard in the literature, and results are not sensitive to their values.

The bottom panel of Table 4 contains parameters I assume change between steady states. Using data from Figure 1, I choose a value of unemployment benefits such that it equals 34 percent of the average wage in the 1960s and 30 percent in the 2000s. Because real wages increased over this period, the hourly unemployment benefit I supply the model in the 1960s is \$7 and in the 2000s is \$9 (both are in 2019 USD).¹³ If unemployment benefits remained 34 percent of the average wage, they would have resulted in an hourly rate of \$10. Therefore, relative to a counterfactual world of \$10, unemployment benefits fell to \$9 in the 2000s.

¹³I convert weekly estimates to hourly by assuming full-time employment and dividing weekly benefits by 40 hours.

Table 4: Parameter Estimates for 1962–63 and 2005–06 Steady States

Parameter	Explanation	Value	Source
β	discount factor	0.9967	monthly rate
δ	separation rate	0.036	Shimer (2012)
θ	labor market tightness	2.5	Wolcott (2021)
M	number of submarkets	9	$\{10^{\text{th}}, 20^{\text{th}}, \dots, 90^{\text{th}}\}$ percentiles
α	matching elasticity	0.5	Petrongolo and Pissarides (2001)
κ	vacancy posting cost	0.4	Pissarides (2009)
$b_{t=62}/\hat{\omega}_{t=62}$	UI as share of average wage	0.34	Figure 1
$b_{t=05}/\hat{\omega}_{t=05}$	UI as share of average wage	0.30	Figure 1
$\underline{\omega}_{t=62}$	minimum wage, 2019 USD	10	Figure 1
$\underline{\omega}_{t=05}$	minimum wage, 2019 USD	7	Figure 1
$p_{0,t=62}$	bargaining power intercept	0.5	Svejnar (1986)
$p_{0,t=05}$	bargaining power intercept	0.3	Cahuc et al. (2006)
$p_{1,t=62}$	bargaining power coefficient	0	normalization
$p_{1,t=05}$	bargaining power coefficient	0.015	Cahuc et al. (2006))
$A_{t=62}$	aggregate labor productivity	1	normalization
$A_{t=05}$	aggregate labor productivity	2.5	Department of Labor

Notes: The top panel lists parameters from the literature that are assumed not to change over time. The bottom panel lists parameters whose values change over time. Subscript $t = 62$ indicates data averaged over 1962–1963 and subscript $t = 05$ indicates data averaged over 2005–2006. Parameter $\hat{\omega}$ is the national average wage provided by the BEA.

The minimum wage in Table 4 is the federal minimum wage in 2019 U.S. dollars from Figure 1. If the federal minimum wage of \$10 in 1962-63 covered all workers, it would have affected the first decile of workers who made \$8 an hour or less. Not all workers, however were covered by the federal minimum wage. Agriculture and most service workers, which made up about 10 percent of the bottom decile in the 1960s were excluded.¹⁴ I assume \$8 per hour was the prevailing wage in the absence of a minimum wage. It is difficult to know what wages would have been in the absence of a minimum wage, however, after excluding farmers and non-retail trade occupations in the CPS, wages of the first decile increase to \$10 and wages of the other deciles hardly change. In contrast, the real minimum wage of \$7 in 2005-06 was not binding for a worker in the first decile who made \$10 per hour.¹⁵

In Table 4, I populate the affine function containing intercept p_0 and coefficient p_1 such that it produces bargaining power estimates in line with the literature. For the 1960s, I assume workers of all types have bargaining power equal to 50 percent of surplus, which is within the range of estimates provided by Svejnar (1986). I assume intercept p_0 changes from 50 to 30 percent reflecting the decline in unionization rates and resulting decline in bargaining power (Abowd and Lemieux, 1993).

In tandem with a level decline, dispersion in bargaining power increased. This is captured by the increase in p_1 . Unions mostly benefit low-skill workers and historically have helped close the wage gap (Freeman, 1980; Blau and Kahn, 1996; Card et al., 2003). The 70 percent decline in unionization rates reopened that gap, and even though union membership declined across education groups, the decline was greatest for the less educated workers (Mayer, 2004). Cahuc et al. (2006) find that bargaining power in the late 1990s for “unskilled” workers, with no managerial tasks, ranged from 20 to 40 percent while bargaining power for “skilled” workers ranged from 40 to 60 percent.¹⁶ I choose a p_1 producing estimates in the conservative side of this range, such that the variance across deciles is small. In the model, bargaining power for the 10th percentile falls from 50 to 32 while that for the 90th percentile falls from

¹⁴The federal minimum wage in 1962-63 covered “employees engaged in interstate commerce or in the production of goods for interstate commerce... [and] employees in large retail and service enterprises as well as to local transit, construction, and gasoline service station employees.” (<https://www.dol.gov/agencies/whd/minimum-wage/history/chart>).

¹⁵Clemens and Strain (2022) find state and local minimum wage increases in the 2000s did effect minimum wage workers, but most of the their wage gains were driven by career progression and increases in labor demand. Since I group all workers in the first decile together, the federal minimum wage, on average, is not binding for this group.

¹⁶Estimates from Cahuc et al. (2006) are from their model without on-the-job search. Their Table IV displays a range of estimates depending on industry and skill. After dropping the outliers, bargaining power estimates for Labor Categories 2-4 are between 20 to 40 percent and those for Labor Category 1 are between 40 and 60 percent.

50 to 44 percent. Estimates from Cahuc et al. (2006) are particularly useful here because they are disaggregated by skill. A caveat with the Cahuc et al. (2006) estimates is that they are calculated from French employer-employee matched data. That said, unionization rates today in France and the United States are comparable, which was not the case in the 1960s (Pontusson, 2013). Moreover, Bloesch et al. (2022) document the heterogeneous bargaining power across skill exists in the United States today.

According to the Bureau of Labor Statistics, nonfarm labor productivity increased 2.5 times between 1962–63 and 2005–06. In the last two rows of Table 4, I normalize aggregate labor productivity to one for the earlier period and set it to 2.5 for the latter period.

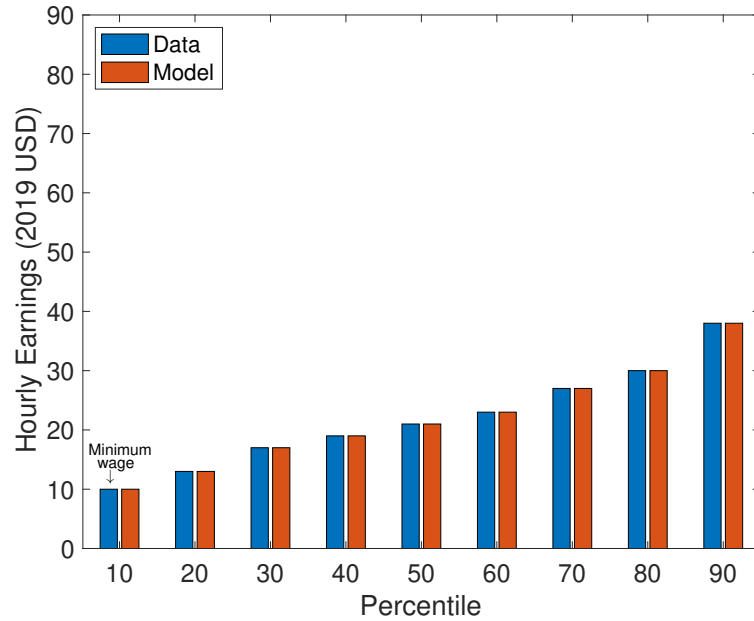
3.7 Results

The first step of the calibration procedure is to uncover the model’s latent parameters, namely, the vector of endowed productivities $x_m \in \{x_1 < x_2 < \dots < x_M\}$ and the vector of productivity-specific matching efficiencies $\phi(x)$ by calibrating the model to match wages in 1962-63. Equations (9) and (10) are two equations, for a given x , from which I can back out the two latent parameters. The first panel of Figure 2 is the result. The wages generated for each decile exactly match estimates from the CPS.

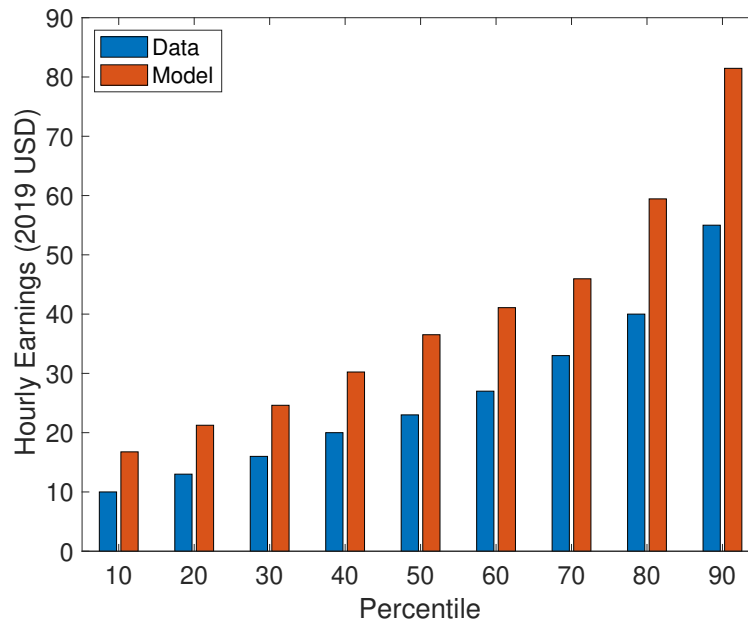
The second step of the calibration procedure is to use the recovered endowed productivity parameters from step one to predict the wage distribution. To do this, I recalibrate the model, swapping in endowed productivity parameters for wages so that for each x I still have two equations (equations (9) and (10)) and two unknown parameters (matching efficiency and the wage). I can then recover the vector of matching efficiencies $\phi(x)$ and the vector of predicted wages $\omega(x)$. The new set of labor policies and aggregate productivity from the bottom panel of Table 4 for 2005-06 are also incorporated in this optimization problem. These new parameter values are the reason the wage distribution changes between steady states.

The bottom panel of Figure 2 is the main result. I do not target the 2005-06 wage distribution, and despite overshooting the levels, the model matches the rise in inequality remarkably well. The ratio between the top and bottom end of the distribution increased between the 1960s and 2000s. This can be seen from the shape of the bars. While the shape across percentiles of the first panel is linear, the shape across percentiles of the second period is exponential, suggesting policy changes combined with productivity growth explain rising inequality.

Figure 2: Wage Deciles Before and After the Civil Rights Act
1962–1963



2005–2006



Notes: Author's calculations using data from IPUMS-CPS and FRED. Hourly earnings for the 10th decile in 1962–63 is the minimum wage instead of the observed wage. All other hourly earnings are calculated from ASEC wage and salary income for full-time workers divided by 50 weeks and 40 hours per week and converted into 2019 USD. Active military are excluded. Data for 1962–63 is targeted by the model. Data for 2005–06 is not targeted and should be used to evaluate the model's success.

Table 5: 90/10 Wage Inequality Ratio

	Data	Full Model	UI Off	Bargaining Off	Min Wage Off
1962–63	3.7	3.7	3.7	3.7	3.7
2005–06	5.5	4.9	4.7	2.9	4.9
Difference	1.8 pp	1.2 pp	1.0 pp	-0.79 pp	1.2 pp
Accounts for	100%	64%	56%	-44%	64%

Notes: Top panel is the ratio between the 90th percentile and 10th percentile of income earners, in terms of hourly wage. Data is from IPUMS-CPS. Full model has all channels turned on. The last three columns are the model with individual channels turned off. The difference is the percentage point change in the 90/10 ratio from 1962-63 to 2005-06. The last row is the share of the observed change in the 90/10 ratio accounted for by the model. Wage data for the 10th percentile in 1962-63 is the federal minimum wage.

The model-generated wages in 2005-06 overshoot the data because aggregate labor productivity increased by 2.5 fold, and although actual wages increased over this period, their growth was more muted. Unemployment benefits falling from 34 to 30 percent of wages counteracts some of the labor productivity growth, but also affects the distribution, as shown in Proposition 2. Had unemployment benefits remained at 34 percent, the model would have predicted less dispersion. The decline in bargaining power intercept p_0 and increase in dispersion p_1 reduced low-wage bargaining power by more than high-wage bargaining power, contributing to inequality. Since the 1960s minimum wage of \$10 is not binding for a 2000s worker at the first decile, minimum wages do not affect any of the reported deciles in the counterfactual analysis to follow.

To highlight a popular measure of inequality, Table 5 lists the 90th to 10th percentile wage ratio (i.e. the 90/10 ratio) in the data, full model, and counterfactual models. The ratio calculated from the data increases from 3.7 to 5.5. As discussed in Section 3.6, bottom decile wages in the 1960s fell below the federal minimum wage because some occupations were excluded. In order to isolate the effect of a level change in the minimum wage from a change in the coverage, I use the federal minimum wage in 1962-63 as the benchmark.

The second column of Table 5 shows that the full model, with all of its channels turned on, predicts the 90/10 ratio increased from 3.7 to 4.9 and accounts for 64 percent of the observed increase.¹⁷ The counterfactual exercises in the last three columns reveal what would have happened to the 90/10 ratio if each policy lever was individually turned off. Because of

¹⁷Appendix F displays 90/10 ratios separately for Black and white workers and the Black-white earnings gap by wage deciles.

non-linearity, there are interesting interactions between the channels. Had unemployment benefits as a share of wages remained at its 1960s value, the model would only account for 54 percent of the rise in the 90/10 ratio, implying unemployment benefits account for 10 percentage points of the rise. This is likely an upper bound because not all workers are eligible for the program.¹⁸ Had bargaining power remained at 50 percent of surplus for all workers, the 90/10 ratio would have fallen, not increased. Had the minimum wage stayed at \$10 an hour, the model would still account for 64 percent of the rise in the 90/10 ratio, meaning minimum wages had no effect. This is because the counterfactual minimum wage of \$10 was not binding for the first decile in the 2000s. This counterfactual minimum wage would still effect some workers—say in the first percentile instead of the first decile—but that in turn does not impact the 90/10 ratio. Autor et al. (2008) similarly conclude that the minimum wage is a poor explanation for the rise in income inequality because the 90/50 ratio, which is unaffected by the minimum wage, also increased. Appendix E displays a similar table for for the 90/50 ratio and the same takeaways are apparent.

Of the mechanism considered, bargaining power was the largest driver of wage inequality. This is consistent with DiNardo et al. (1996) who study unionization rates without a general equilibrium model and with the takeaways from the handbook chapter by Blau and Kahn (1999). It is consistent with Stansbury and Summers (2020) who argue declining worker power explain much of the evolution of the macroeconomy including sluggish wage growth and declining labor share income. It is also consistent with papers examining historical micro data on union participation (Callaway and Collins, 2018; Collins and Niemesh, 2019; Farber et al., 2021) and a recent literature documenting rising monopsony power and the role firm bargaining power plays for stagnating wages (Azar et al., 2020; Deb et al., 2021; Yeh et al., 2022).

4 Conclusion

In the 1950s and 1960s, wage inequality was at historic lows, but the moment was short-lived. After the Civil Rights Act, policymakers began chipping away at New Deal programs that had benefited the white middle class. I show these policy changes were likely driven by racism and the desire to exclude Black workers, but their effects were widespread. Calibrating a labor search model to estimates of unemployment benefits, the minimum wage, and bargaining power, I find that policy changes plausibly motivated by racism—and especially

¹⁸Michaud (2022) finds that a third of ineligible workers are younger than 25 and older than 65. I check robustness by recalculating wages for this restricted sample and the main takeaways from the calibration results hold.

those affecting bargaining power—explain most of the rise of wage inequality since the 1960s.

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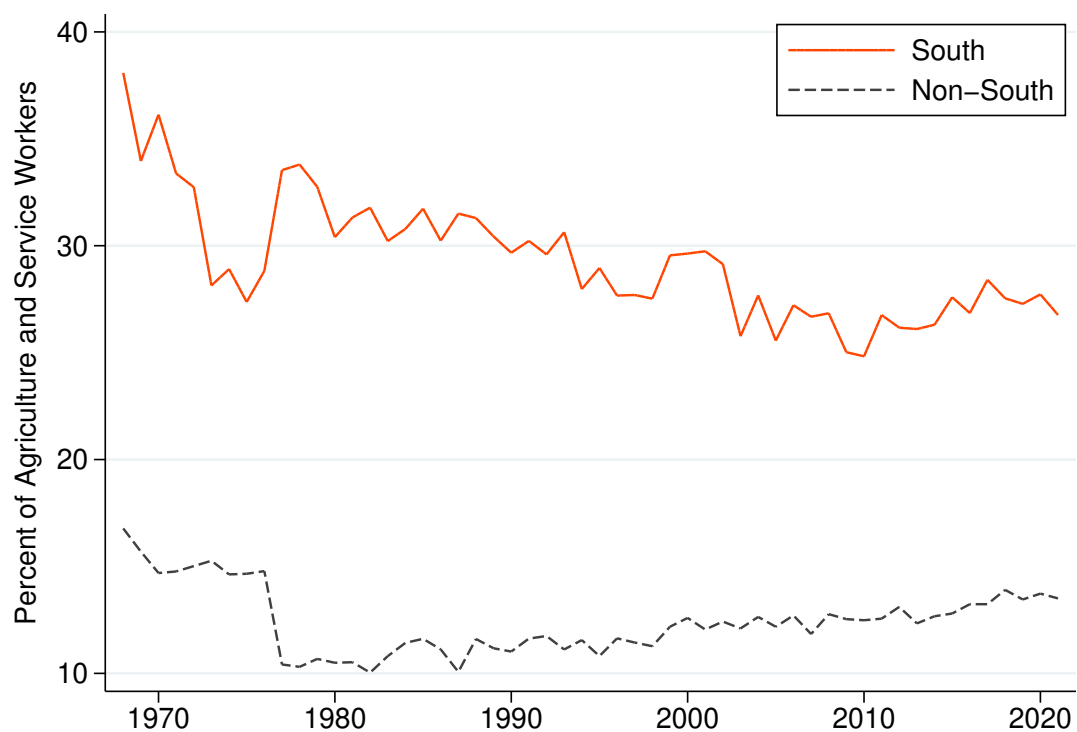
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A Black Agriculture and Service Workers



Notes: Author's calculations using data from ASEC via IPUMS-CPS. Agriculture occupations are Farmers and Farm Laborers using the 1950 Census Bureau occupational classification system. Service occupations are Service Workers, both private household and not household, using the 1950 Census Bureau occupational classification system.

B State-Level Regressions by Decade

VARIABLES	(1) UI Benefit	(2) UI Benefit	(3) UI Benefit	(4) UI Benefit	(5) UI Benefit	(6) UI Benefit
$(ShareBlack_{1960} \times PostPeriod)$	-0.0245 (0.0537)	-0.0496 (0.0583)	-0.0768** (0.0317)	-0.103 (0.169)	-0.831 (0.507)	-1.643*** (0.473)
$ShareBlack_{1960}$	0.0317 (0.0726)	0.0317 (0.0732)	0.0317 (0.0726)	0.0317 (0.0721)	0.0317 (0.0721)	0.0317 (0.0721)
$PostPeriod$	5.692*** (1.414)	10.69*** (1.817)	17.01*** (0.843)	43.48*** (4.224)	114.5*** (14.46)	184.2*** (13.15)
$Constant$	14.96*** (1.576)	14.96*** (1.589)	14.96*** (1.576)	14.96*** (1.564)	14.96*** (1.564)	14.96*** (1.564)
Observations	77	55	77	121	121	121
R-squared	0.372	0.707	0.670	0.445	0.634	0.794
States	South	South	South	South	South	South
Pre-period	1950	1950	1950	1950	1950	1950
Post-period	1954–1959	1960–1963	1964–1969	1970–1979	1980–1980	1990–1999

Robust standard errors in parentheses

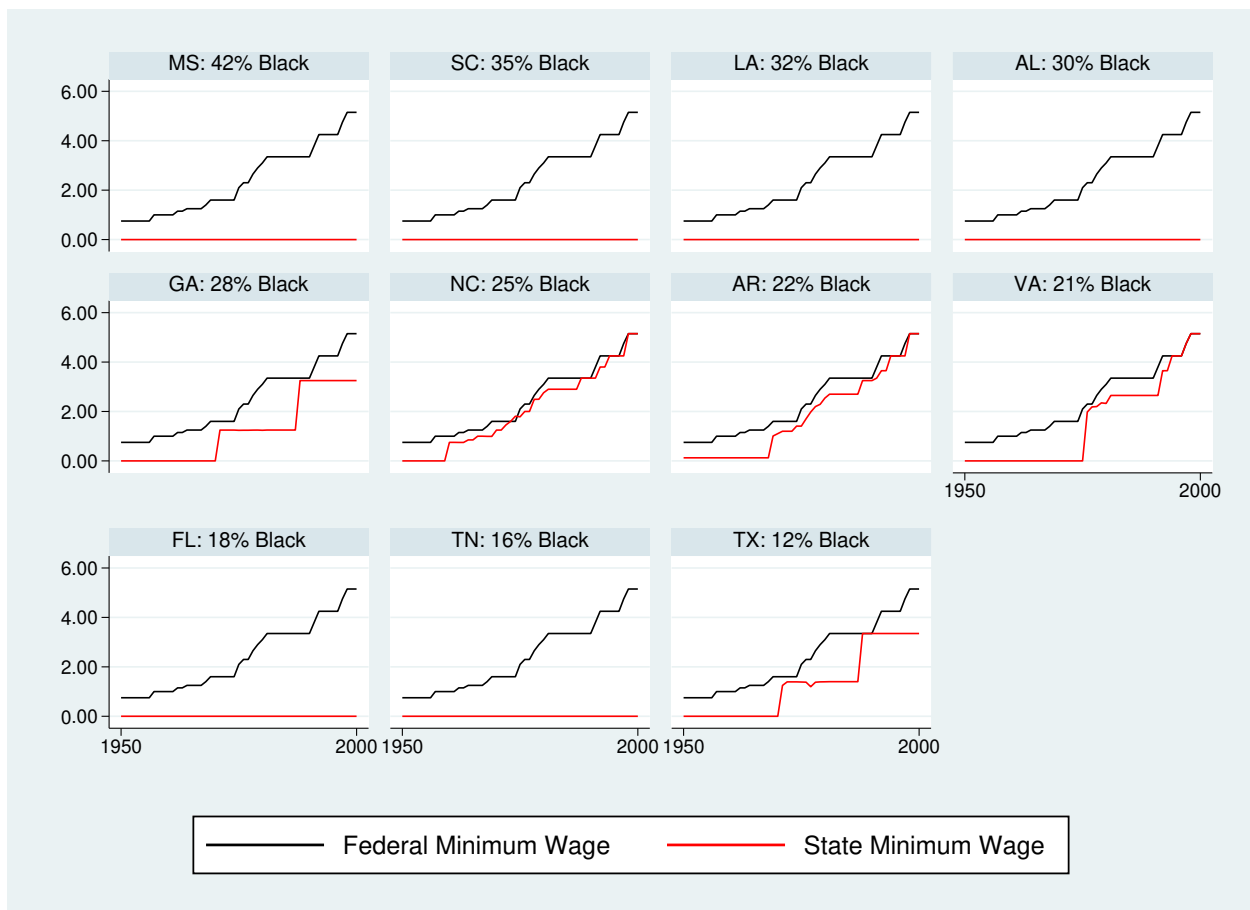
*** p<0.01, ** p<0.05, * p<0.1

VARIABLES	(1) Min. Wage	(2) Min. Wage	(3) Min. Wage	(4) Min. Wage	(5) Min. Wage	(6) Min. Wage
$(ShareBlack_{1960} \times PostPeriod)$	0 (1.02e-09)	-0.000941 (0.00272)	-0.00190 (0.00384)	-0.0309* (0.0161)	-0.0568* (0.0294)	-0.0937* (0.0475)
$ShareBlack_{1960}$	-0.000604 (0.000739)	-0.000604 (0.000745)	-0.000604 (0.000739)	-0.000604 (0.000734)	-0.000604 (0.000734)	-0.000604 (0.000734)
$PostPeriod$	-0 (2.72e-08)	0.0921 (0.116)	0.148 (0.154)	1.377** (0.542)	2.514** (1.007)	4.104** (1.588)
$Constant$	0.0268 (0.0295)	0.0268 (0.0298)	0.0268 (0.0295)	0.0268 (0.0293)	0.0268 (0.0293)	0.0268 (0.0293)
Observations	77	55	77	121	121	121
R-squared	0.020	0.023	0.021	0.152	0.194	0.225
States	South	South	South	South	South	South
Pre-period	1950	1950	1950	1950	1950	1950
Post-period	1954–1959	1960–1963	1964–1969	1970–1979	1980–1980	1990–1999

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

C Minimum Wages in the American South



Notes: Author's calculations using data from Derenoncourt and Montialoux (2021) and the U.S. Department of Labor. Minimum wages are in units of nominal U.S. Dollars. States are displayed in descending ordered by the percent of their population that is Black in the 1960 Census.

D Unionization Rate and Black Population Share

VARIABLES	(1) Union Rate	(2) Union Rate	(3) Union Rate	(4) Union Rate	(5) Union Rate
<i>ShareBlack</i> ₁₉₆₀	-0.197*** (0.0516)	-0.0763 (0.0866)			
<i>ShareBlack</i> ₁₉₈₀			-0.133*** (0.0494)		
<i>ShareBlack</i> ₁₉₉₀				-0.154** (0.0737)	
<i>ShareBlack</i> ₂₀₀₀					-0.154*** (0.0521)
<i>Avg.Income</i>	0.00125*** (0.000227)	-0.000352 (0.000270)	0.00241*** (0.000393)	0.00110*** (0.000274)	0.000824*** (0.000164)
<i>Constant</i>	-6.870 (4.431)	18.82** (6.519)	-9.557* (4.921)	-2.311 (4.916)	-8.416* (4.463)
Observations	51	11	51	51	51
R-squared	0.405	0.073	0.348	0.272	0.336
States	All	South	All	All	All
Sample	1983–2000	1983–2000	1983	1990	2000

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

E 90/50 Wage Inequality Ratio

	Data	Full Model	UI Off	Bargaining Off	Min Wage Off
1962–63	1.8	1.8	1.8	1.8	1.8
2005–06	2.4	2.2	2.2	1.6	2.2
Difference	0.63 pp	0.47 pp	0.45 pp	-0.12 pp	0.47 pp
Accounts for	100%	74%	71%	-20%	74%

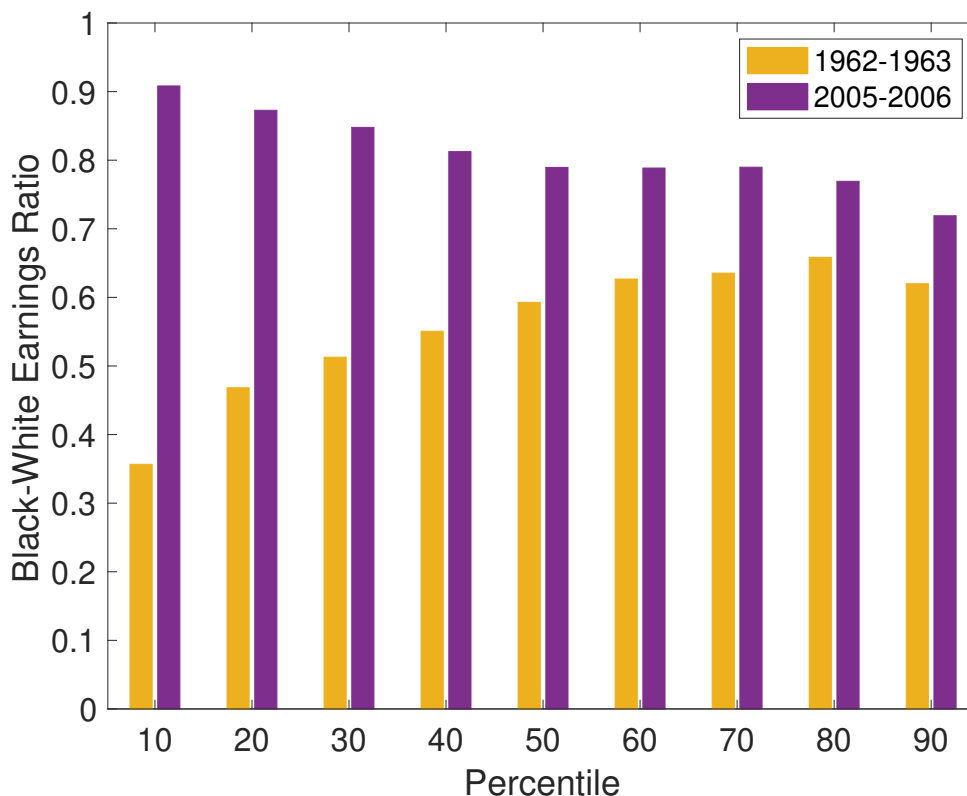
Notes: Top panel is the ratio between the 90th percentile and 50th percentile of income earners, in terms of hourly wage. Data is from IPUMS-CPS. Full model has all channels turned on. The last three columns are the model with individual channels turned off. The difference is the percentage point change in the 90/50 ratio from 1962-63 to 2005-06. The last row is the share of the observed change in the 90/10 ratio accounted for by the model.

F Wage Inequality by Race

	Black 90/10	Black 90/50	White 90/10	White 90/50	Black-White Ratio of Median
1962–63	6.9	1.9	4.0	1.8	0.59
2005–06	4.3	2.1	5.4	2.3	0.79

Notes: Author’s calculations using data from IPUMS-CPS. The 90/10 and 90/50 measures of income inequality are the ratio between hourly earnings of the 90th percentile and 10th or 50th percentile. Black workers are respondents identifying as “Black/Negro”.

Black-White Earnings Ratio by Wage Decile



Notes: Author’s calculations using data from IPUMS-CPS and FRED. Hourly earnings are calculated from ASEC wage and salary income for full-time workers divided by 50 weeks and 40 hours per week. Active military are excluded.