The Costs of Employment Segregation: Evidence from the Federal Government under Woodrow Wilson[*]

Abhay Aneja

UC Berkeley

Guo Xu

UC Berkeley & NBER[†]

January 25, 2021

Abstract

We link newly-digitized personnel records of the U.S. government for 1907-1921 to census data to study the segregation of the civil service by race under President Woodrow Wilson. Using a difference-in-differences design around Wilson's inauguration, we find that the introduction of employment segregation increased the black-white earnings gap by eight percentage points. This increasing gap is driven by a reallocation of existing black civil servants to lower paid positions, lowering their returns to education. Importantly, the negative effects extend beyond Wilson's presidency. Using census data for 1900-1940, we show that segregation caused a relative decline in the home ownership rate of black civil servants. Moreover, by comparing children of black and white civil servants in adulthood, we provide evidence that descendants of black civil servants who were exposed to Wilson's presidency exhibit lower levels of education, earnings, and social mobility. Our combined results thus document significant short and long-run costs borne by minorities during a unique episode of state-sanctioned discrimination.

JEL codes: D73, J07, N42

1   Introduction

Racial disparities persist across the globe in virtually every domain of social and economic life – including employment, housing, and protection from crime and abuse. Understanding the roots of racial inequality is crucial to choosing the appropriate policy remedies. Countries of both the developed and developing world have implemented an array of policies to respond to persistent ethnic disparities in socioeconomic status. Countries have expanded constitutional protections of civil rights and strengthened anti-discrimination laws to limit the effects of disparate treatment (Chilton and Vesteeg, 2016; Donohue and Heckman, 1991; Collins, 2003; Minkler and Prakash, 2017). In the employment context, the U.S. has passed the Equal Pay Act and the Civil Rights Act to prevent discrimination on the basis of sex, race, or sexual orientation (Donohue and Heckman, 1991; Chay, 1998; Bailey et al., 2021). Even more ambitious are group-based entitlements designed to remedy the persistent, deleterious effects of *past* discrimination. For example, affirmative action programs and similar quota-based remedies provide set-asides for minorities within schools, political office, employment, and other public institutions (Chattopadhyay and Duflo, 2004; Bagde et al., 2016; Miller, 2017).[1]

The case for ameliorative policy, however, hinges critically on the degree to which past episodes of discrimination persist. If past discriminatory policies do not translate into contemporaneous outcome gaps, introducing group-based entitlements in the form of quotas or affirmative action may even introduce additional distortions in the allocation of talent. While a large body of literature has documented the impacts of such policies aimed at remedying the effect of historical discrimination (Pande, 2003; Chattopadhyay and Duflo, 2004), micro-level evidence on *how persistent* these past episodes of discrimination are in the first place remains scarce.

In this paper, we assess the economic cost to black Americans in terms of earnings, wealth, and intergenerational mobility of one of the modern era's most far-reaching episodes of discriminatory government policy – the segregation of the U.S. government under Woodrow Wilson's administration. In 1913, U.S. President Wilson sanctioned a policy to segregate black and white civil servants across the federal bureaucracy.[2] Introduced with the declared intent of improving bureaucratic efficiency by removing "frictions" between black and white civil servants (Lunardini, 1979; Cell, 1982), segregation was carried out by federal departments – most aggressively by the federal Post Office and the Treasury Department, where the vast majority of black civil servants worked.

---

[1]India and the United States are perhaps most famous for various race-conscious remedies to economic inequality, although many other countries also continue to pursue policy regimes that promote the advancement of social and ethnic minorities.

[2]We refer to federal segregation as Wilson's policy for the ease of exposition and because the historical record provides clear evidence that President Wilson sanctioned segregation (King, 1995; Yellin, 2013). It is worth acknowledging that: (i) there was no official executive order, and (ii) discriminatory attitudes were shared throughout the government (especially by members of Wilson's Democratic Party). However, given that harsh forms of segregation had already set in during the previous decades in parts of the nation (especially the South), our evidence is consistent with research by historians like King (1995) that segregation would not have taken place without Wilson's explicit sanctioning of racial discrimination within the government.

Wilson's mandate brought "Jim Crow" out of the Deep South – where political disenfranchisement and laws mandating segregation made black Americans second-class citizens – and into the federal government. Historical evidence suggests that the segregation of the federal workforce limited the access of black civil servants to white-collar positions via demotions as well as the failure to hire qualified black candidates (King, 1995). By imposing a ceiling on black workplace mobility, federal segregation was likely to have negative effects on black civil servants' economic well-being (Yellin, 2013). Yet, whether the segregation policy was costly for black civil servants – as well as how costly and for how long – remains unknown to this day.

Underpinning our study is a large-scale data digitization effort covering the careers of over 815,000 U.S. civil servants. We digitize each volume of the Official Register of the United States series (the "Official Register," or "Registers"), also known as the Biennial Register of All Officers and Agents, for the time period 1907-1921. Issued every two years during the time period we study, the Official Registers are a government publication series that provide a detailed list of every person who worked for the federal government, including their department, bureau, job title (i.e., occupation), and salary. The Registers thus provide high-quality personnel data for a historical period where high-frequency earnings data is rarely available.[3] Our study is the first to leverage this unique data source for the study of the early 20th century bureaucracy and labor market performance.

A major challenge for the study of racial differences in the U.S. federal civil service is the absence of race in the personnel records we digitize. To overcome this barrier, we link our newly-digitized administrative personnel records to the complete count Decennial Census of 1910. Given the absence of detailed information (such as an individual's age) to allow for conventional matching procedures (Abramitzky et al., 2019), we propose a probabilistic method that allows us to predict the race of civil servants based on name and birth location alone. We validate this approach by comparing our predictions with a benchmark sample that we obtained by time-intensive hand matching. To quantify the effect of federal segregation, we employ a matched difference-in-differences design. We use coarsened exact matching to identify for each black civil servant a white counterpart who – at the onset of Wilson's presidency – was (i) of the same sex and worked (ii) in the same Cabinet department and bureau, (iii) at the same level of seniority, and (iv) earned the same salary. We then compare these matched black and white civil servants around Wilson's transition, assessing how the black-white earnings gap among comparable civil servants evolved before and after Wilson's 1913 mandate.

Our main finding is that President Wilson's segregation policy had persistently negative consequences for black civil servants. For civil servants who worked in the same department, had the same seniority level, and earned

---

[3]Most work focused on this period rely on coarse, imputed salaries based on the occupational titles from the decadal census.

the same salary *prior* to the segregation order, black civil servants earned approximately 8 percentage points (p.p.) less over the duration of Wilson's term. This penalty holds with individual fixed effects, suggesting that the negative effect is driven in part by differences in career progression. Consistent with our findings being caused by presidential policy rather than latent discriminatory attitudes throughout the federal government, the negative effect is largest for the Post Office, Government Printing Office (GPO), Navy, and Treasury Departments – departments known for having implemented the segregation order earliest and most aggressively at the behest of President Wilson (King, 1996). By contrast, the penalty faced by black civil servants was smallest within the Agriculture Department, a department known for initially resisting the segregation order.

In terms of channels, we find that Wilson's policy adversely affected black civil servants at both the intensive and extensive margins. One of the main ways through which segregation reduced the earnings of black civil servants was by shutting down opportunities for economic advancement within the bureaucracy. Consistent with the re-allocation of black civil servants to lower salaried positions, the inclusion of job title fixed effects accounts for almost the entire increase in the earnings gap. This re-allocation to lower paid positions cannot be explained away by differences in the years of schooling. Instead, we document a relative decrease in the returns to education and experience for black civil servants (vis-à-vis white civil servants) during Wilson's term, in line with an increased misallocation of talent. Finally, we show that black entrants to the civil service entered at lower salary levels after Wilson took office; we observe increased exit among higher-earning black civil servants under Wilson, suggesting that the segregation regime had effects on the extensive margin, as well.

The large divergence in earnings between observationally comparable black and white civil servants during Wilson's term raises the intriguing question whether the effects extended beyond Wilson's presidency. To study how earnings losses affect long-term wealth accumulation, we link civil servants to each census round from 1900-1940 to study the racial gap in home ownership before and after Wilson's term. Home ownership was and remains the dominant way of wealth accumulation in the U.S. Consistent with the negative effects on relative earnings, black civil servants are 7 p.p. less likely to own a home after Wilson's term. This gap remains persistently large for segregation-affected black civil servants even decades after Wilson left office. Importantly, the racial home ownership gap only increases for federal civil servants but remains constant for comparable workers in the private sector – suggesting that federal segregation was the cause of this relative loss of wealth, rather than nationwide trends in racial homeownership disparities.

Finally, we investigate whether the segregation policy affected the economic outcomes for the descendants of the targeted civil servants. By the time Wilson assumed office, some children of civil servants were still of schooling

age, while others already completed their education. Exploiting variation in the age of the children at the onset of the segregation policy in 1913, we use census data to compare the 1940 outcomes of children of black and white civil servants who were young (and thus co-habiting with their civil service parents exposed to the segregation order) vs. old (and thus no longer co-habiting). To ensure that the results are not driven by secular trends, we benchmark this difference-in-differences against the gap observed for private sector workers who were not directly affected by the federal segregation policy. While racial outcome gaps had been converging between old vs. young children in the private sector, the same outcome gap stagnated and – if anything – increased for children of federal civil servants. Twenty years after Wilson left office, black young children of civil servants report lower levels of education, lower earnings, and a decline in the overall income distribution rank by 9 percentiles. These results thus provide evidence that the effects of Wilson's segregation policy affected intergenerational mobility by adversely impacting human capital accumulation.

Our study contributes to research at the intersection of three strands of literature. First, we contribute to the literature on discrimination and racial inequality, particularly within the labor market. Black-white gaps in education, earnings, and occupational prestige have been a persistent feature of the American economy since the end of the Civil War (Collins and Wanamaker, 2017), and for decades economists have, in turn, studied the ebbs and flow of black economic progress. Recent studies center largely on the forces shaping black Americans' economic status from mid-century to the present, spanning the Second Great Migration (Boustan, 2009; Hornbeck and Naidu, 2014; Derenoncourt, 2019), massive school desegregation efforts (Card and Krueger, 1992; Johnson, 2011), changes to labor market institutions (Farber et al., 2018; Bailey et al., 2020b; Derenoncourt and Montialoux, 2020), and the passage of major anti-discrimination efforts (Smith and Welch, 1989; Donohue and Heckman, 1991; Collins, 2003; Cascio and Washington, 2013; Aneja and Avancios-Leon, 2020).

Our analysis focuses on the pre-World War II period, about which there is less (and perhaps conflicting) evidence on the sources of earnings disparities. Some studies fail to detect racial wage discrimination, observing that black and white workers received equal pay within-occupation, and attribute a fraction of earnings inequality to observed human capital differences (Higgs, 1977; Fishback, 1989; Smith, 1984; Carruthers and Wanamaker, 2017). Others, however, find more persistent racial wage differentials and evidence of discrimination through either pay differences or segmentation of the labor market (Whatley and Wright, 1994; Sundstrom, 1994; Margo, 1990). These studies conclude that black workers' lower occupational status cannot be fully explained by differences in the quantity and quality of schooling.[4]

---

[4]These studies, however, also acknowledge that gaps in education were likely a factor.

Our findings are consistent with racial discrimination being an important driver of racial earnings disparities in the first half of the 20th century government (Sundstrom, 2007). By documenting how segregation of black personnel led to disparate pay through unequal work assignments, we show that government policy was a causal determinant of racial inequality. The harmful impact of Wilson importing "Jim Crow" norms of racial hierarchy into the federal government is consistent with the literature documenting the harmful effects of segregation (Collins and Wanamaker, 2017; Naidu, 2012; Dewey, 1952; Sundstrom, 1994).[5] Relatedly, we contribute to research on how state action can – in contrast to the Civil Rights era – *exacerbate*, rather than ameliorate, racial and ethnic inequality (Naidu, 2012; Huber et al., 2020).

Second, by examining how effects of workplace discrimination ripple throughout the life cycle, and even shape racial disparities across the next generation, we also advance the related literature on the persistence of other dimensions of racial inequality in the U.S. (Bloome, 2014; Lundberg and Startz, 1998). Of particular policy relevance is the evolution of racial differences in wealth (Higgs, 1982; Margo, 1984; Darity, 1998). By documenting how federal segregation affected homeownership, we provide new evidence on how a specific discriminatory episode reduced black wealth accumulation using the most comprehensive long-term data available.[6]

Finally, we add a new dimension to the growing literature in political economy on the role and the organization of the state. This literature has documented the role of politicians in controlling civil servants through appointments and transfers (Iyer and Mani, 2012; Xu, 2018; Akthari et al., 2019; Colonnelli et al., 2020; Moreira and Perez, 2020). While there is a large literature that studies the role of political alignment or social ties between politicians and bureaucrats in shaping career progression, there is little work that studies the effect of discriminatory policies within public organizations. We make progress on this score by documenting the active role of a major public organization – the U.S. government – in implementing policies that discriminate among its personnel. Understanding public sector discrimination is important, given that government bureaucracies have long been a source of economic mobility for marginalized groups, such as women and racial minorities (Krislov, 1967). This was clearly the case for black Americans in the early 20th century. As Appendix Figure AI shows, black workers on average earned a substantial premium in the public sector. Government employment placed workers in the top quartile of the black earnings distribution, and on a footing that was not-so-distant from the average white American.

---

[5]Jim Crow institutions imposed concentrated economic disadvantages for black Americans across various domains – including residential segregation (Gil and Marion, 2018), bans on labor mobility (Roback, 1986), and political disenfranchisement (Naidu, 2012). Informal norms about racial inferiority fostered by segregation and political disenfranchisement also contributed to occupational segregation (Dewey, 1952; Woodward, 1955; Sundstrom, 1994).

[6]See, e.g., Collins and Margo (2011) for a discussion of how census-measured home ownership is perhaps the best data to understand long-run racial differences and trends in wealth accumulation.

2 Context: The U.S. Federal Government

The U.S. federal civil service is the civilian workforce (i.e., non-elected and non-military public sector employees) comprising primarily the executive branch departments and agencies.

2.1 Woodrow Wilson and the Onset of Federal Segregation

At the beginning of the 20th century, the federal government was relatively unsegregated. It employed black men and women at all levels of the federal bureaucracy, including high-ranking, white-collar positions (Yellin, 2013). Opportunities for black Americans in the federal government dried up, though, with the election of Woodrow Wilson as President. During his first year in office, Wilson began promoting a policy of segregation into the bureaucracy. Historical sources suggest that segregation came swiftly and suddenly, taking black Americans by surprise. During Wilson's presidential campaign of 1912, for example, black voters had abandoned their Republican allegiances in part due to his campaign promise of equal treatment: "should I become President of the United States, [black voters] may count on me for absolute fair dealing and for everything by which I could assist in advancing the interests of their race in the United States." Booker T. Washington in turn declared his support for Wilson, expressing his faith that Wilson would provide "improvement and advancement of my people."[7] While Wilson's policy of racial separation was premised on bureaucratic efficiency, anecdotal accounts suggest it was motivated by the racial animus of Wilson and his supporters and advisors – many of whom hailed from the "Jim Crow South" (Lunardini, 1979).

The implementation of racial segregation was delegated to the departments, where Wilson appointed many segregationist southern Democrats. Racial segregation was first imposed in the Post Office Department, where Wilson's choice for Postmaster General was the conservative Democratic Congressman, Albert S. Burleson, of Texas.[8] The next department to segregate was the Treasury – which employed more black civil servants than any other federal department apart from the Post Office. Like Burleson, Secretary William Gibbs McAdoo was a southern segregationist. To McAdoo, segregation by race was no different than any other organizational hierarchy, comparing the racial segregation of Treasury facilities to "the provision of separate toilets for the higher officials of the department."[9] Other departments soon followed suit, segregating in rapid succession.

---

[7]Similarly, the NAACP delivered the support of over 100,000 black votes to the Democratic ticket because of Wilson's "willingness to deal fairly with the Negroes." (Scheiber and Scheiber, 1969).

[8]Burleson was all too eager to segregate employees within his department, having previously complained to Wilson about white civil servants being forced to work alongside minorities: "it is very unpleasant for them to work in a car with negroes where it is almost impossible to have different drinking vessels and different towels, or places to wash" (Weiss, 1969).

[9]Under McAdoo's command, the Treasury's Assistant Secretary wrote to a senior clerk, "I think it would be best for this Department if you should make arrangements by which white and colored employees of this Department shall use different toilet rooms."

2.2 The Potential Effects of Federal Segregation

The main effect of Wilson's policy vis-à-vis the federal bureaucracy was to prevent the economic advancement of black civil servants. While introduced with the declared intent of improving bureaucratic efficiency by removing "frictions" between black and white civil servants (Lunardini, 1979; Cell, 1982), segregation gave rise to a general increase in workplace discrimination. Historical accounts suggest that by the end of Wilson's first term, black government civil servants faced demotion or lack of promotion at the Departments of State, Navy, and many others. Moreover, Wilson's regime of federal government segregation prevented qualified black applicants from entering the federal civil service at levels that they were able to in the early 1900s. While there was no *de jure* change in the government's merit-based hiring policies, the federal government adopted measures to prevent the hiring of new black civil servants. For example, in May 1914 it began requiring that photographs be attached to all job applications, making it easier to discriminate against black candidates. In some cases, black civil servants were terminated outright (MacLaury, 2014). Given historical evidence that Wilson's segregation policy affected black civil servants at both the intensive and extensive margins, it is reasonable to hypothesize that their earnings would suffer. We thus turn to testing this hypothesis now.

3 Data and Descriptive Statistics

3.1 Data Source: U.S. Federal Registers

Our main goal is to identify the impact of Wilson's segregation order on black civil servants' earnings, and how they evolve relative to the earnings of white civil servants. To that end, we undertook a large-scale data digitization effort to construct an individual-level personnel dataset of the entire U.S. federal government around Wilson's transition. The main data source for our study is the Official Register of the United States series ("Registers"). The Registers were initially compiled by the Department of the Interior, and later by the Census Bureau, to provide a complete enumeration of the federal government workforce.[10] Issued biennially, the Registers listed every employee of the U.S. government. The cut-off date for inclusion in a given year's volume is July 1. Overall, we digitized personnel records between 1907-1921.

Appendix Figure AII shows a sample of the Register records. As the sample page shows, the Registers contain rich data on the civil servants' background and their career progression within the civil service. For each civil servant, the Register includes information on a federal employee's full name, state of birth, the congressional

---

[10]Temporary employees who have served for less than six months are not included. In 1923, the Register was not published due to federal pressure to reduce costs. The Register resumed in annual form in 1925, but in a much more reduced form, owing to the growing size and cost of describing the entire federal government.

district from which he or she is appointed, and salary. Also included is a civil servant's assigned department, the bureau within that department, his or her job title as well as location of work.

Our final dataset provides a few unique advantages over data used in previous analyses of racial inequality in the pre-1940 period. First, we observe the salary of each civil servant, so do not need to use coarser measures of earnings that are imputed from occupational data, which typically rely on Decennial Census data.[11] This is an important advantage, given the potential for racial discrimination within occupations. Second, the Register data are available at a greater frequency. Issued on a biennial basis, the data allow us to trace out the dynamics of segregation and more carefully consider time-varying confounders (e.g. World War I). Finally, the data we construct spans a large subset of federal government employees. As such, they provide an unprecedented opportunity to examine discrimination over the scale of the full federal government.[12]

3.2 Measuring black civil servants

A limitation of the Register data is that it does not explicitly include information on a person's race. To overcome this issue, we link our sample of civil servants to the 1910 complete count Decennial Census (which *does* record race). We compute each civil servant's likelihood of being black based on the share of all black Decennial Census respondents who share the same *full* name and birth state. We use these characteristics because we do not observe biographical information other than name and place of birth, such as a civil servant's age. For each first name $\times$ last name $\times$ birth state combination, we compute:

$$\text{Black}_i = \mathbf{1}[\Pr(\text{Black}|\text{First name}, \text{Last name}, \text{Birth state}) > c] \tag{1}$$

where an individual i is predicted to be black if the conditional probability based on the name and birth state combination is larger than a threshold value $c \in [0, 1]$.

To then infer a civil servant's race for the purpose of our analysis, we match every name $\times$ birth state combination to the census. We first match *exactly* based on first name (including initial), last name, and birth state. This approach yields a match rate of 29%. We then relax the match criterion by matching only *exactly* on the first name (excluding initial), last name and birth state. This increases our overall match rate to 41%. To then transform the probabilistic measure into a dummy variable that is easily interpreted, we impose a cut-off value

---

[11]Since the U.S. Census did not record a person's income prior to 1940, analyses of economic status typically rely on imputed incomes based on the linkage of a person's occupation (Sacerdote, 2005; Collins and Wanamaker, 2017).

[12]One limitation of the Register data is that it does not contain the complete records of the Post Office Department due to page restrictions. Our data only capture the Post Office Department headquarter in D.C., omitting postmasters and lower tier postal workers.

of $c = 0.5$. This cut-off provides a simple interpretation: an individual is thus predicted to be black if individuals sharing the same name and born in the same state are more likely to be black than not. With this 50% cut-off, the share of black civil servants at the onset of segregation in 1911 is 10%.

We conduct a series of tests to assess the validity of our measure. First, we drew a random sample of 1,000 civil servants from the Treasury Department – the largest department in the Register data (and the second largest overall) – in 1911 and hand-matched them to the census. The results are shown in Table AI. To start with, out of the 1,000 we were able to match 627 individuals. As expected, the match rate is slightly higher than using our automated approach. Importantly, our measure of black civil servants strongly predicts the measure obtained through time-intensive hand-coding. A civil servant whose name and birth state matches with 100% of black individuals in the census is 66 p.p. more likely to also be identified as black in the hand-coded measure (column 1). The magnitude remains large when using the transformed dummy measure (column 2). We thus conclude that our measure to predict black civil servants has sufficient predictive power. In subsection 4.1 we also demonstrate the robustness of our main results using alternative measures and cut-offs.[13]

3.3 Descriptive Statistics and Matching

For our period of analysis, 1907-1921, our final dataset covers a total of 321,602 unique federal civil servants and 692,877 person-years. In Table I, columns 1 - 2, we provide raw summary statistics for our full sample of civil servants. Column 3 tells us how black civil servants compared to white civil servants in the full sample.[14] Black civil servants are more likely to be female, earn significantly less and tend to have joined the service later (i.e. they are of lower seniority). They are also less likely to hold per annum or per month contracts. In the context of our data, this means that they are more likely to be employed as part-time employees.

It is readily apparent that black civil servants held very different positions – arguably worse jobs – than their white counterparts.[15] To estimate the impact of segregation, we must first identify a suitable control group of white civil servants within our sample who hold similar jobs at baseline. We do this by finding counterfactual white civil servants who are (i) of the same sex and – prior to the Wilson administration – (ii) worked in the same department and bureau, (iii) entered the service in the same year, and (iv) hold the same type of payment contract with the same compensation level. We implement the matching using the coarsened exact matching (CEM) method proposed by Iacus et al. (2012). This approach is standard and allows us to construct

---

[13]Our measure also correlates significantly with distinctively black names as computed by Cook et al. (2016).

[14]To sharpen the analysis, we restrict the sample to only black and white civil servants. Black and white civil servants combined make up 98% of the federal civil service in the 1910 census.

[15]This observation is not surprising, given that black Americans were only a generation from the Civil War, and still trailed white Americans in access to schooling and other key dimensions of human capital (Collins and Wanamaker, 2017).

counterfactuals that are comparable in terms of the *joint distribution* of observable baseline characteristics.[16] We thus match civil servants in 1911 based on salary (exact),[17] entry year (exact), department, bureau, and the mode of pay (per annum, month, day, hour).

To provide intuition for the matching strategy, consider a concrete example. John A. Davis was born in 1863 in Washington, D.C. to a white lawyer and black housekeeper. He graduated top of his class from Washington's M Street High School and passed the civil service exam aged 19 to join the Government Printing Office (GPO), where he continued to work for the next decades.[18] From his biography, we know that John worked as a laborer, then progressed to clerical and finally mid-level management positions. His relative wealth was reflected in the fact that he owned a farm in Virginia in addition to a home in D.C.

Our data matches this narrative well.[19] We find that John A. Davis was serving as a clerk in the GPO from the beginning of our sample in 1907. Our probabilistic estimate for race puts him as 40% black when computed using his full name and birth state, and 66% when computed using his full name (excluding the initial) and birth state. In 1911, the last round of our data before Wilson's term, John was making $1,400 per year – a good salary that puts him at the 75% percentile of the full-time annual salaries paid in the 1911 federal civil service.

His fortunes changed with segregation. After Wilson assumed office in March 1913, the July 1913 round of the Register data records John's salary at $1,300, reflecting a demotion. In 1915, John was further demoted to the position of a "skilled laborer," now earning a part-time salary of 25 cents per hour, or $520 per annum when converted to an annual salary.[20] In 1919, we find him in the War department working as a messenger for $720 – half of what he earned *a decade earlier*. He would remain at that salary until 1921, our last round of data. He was forced to auction off the family farm in 1914 and died in 1928 aged 65.

Using our matching criteria, we identify an exact match for John A. Davis in the personnel records. Willard A. Pollard was also born in Washington, D.C. only two years after John. In 1911, the year in which we perform our matching, Willard likewise worked in the GPO, held the same job title (clerk), and earned the exact same salary $1,400, suggesting that both must have been colleagues of equal rank. Importantly, as Figure I shows, both John and Willard progressed in lock-step, earning the exact same salaries in 1907-1909. By matching on characteristics in 1911 alone, we thus obtained balance not only on covariates unobserved in the Register data (age) but also their "pre-trend," as captured by their salary progression prior to 1911.

---

[16] See e.g., applications like Sarsons (2020) or Azoulay et al. (2019)). Our results also hold with simple OLS.

[17] We convert all salaries into annual salaries. We assume an 8-hour workday, 5 days per week, and 12 months per year.

[18] This account is drawn from the NY Times op-ed "What Woodrow Wilson Cost My Grandfather", by Gordon J. Davis, Nov. 24, 2015, from https://www.nytimes.com/2015/11/24/opinion/what-woodrow-wilson-cost-my-grandfather.html.

[19] See Appendix Figure AII for the actual data entry in 1913.

[20] As discussed in subsection 3.3, this assumes an 8-hour workday, 5 days per week and 12 months in a year.

The careers of John and Willard, however, diverge under Wilson's administration. Unlike John, Willard's career continued to progress after Wilson assumed office. Willard received a raise in 1917, earning $1,600 – more than three times as much as his former colleague John. In 1921, the last data point, we see Willard receiving another raise, earning $1,800. This puts Willard at the 75% percentile of the full-time salary distribution in 1921. John, in contrast, fell to the 10th percentile. Willard dies in 1950, aged 85.

We repeat the same matching exercise for each of the black civil servants in our data. Table I, column 4 reports the result of the matching procedure. The sample size is smaller given the lack of suitable counterparts for some black civil servants. Within the matched sample, however, black and white civil servants are now very comparable: comparing black civil servants to their matched white counterparts, we do not find any statistically and economically significant differences by gender, earnings, tenure and type of employment.

4   Main results: Direct effects under Wilson's Presidency

4.1   Effect of employment segregation on earnings

We now investigate how Wilson's segregation policy affected racial earnings inequality within the civil service. Specifically, we study how Wilson's segregation policy impacted the black-white earnings gap using a matched difference-in-differences (DD) research design. For individual i and year t, we relate earnings to this policy by estimating the following regression:

$$log(w_{it}) \quad = \quad \alpha \times Black_i + \beta \times Black_i \times Wilson_t + \tau_t + \varepsilon_{it} \tag{2}$$

where w_{it} is individual i's earnings for year t. $Black_i$ is a dummy variable that is 1 if the race of the individual is black and 0 if the individual is white (see subsection 3.2). Given our matching strategy, the black-white comparison is made among civil servants of the same sex, who served in the same department and bureau, entered in the same year, hold the same contract type and earn the exact same salary pre-segregation in 1911 (see subsection 3.3). $Wilson_t$ is a dummy indicating exposure to the segregated federal government. This variable equals 1 from 1913 onwards, when Wilson was inaugurated as President.[21] τ_t are year fixed effects. The key parameter of interest is β, which denotes the change in the black-white earnings gap after segregation. The standard errors are clustered at the individual level, since "treatment" varies by an individual's race.

Table II reports the main regression results. All regressions are based on the matched sample of civil servants.

---

[21]Wilson was inaugurated March 4, 1913. Our 1913 data are based on the cut-off July 1st, capturing post-transition.

Column 1 first reports the average black-white earnings gap for the entire study period 1907-1921. Black civil servants earn, on average, 5.9 percent less than their white counterparts. When allowing the earnings gap to vary before (1907-1911) and after Wilson's presidential term (1913-1921, see Equation 2), the negative average black-white earnings gap only appears after Wilson assumed office in 1913. The coefficient of interest, β on $Black_i \times Wilson_t$, suggests that Wilson's policy of racial segregation increased the earnings gap by around 8.4 p.p. (columns 2). Prior to Wilson's presidency, there is no statistically discernible black-white earnings difference.[22] Finally, in Table II, column 3, our most demanding specification, we include individual-level fixed effects, thus only comparing salary changes within the same civil servant around Wilson's transition. Even when partialing out unobservable differences across individuals, we still observe a 3.9 p.p. increase in the black earnings penalty within the federal bureaucracy.

A key assumption for a causal interpretation of the results is that the black-white earnings gap would have evolved along common trends in the absence of Wilson's segregation policy. If the racial earnings gap was already increasing *prior* to Wilson's segregation policy, our estimate might be picking up a gradual widening of black-white earnings inequality over time. We assess pre-trends by estimating flexible versions of our main specification (Equation 2), allowing the earnings gap to vary by time periods. As Figure II shows, there are no statistically significant level or trend differences between black and white civil servants' salaries prior to Wilson's segregation order. Only *after* Wilson assumed office do we see a drop and widening of the black-white earnings gap. Furthermore, this effect is only concentrated in the federal government. We find no evidence of a comparable economy-wide widening of the black-white earnings gap between 1910 and 1920 using census data (Appendix Figure AIII). The combined evidence therefore suggests that the increase in the black-white earnings inequality can indeed be attributed to Wilson's segregation policy.

As shown in Table I for the full sample, black civil servants are less likely to hold permanent positions that are paid yearly salaries. To also explore whether Wilson's policy impacted the contract type, the dependent variable in column 4 is a dummy for whether an individual's position is full-time (i.e., paid per annum). Compared to the pre-Wilson period, black civil servants are 2.4 p.p. less likely to hold full-time positions. This suggests that the segregation policy not only lowered the salaries, but also increased job insecurity. Finally, column 5 estimates the extent to which the policy affected the ranking of black civil servants in the earnings distribution. As column 5 shows, the increase in the earnings gap translates into a decline in the relative position of the average black civil servant by 3.3 percentiles. Taken together, the results document significant direct negative effects of Wilson's policy on the relative earnings of black civil servants.

---

[22]This pre-Wilson balance between 1907-1911 is not mechanical since the CEM only ensures balance on 1911.

Robustness. The results are robust to a range of specifications. First, the results do not hinge on the particular way we construct our measure of black civil servants. The results hold up using the continuous measure for the likelihood of a civil servant to be black and alternative cut-offs to discretize the measure (Appendix Table AII, columns 2-3). Second, the results are unchanged when we restrict the sample to only uniquely matched individuals (Appendix Table AII, column 4). This ensures that the results are not driven by our census linking approach. Importantly, the results are robust when restricting the sample to a balanced panel (Appendix Table AII, column 5). This ensures that the results are not driven by composition changes arising from differential exit, such as changes induced by the mobilization for World War I or the Great Migration that occurred within our study period.[23] Finally, the effects are unlikely to be driven by correlates of race. Since black Americans in our study period were likely to be predominantly Republican (Logan, 2020), the effects could reflect changes induced by the political turnover that penalized politically misaligned civil servants. Reassuringly, we do not find significant individual-level heterogeneity by party affiliation or whether a civil servant is appointed from the South or not (Appendix Table AIII, columns 2-3).[24] More generally, the results hold when we impose even tighter match criteria by matching black and white civil servants also on the exact job title, birth state and the current city of employment in 1911.[25]

Department-level heterogeneity. While Wilson ordered the segregation measure to be implemented across the entire federal bureaucracy, its adoption was uneven across departments. Figure III summarizes department-specific estimates of the segregation effect, and is consistent with the interpretation that segregation was a policy sanctioned by President Wilson. We focus on departments that are both observed throughout the entire study period (1907-1921) and include a sufficient number of black civil servants in order to estimate the salary gap (more than 50 in each year). As the figure shows, there is substantial cross-departmental heterogeneity: the increase in the earnings gap between black and white civil servants was largest in the Post Office Department, followed by the Government Printing Office (GPO), the Navy, and the Treasury. Consistent with the historical literature, these were departments first to implement segregation (Sosna, 1970; King, 1996).

In contrast, the increase in the earnings gap was much smaller and even statistically indistinguishable from zero in departments such as Agriculture, Commerce and the Labor department.[26] Interestingly, the Department of

---

[23]Note, however, that the negative earnings effects appear already before the U.S. entered World War I and began mobilizing in 1917. Similarly, the bulk of the movements associated with the Great Migration only began after Wilson left office (Boustan, 2010).

[24]We proxy this using the party affiliation of the House representative of the district the civil servant is appointed from.

[25]While the inclusion of additional covariates helps improve the validity of the counterfactual, overmatching comes at a loss of sample size. Reassuringly, however, our preferred matching approach achieves balance on a wide range of covariates not targeted in the coarsened exact matching approach, bolstering the validity of our matching strategy.

[26]The Department of Commerce and Labor became two separate departments in 1913. To ensure comparability over time, we keep the department combined throughout. Since our matching occurs within bureaus, though, this choice does not affect the main results.

Agriculture was known for having initially resisted segregation (King, 1996). Furthermore, the largest increases in the salary gap are evident in departments headed by Cabinet secretaries hailing from the South. This observation is consistent with effects being strongest in those departments where top bureaucrats were most likely to share Wilson's segregationist preferences – also consistent with the historical literature.

4.2 Drivers of the earnings gap: transfers, entry and exit

Having demonstrated a robust effect of Wilson's segregation policy on discrimination within the federal government, we turn to the discussion of mechanisms that may explain this increase in earnings inequality. As a bureaucracy, salaries in our context are tied to positions and seniority, leaving less room for discretionary salary setting than in the private sector.[27] Earnings inequality in the federal bureaucracy is thus likely to be driven by two main channels: (i) the re-allocation of already-serving black civil servants to lower salaried positions, and (ii) the disproportionate entry (exit) of black civil servants to lower (in higher) salaried positions.

Transfers and relative demotions. We conduct a direct test of the quantitative importance of the reallocation channel by measuring how much of our coefficient of interest, $Black_i \times Wilson_t$, changes when we condition on occupation. We implement this test using job title fixed effects, which allow us to compare salary differences between black and white civil servants with the same occupation around Wilson's transition. The results are reported in Table III, columns 1-3. To benchmark the importance of job assignment, column 1 repeats the baseline difference-in-differences estimate (corresponding to Table II, column 2). Column 2 re-estimates Equation 2 with the inclusion of job title fixed effects, thus showing the impact of Wilson's segregation order *netting out* salary differences driven by a person's occupation. While the earnings gap remains even after partialing out average cross-position salary differences, it is now much smaller in magnitude. The reduction in the earnings gap from 8.4 p.p. to 1 p.p. suggests that almost all of the segregation's effect on black-white earnings inequality occurs through the reallocation of black civil servants to job titles and positions that command lower salaries.[28] In column 3, we also include the individual fixed effects. The size of the black-white earnings gap remains small once partialing out salary differences driven by the differential assignment of civil servants to jobs.

Entry and exit. While the increase in the black-white earnings gap among already-serving civil servants is primarily driven by the allocation of black workers to relatively lower paid positions, segregation is likely to also affect the extensive margin. To study whether the patterns of entry differ before and after Wilson's arrival, we now focus on the sample of civil service entrants. We define the entry year of a civil servant as the year

---

[27]In our data, bureau-specific job titles alone explain 69% of the variation in salaries.

[28]This result is robust to more flexible job title fixed effects, such as allowing job title fixed effects to vary by department or time (Appendix Table AIV).

the person is first observed in the Registers. Given the censoring of our data at 1907 – our earliest year – we restrict the sample those who entered between 1909 and 1921. Figure IV, Panel (a) reports the probability of a new entrant to be a black civil servant depending on the entry salary decile around Wilson's transition. The magnitudes reported are relative to the highest decile, which is the omitted category. As the figure shows, black civil servants tend to enter at lower-salaried positions throughout our study period. The disproportionate entry of black civil servants at lower salaries, however, increases further under Wilson. While an entrant in the lowest decile is 13 p.p. more likely to be black prior to Wilson, that relative difference increases by 10 p.p. thereafter. Wilson's term is thus associated with an increased entry of black civil servants at lower paid positions.[29]

Finally, Figure IV, Panel (b) focuses on the exit margin. The figure shows the differential probability of a black civil servant to exit in a given year by the salary decile, broken down by the pre-Wilson and Wilson periods. Throughout our sample period, black civil servants are more likely to exit the higher their salary is: a black civil servant is less likely than their white counterpart to exit at lower salary deciles, but more likely to exit positions at higher deciles. This pattern, however, increases further under Wilson's presidency. The combined evidence thus suggests a reallocation of black civil servants to lower salaried positions on both the intensive and extensive margins: already-serving black civil servants are transferred to lower paid positions; those who serve in higher-salaried positions are also more likely to exit; at the same time, new black entrants are more likely to begin their civil service career at the lowest ranks of the earnings distribution.

4.3 Implications for the (mis)allocation of talent

There are two ways to interpret the large increase in earnings inequality between black and white civil servants under Wilson. One interpretation is that the observed reallocation constitutes an improved allocation of talent. If black civil servants were underqualified to serve in their assigned positions, Wilson's policy may have contributed to a more efficient use of the state personnel. Indeed, as discussed in section 2, part of Wilson's publicly-stated rationale for segregating the bureaucracy was to increase the efficiency of the federal government (Lunardini, 1979). The alternative, competing interpretation is that the increased discrimination arising from the segregation policy exacerbated the misallocation of talent within the bureaucracy.

To probe the misallocation channel further, we assess whether the reduction in black civil servants' earnings was due in part to lower levels of human capital. In other words, did higher-paying positions go to more qualified people after Wilson assumed office? To this end, we test whether Wilson's impact on the racial earnings gap disappears when we compare workers of comparable skill level.

---

[29]These patterns are statistically significant. See Appendix Table AV, columns 1-2 for the corresponding regressions.

A challenge in this setting is that education is not reported in the Registers. We thus rely on external data from the 1940 Decennial Census – the first year in which the Census Bureau collected data on years of schooling – to supplement our primary data.[30] This retrospective approach relies on the assumption that human capital is time-invariant for individuals past schooling age. We link our civil servants observed in 1911 to the 1940 Census using the same matching strategy that we use to infer worker race – matching exactly on full name and birth state.[31] While this approach allows us to obtain measures of human capital, a drawback is that we are only able to collect these measures for civil servants who are still alive or can be matched nearly 30 years later.[32] Despite these challenges, we are able to match 61% of the individuals from the main analysis sample.

For the matched sample, we refine our matching strategy by further matching exactly on years of schooling. Appendix Table AVI shows the balance table. The average years of education for white civil servants serving in 1911 was 10.6 years. Only 8% of the white civil servants completed college; the bulk of the civil servants (70%) only completed elementary school.[33] Even after matching black and white civil servants on department, bureau, salary and experience, black civil servants have, on average, two years less of schooling. We assess if equalizing levels of education by augmenting our matching to include schooling affects our main estimate. If the segregation policy indeed *reduced* misallocation, we would expect the inclusion of human capital measures to substantially reduce the observed black-white earnings gap.

Table III, columns 4-5 report the results. Column 4 is the main estimate based on the subsample of civil servants who could be linked to the 1940 census. The estimated earnings gap is remarkably comparable to the estimate based on the full sample (Table II, column 3), alleviating concerns over sample selectivity. Column 5 refines the coarsened exact matching by also exactly matching on years of education. Even after equalizing education among black and white civil servants, the gap under Wilson remains significant and large. Indeed, human capital differences would account for only a third of the earnings gap, leaving a large portion of the black-white gap unexplained. The earnings gap is thus unlikely to be driven by an improved matching of talent to jobs.

To probe further the allocation of talent under Wilson, Figure V reports the returns to each level of education, relative to no education. In Panel (a), we report the returns to education for black civil servants before and after Wilson assumed office. While higher educated black civil servants tend to be allocated to higher-salaried positions inside the federal bureaucracy, this assortative pattern declines under Wilson's administration. Compared

---

[30]Prior to 1940, the only measure of education available is literacy. Given the positively selected nature of civil servants in our study period, the focus on literacy does not provide sufficient variation to conduct the analysis.

[31]In the case of non-unique matches, we break ties by random draw. This method is likely to attenuate our results by introducing measurement error. As before, our results also hold when restricting the sample to uniquely matched individuals.

[32]Specifically, older civil servants in 1911 or those who changed their names are less likely to be found in 1940.

[33]Schooling systems were developing during the early 20th century (Goldin, 1998). For expositional convenience, we use the IPUMS definition of years of schooling, and categories that correspond to today's schooling levels.

to the pre-Wilson period, returns during Wilson's presidency are lower for black civil servants across each level of education. In contrast, the returns to education for white civil servants increase at each level (Panel (b)), with the returns to education *even increasing* with higher levels of schooling. Table IV corroborates the graphical pattern in regression form. While returns to education increase for white civil servants under Wilson (column 1), this is not the case for black civil servants (column 2). Overall, the relative returns to education decline significantly for black civil servants during Wilson's presidency (column 3).

In Table IV, column 4, we repeat the exercise using another measure of human capital: experience, as measured by the years served in the federal government (measured up to the current year). As a bureaucracy, career progression is strongly determined by seniority. Consistent with the lower returns to education for black civil servants, we find that the returns to tenure also decline significantly for black civil servants during Wilson's term in office (column 4). Taken together, we thus find that the increased salary gap cannot be explained by differences in human capital. Instead, we find that the allocation of talent becomes less assortative under Wilson's presidency, consistent with an increased misallocation of talent induced by the segregation measure.

5 Beyond the Wilson Presidency: Medium and Long-run Effects

5.1 Direct effects on home ownership

The large increase in black-white earnings inequality and continued divergence (Figure II) raise the important question whether the effects of Wilson's segregation measures extended beyond his presidency. Anecdotal evidence suggests that the decision to segregate established a new equilibrium of separation according to the "Color Line" (Sundstrom, 1994). Upon regaining the presidency, the Republican Party distanced itself from the racial liberalism of the Reconstruction period. Newly-elected President Warren Harding stressed in the early days of his administration that "social equality" and "racial amalgamation" posed threats to state efficiency and social harmony (Yellin, 2013). It is thus likely that segregation persisted to some degree beyond 1921.[34]

We thus now turn to considering whether the impact of Wilson's segregation policy also impacted civil servants' long-term wealth accumulation. Large disparities in wealth continue to persist between black and white American families (Charles and Hurst, 2002; Hamilton and Darrity, 2010). Given that wealth can be transferred across generations, differential wealth accumulation in the past could have persistent effects in the longer term. Despite the importance of this channel, there is little research on the extent to which racial wealth differences can

---

[34]Unfortunately, the format of the Register data changes significantly after 1921 (including only the senior-most officials in an attempt to economize printing), preventing us from extending our study beyond 1921.

be traced to discriminatory policies. We provide evidence that federal segregation was one contributor.

To examine whether this shock in workplace discrimination had downstream effects on racial wealth differences, we use data on home ownership. Home ownership is a suitable outcome for a few reasons. First, there is a strong historical association between home ownership and wealth. As such, it is likely that the racial wealth gap derives, at least partially, from the large observed racial differences in housing wealth. Second, home ownership is likely to be closely related to the earned income received over the life cycle (Charles and Hurst, 2002). It is thus reasonable to hypothesize that the effect we identify above may contribute to racial differences in other outcomes. Finally, more practically, home ownership is a census outcome that is consistently available for our time period (Collins and Margo, 2011).

We identify the effect of federal segregation on racial gaps in home ownership by constructing a supplementary longitudinal dataset using census data, which contains owner-occupancy outcomes for our sample of federal civil servants. We match the 1911 Register sample to each decennial census, linking both datasets using the full name and birth state of civil servants. We then find every pairwise match of a 1910 civil servant to another census year between 1900 and 1940. As before, our empirical analysis is based on the comparison of black and white civil servants who worked in the same department and bureau, joined the civil service in the same year, and are paid the same amount under the same contract type.

Table V presents our estimates of how Wilson's discrimination policy affected racial differences in home ownership. The empirical specification follows the main estimating equation (Equation 2), except that the data is no longer biennial but decadal. All regressions are based on the matched sample of civil servants. We first report the average gap in home ownership throughout 1900–1940 (column 1). When comparing these matched civil servants, we do not observe a statistically significant difference in the average home ownership. In column 2, we allow the home ownership gap by race to vary before and after Wilson assumes office. Interestingly, there is now a home ownership gap between black and white civil servants which is entirely driven by the period after Wilson assumed office. While black and white civil servants exhibit comparable home ownership rates in 1900 and 1910, black civil servants are 7.2 p.p. less likely to own a home after Wilson assumed office – a sizeable effect when compared against the mean ownership rate of 39%. Once again, the result remains comparable in terms of statistical significance and magnitude after the inclusion of individual fixed effects (column 3).

We probe the robustness of the result by imposing a yet more restrictive matching criterion – matching additionally on home ownership status in 1910 (column 4) – the last census round prior to Wilson's presidency – as well as home ownership status in 1910 *and* 1900 (column 5). Even conditioning on having the same home occupancy

status in both 1900 and 1910, we find a significant decline in black civil servants' relative likelihood of owning a home in the decades after Wilson imposed segregation. Figure VI demonstrates this effect decade-by-decade. The figure suggests that there was little change in home ownership in the decade prior to Wilson's arrival – if anything, there was slight *convergence*. However, by 1920 a negative racial gap emerges. Moreover, Wilson's impact seems to grow even during the decade *after* he leaves office, before finally leveling off.

An empirical concern in this context is the potential threat of unobserved confounders affecting *all* black Americans in the housing market. Housing markets during the course of the 20th century were greatly shaped by racial discrimination and segregation. Black Americans seeking a home faced various public and private sources of discrimination – for example, through racially restrictive covenants in deeds or steering by real estate agents (Fishback et al., 2020). Given these sources of economy-wide racial disparities, it is possible that the observed effect is not only capturing the segregation policy, but part of an overall trend affecting all black families.

To alleviate this concern, we introduce a control group of black Americans who were *not* affected by Wilson's discriminatory policy: *non*-government workers. This triple-differences strategy allows us to partial out economy-wide confounders that differentially affected all black Americans. To identify a suitable control group of black Americans, we restricted the sample to those with the same occupational score, age, and place of birth employed outside the federal government. The black-white gap in home ownership for non-government workers is shown in Figure VI using the gray dashed line. In contrast to the large decline in the black-white home ownership gap observed in the public sector, the gap in the non-government sector remains flat over the same time period. This suggests that we are indeed capturing the negative effects of Wilson's segregation policy and not aggregate factors that affected black-white home ownership patterns. These results thus provide compelling evidence that the economic effects of Wilson's discriminatory mandate – even if temporary – persisted well beyond his term in office.

5.2   Intergenerational effects on education, earnings and mobility

We now consider how Wilson's policy of state-sanctioned discrimination affected black families' welfare over the long-term. Measuring long-run effects is necessary to understand the full impact of federal policy changes, which may accrue across several decades and across generations of families. There are also strong reasons to believe that discrimination against black government employees may have had not only immediate effects on affected workers, but also downstream effects on their families. By reducing workers' earnings, workplace discrimination may have also reduced the opportunities for black government workers to accumulate wealth

and invest in their children. Limiting the ability of black workers to invest in children's education may have in turn reduced the future earnings potential of young black children. Indeed, research points to early childhood periods as being critical for human development and future economic success (Bailey et al., 2020a; Almond and Currie, 2011). We will thus assess whether discrimination against black workers affected the children's later-life outcomes – including educational attainment and income.

To test if federal segregation contributed to the inter-generational persistence of black-white economic disparities, we must first identify the children of the impacted civil servants. We propose a two-step procedure. First, we identify for each civil servant in the Federal Register of 1911 their children using the 1900 and 1910 census rounds.[35] We define a person to be a child if the person shares the same lastname as the civil servant, is at least 18 years younger, and was living in the same household. In the second step, we link the civil servants *forward* to the 1940 Decennial Census.[36] To implement the linking of children across census rounds, we implement the method of Abramitzky et al. (2019).[37] This approach is a fully automated way of linking historical datasets by first name, last name and age. Since the last name will be a key linking variable between the 1910 and 1940 census rounds, the sample is restricted to male offspring of civil servants due to the prevailing norm of female name changes following marriage during our study period.

To estimate the intergenerational effects of Wilson's segregation policy, we exploit variation in the age of the civil servants' children in 1913. When Wilson assumed office in that year, some children were still young, in schooling age and co-habiting with their civil servant parents; other children were already old, completed schooling and working. In the presence of credit frictions and imperfect insurance through family networks, it is likely that young children will be more exposed to the adverse shock from the segregation policy than older children who no longer live with their parents. This allows us to implement a difference-in-differences design, comparing the black-white earnings gap across young and old children in 1940. For the cross-sectional outcome y_i of child i, we estimate the following regression:

$$y_i = \alpha \times Black_i + \beta \times Young_i \times Black_i + \tau_{K(i)} + \theta_{S(i)} + \varepsilon_i \qquad (3)$$

where $Black_i$ is a dummy that is 1 if the child's parent is a black civil servant, and 0 otherwise (see Equation 1). $Young_i$ is a dummy that is 1 if the child was sufficiently young in 1913 (and living with their parents, thus *directly exposed* to Wilson's segregation order) and 0 if the child was already old (and no longer living with

---

[35]Using the 1900 census in addition to 1910 ensures that we are also able to identify older children who have already left the civil servants' household by the time Wilson assumed office.

[36]This is the earliest round for which we have education and earnings data in the Decennial Census.

[37]We use the cross-walks made available by the Census Linking Project (https://censuslinkingproject.org/).

their parents, thus *not exposed*). To provide a stark comparison and avoid overlap in partially exposed children, the analysis sample excludes children aged 13–21 in 1913. A child is thus defined as young if aged 3–12 in 1913, and old if aged 22–31 in 1913. The key parameter of interest is β, capturing a differential change in the black-white earnings gap among children who were young when Wilson assumed office (and thus exposed to the segregation measure) and those who were already older (and thus not exposed). $\tau_{K(i)}$ are age fixed effects and $\theta_{S(i)}$ are state fixed effects. We cluster the standard errors at the civil servant parent-level.

Once again, a key empirical challenge is disentangling cohort-specific trends in the black-white earnings gap from economy-wide trends. The first half of the 20th century was a period in which segregation was rampant in many domains, such as schooling, transit, and public accommodations (and particularly so in the South). Discrimination in education and health access thus likely affected all black children. To net out these economy-wide effects that differentially affect black children, we once again complement the main specification of Equation 3 with a triple-differences using the change in the black-white outcome gap among young vs. old in the *non-government* sector as a control group. A disproportionate negative effect on the young, exposed black children in the public sector would bolster an interpretation consistent with intergenerational effects.

Table VI reports the results. In column 1, we first report the change in the black-white educational attainment for children of civil servants who were young vs. old in the year Wilson assumed office. When comparing among those who were already old in 1913, children of black civil servants have on average 1.1 fewer years of education than their white counterparts. The gap remains statistically similar when comparing children who were still young in 1913, if anything opening up slightly more. In column 2, we produce the same black-white education gap for the control group of non-government individuals of comparable age and socioeconomic background.[38] Interestingly, the black-white education gap is even larger for older children (reflecting the positively selected nature of black civil servants in the public sector), with black individuals reporting 2.6 fewer years of education. Importantly, and in contrast to the federal government sample, that gap *closes* by 1.1 years for the young cohorts. While the economy-wide outcome gap between black and white individuals in the non-government sector has been converging across cohorts, the same gap in the federal government has in fact remained stagnant, if anything further opening up among younger children of black civil servants. To the extent that this differential effect across the federal and non-government sector is attributable to Wilson's segregation policy, the result would suggest a significant negative intergenerational effect on educational attainment. Pooling the federal and non-government sample (column 3), the triple differences estimate suggests a relative decline by 1.5 years – a sizeable and economically meaningful effect.

---

[38]For computational ease, the results are based on the publicly available IPUMS random sample.

Given the negative intergenerational effects on human capital accumulation, we also test whether there exists differences in labor market outcomes. When restricting the sample to wage-earning individuals, we find a negative relative decline in the earnings in the triple differences (column 4). While the black-white earnings gap has been closing across cohorts in the non-government sector, the same gap in the federal sector saw a relative decline by 40%. This effect is large, corresponding to a relative decline in the overall earnings distribution by 9.3 p.p. (column 5). Taken together, the results thus provide suggestive evidence for large negative intergenerational effects of Wilson's policy on the earnings of children of black civil servants. The decline is accompanied by a similar drop in the educational outcomes, consistent with lower human capital investments as a channel through which exposure to the adverse economic shock under Wilson had scarring effects.

6 Conclusion

Outcome gaps by race and gender remain a persistent feature across the globe and in the United States. A growing literature documents the role of such inequalities in shaping the political economy of public good provision and economic performance (Alesina et al., 1999; Alesina and La Ferrara, 2005; Hsieh et al., 2019). While many countries have enacted a wide range of policies aimed at ameliorating existing inequalities, much controversy still remains over how far such policies should go. Some argue that racial discrimination is no longer a relevant driver of racial economic gaps in income and wealth, and that the path to "leveling the playing field" lies in addressing margins such as racial differences in skill (Fryer, 2011). Other research suggests that more activist policies, such as affirmative action programs, are appropriate (Bleemer, 2020). Such findings provide support for policies that acknowledge differences in starting conditions. While the theoretical case for corrective policy hinges in part on the extent to which past discrimination affects outcomes across generations, empirical evidence for such persistence remains relatively scarce.

In this paper, we make progress by documenting both the short and long-run effects of a unique episode of state-sanctioned discrimination: the segregation of the *entire* federal civil service under President Woodrow Wilson. This historical context is particularly suitable for the study of the persistence of inequality: at the beginning of the 20th century, public sector employment was a major engine of social mobility for black civil servants; the segregation policy induced a sharp increase in racial discrimination that allows us to trace out the effects for a particularly important subset of black individuals – the emerging black middle class.

Underpinning our study is a large-scale digitization effort of historical personnel records. Tapping into the rich Federal Registers allows us to overcome existing data limitations, enabling us to construct careful counterfactu-

als and implement a matched difference-in-differences, comparing the outcome gaps for black and white civil servants around Wilson's presidential transition. The availability of rich and high-frequency personnel data also allows us to shed light on the mechanisms and trace out the dynamic impact of the segregation policy. By linking the personnel records to census data, we can even go beyond and shed light on long-term outcomes not only for the affected civil servants, but also their offspring.

Our results provide evidence for substantial costs of President Wilson's segregation policy. Documenting these impacts systematically is not only important for guiding theory, but also speaks to the historical debate on employment segregation (Higgs, 1977; Sundstrom, 1994). Wilson argued that by separating groups by race, he was helping black Americans, "rendering them more safe in their possession of office and less likely to be discriminated against."[39] Our results are inconsistent with this interpretation, and document a policy of "separate but *un*equal." Black civil servants experienced substantial declines in their earnings of 8 p.p. over Wilson's presidency, driven largely by transfers to lower paying positions. The policy also affected the extensive margin, with black Americans less likely to enter and remain in higher paying, senior-level positions. Strikingly, we find that the reallocation patterns cannot be explained by an improved matching of talent to positions, instead documenting evidence consistent with an increase in talent misallocation within the American bureaucracy.

Importantly, we also document long-term scarring effects of episodes of severe discrimination. While Woodrow Wilson left office in 1921, we find that black civil servants exposed to the segregation policy are less likely to accumulate housing wealth decades later. We also find suggestive evidence for negative intergenerational effects. While racial outcome gaps have been converging between old vs. young children in the private sector, the same outcome gap has stagnated and – if anything – increased for children of federal civil servants exposed to the segregation policy: children of exposed black civil servants have lower earnings than comparable children in the private sector in 1940; we also find that they have lower levels of education, thus highlighting schooling as a mechanism of intergenerational persistence. As such, our combined results speak directly to theories of intergenerational mobility and discrimination. In our particular context, the results on persistence suggest that eliminating contemporaneous discrimination alone may be insufficient to fully close the persistent outcome gap between black and white Americans.

---

[39]Correspondence to the NAACP, July 23-September 8, 1913. See Israel and McInerney (2013), p. 191.

References

ABRAMITZKY, R., L. P. BOUSTAN, K. ERIKSSON, J. J. FEIGENBAUM, AND S. PÉREZ (2019): "Automated Linking of Historical Data," Working Paper 25825, National Bureau of Economic Research.

AKTHARI, M., D. MOREIRA, AND L. TRUCCO (2019): "Political Turnover, Bureaucratic Turnover, and the Quality of Public Services," *mimeo*.

ALESINA, A., R. BAQIR, AND W. EASTERLY (1999): "Public Goods and Ethnic Divisions," *Quarterly Journal of Economics*, 114, 1243–1284.

ALESINA, A. AND E. LA FERRARA (2005): "Ethnic Diversity and Economic Performance," *Journal of Economic Literature*, 43, 762–800.

ALMOND, D. AND J. CURRIE (2011): "Killing Me Softly: The Fetal Origins Hypothesis," *Journal of Economic Perspectives*, 25, 153–72.

ANEJA, A. AND C. AVANCIOS-LEON (2020): "The Effect of Political Power on Labor Market Inequality: Evidence from the 1965 Voting Rights Act," *mimeo*.

AZOULAY, P., C. FONS-ROSEN, AND J. S. GRAFF ZIVIN (2019): "Does Science Advance One Funeral at a Time?" *American Economic Review*, 109, 2889–2920.

BAGDE, S., D. EPPLE, AND L. TAYLOR (2016): "Does Affirmative Action Work? Caste, Gender, College Quality, and Academic Success in India," *American Economic Review*, 106, 1495–1521.

BAILEY, M., T. HELGERMAN, AND B. STUART (2021): "The Effect of the 1963 Equal Pay Act on the Gender Gap," *mimeo*.

BAILEY, M., H. HOYNES, M. ROSSIN-SLATER, AND W. R. WALKER (2020a): "Is the Social Safety Net a Long-Term Investment? Large-Scale Evidence from the Food Stamps Program," Working Paper 26941, National Bureau of Economic Research.

BAILEY, M. J., J. DINARDO, AND B. A. STUART (2020b): "The Economic Impact of a High National Minimum Wage: Evidence from the 1966 Fair Labor Standards Act," Working Paper 26926, National Bureau of Economic Research.

BLEEMER, Z. (2020): "Affirmative Action, Mismatch, and Economic Mobility after California's Proposition 209," *mimeo*.

BLOOME, D. (2014): "Racial Inequality Trends and the Intergenerational Persistence of Income and Family Structure," *American Sociological Review*, 79, 1196–1225.

BOUSTAN, L. P. (2009): "Competition in the Promised Land: Black Migration and Racial Wage Convergence in the North , 1940-1970," *Journal of Economic History*, 69, 755–782.

——— (2010): "Was Postwar Suburbanization "White Flight"? Evidence from the Black Migration*," *The Quarterly Journal of Economics*, 125, 417–443.

CARD, D. AND A. KRUEGER (1992): "School Quality and Black-White Relative Earnings: A Direct Assessment," *Quarterly Journal of Economics*, 107, 151–200.

CARRUTHERS, C. K. AND M. H. WANAMAKER (2017): "Separate and Unequal in the Labor Market: Human Capital and the Jim Crow Wage Gap," *Journal of Labor Economics*, 35, 655–696.

CASCIO, E. U. AND E. WASHINGTON (2013): " Valuing the Vote: The Redistribution of Voting Rights and State Funds following the Voting Rights Act of 1965 ," *The Quarterly Journal of Economics*, 129, 379–433.

CELL, J. (1982): *The Highest Stage of White Supremacy*, Cambridge University Press.

CHARLES, K. K. AND E. HURST (2002): "The Transition to Home Ownership and the Black-White Wealth Gap ," *Review of Economics and Statistics*, 37, 281–297.

CHATTOPADHYAY, R. AND E. DUFLO (2004): "Women as Policy Makers: Evidence from a Randomized Policy Experiment in India," *Econometrica*, 72, 1409–1443.

CHAY, K. (1998): "The Impact of Federal Civil Rights Policy on Black Economic Progress: Evidence from the Equal Employment Opportunity Act of 1972," *Industrial and Labor Relations Review*, 51, 608–632.

CHILTON, A. S. AND M. VESTEEG (2016): "Do Constitutional Rights Make a Difference?" *American Journal of Political Science*, 60, 575–589.

COLLINS, W. J. (2003): "The Labor Market Impact of State-Level Anti-Discrimination Laws," *Industrial and Labor Relations Review*, 56, 244–272.

COLLINS, W. J. AND R. A. MARGO (2011): "Race and Home Ownership from the End of the Civil War to the Present," *American Economic Review*, 101, 355–359.

COLLINS, W. J. AND M. H. WANAMAKER (2017): "African American Intergenerational Economic Mobility Since 1880," Working Paper 23395, National Bureau of Economic Research.

COLONNELLI, E., M. PREM, AND E. TESO (2020): "Patronage and Selection in Public Sector Organizations," *American Economic Review*, 110, 3071–99.

COOK, L., T. D. LOGAN, AND J. M. PARMAN (2016): "The Mortality Consequences of Distinctively Black Names," *Explorations in Economic History2*, 59, 114–125.

DARITY, WILLIAM A. MYERS, S. L. (1998): *Persistent Disparities: Race and Economic Inequality in the United States Since 1945*, New York: Edward Elgar.

DERENONCOURT, E. (2019): "Can you move to opportunity? Evidence from the Great Migration," *mimeo*.

DERENONCOURT, E. AND C. MONTIALOUX (2020): "Minimum Wages and Racial Inequality," *The Quarterly*

Journal of Economics, 136, 169–228.

DEWEY, D. (1952): "Negro Employment in Southern Industry," *Journal of Policy Economy*, 60, 279–293.

DONOHUE, J. J. AND J. HECKMAN (1991): "Continuous Versus Episodic Change: The Impact of Civil Rights Policy on the Economic Status of Blacks," *Journal of Economic Literature*, 29, 1603–1643.

FARBER, H., D. HERBST, I. KUZIEMKO, AND S. NAIDU (2018): "Unions and Inequality over the Twentieth Century: New Evidence from Survey Data," *mimeo*.

FISHBACK, P. (1989): "Can Competition among Employers Reduce Governmental Discrimination? Coal Companies and Segregated Schools in West Virginia in the Early 1900s," *Journal of Law and Economics*, 32, 311–328.

FISHBACK, P. V., J. LaVOICE, A. SHERTZER, AND R. WALSH (2020): "Race, Risk, and the Emergence of Federal Redlining," NBER Working Papers 28146, National Bureau of Economic Research.

FRYER, R. G. (2011): "Racial Inequality in the 21st Century: The Declining Significance of Discrimination," in *Handbook of Labor Economics*, vol. 4, 855–971.

GIL, R. AND J. MARION (2018): "Residential segregation, Discrimination, and African-American Theater Entry During Jim Crow," *Journal of Urban Economics*, 108, 18–35.

GOLDIN, C. (1998): "America's Graduation from High School: The Evolution and Spread of Secondary Schooling in the Twentieth Century," *Journal of Economic History*, 58, 345–73.

HAMILTON, D. AND W. DARRITY (2010): "Can 'Baby Bonds' Eliminate the Racial Wealth Gap in Putative Post-racial America? ," *Review of Black Political Economy*, 37, 207–216.

HIGGS, R. (1977): "Firm-specific Evidence on Racial Wage Differentials and Workforce Segregation." *American Economic Review*, 67, 236–245.

——— (1982): "Accumulation of property by Southern blacks before World War I," *American Economic Review*, 72, 725–737.

HORNBECK, R. AND S. NAIDU (2014): "When the Levee Breaks: Black Migration and Economic Development in the American South," *American Economic Review*, 104, 963–90.

HSIEH, C.-T., E. HURST, C. I. JONES, AND P. J. KLENOW (2019): "The Allocation of Talent and U.S. Economic Growth," *Econometrica*, 87, 1439–1474.

HUBER, K., V. LINDENTHAL, AND F. WALDINGER (2020): "Discrimination, Managers, and Firm Performance: Evidence from "Aryanizations" in Nazi Germany," *mimeo*.

IACUS, S. M., G. KING, AND G. PORRO (2012): "Causal inference without balance checking: Coarsened exact matching," *Political analysis*, 1–24.

ISRAEL, F. AND T. MCINERNEY (2013): *Presidential Documents: The Speeches, Proclamations, and Politics That Have Shaped the Nation from Washington to Clinton*, Routledge.

IYER, L. AND A. MANI (2012): "Traveling Agents: Political Change and Bureaucratic Turnover in India," *Review of Economics and Statistics*, 94, 723–739.

JOHNSON, R. (2011): "Long-run Impacts of School Desegregation School Quality on Adult Attainments," Working Paper 16664, National Bureau of Economic Research.

KING, D. (1995): *Separate and Unequal: Black Americans and the US Federal Government*, Clarendon Press.

——— (1996): "The Segregated State? Black Americans and the Federal Government," *Governance*, 3, 65–92.

KRISLOV, S. (1967): *Negro in Federal Employment: The Quest for Equal Opportunity*, Minneapolis: University of Minnesota Press.

LOGAN, T. (2020): "Do Black Politicians Matter? Evidence from Reconstruction," *Journal of Economic History*, 80, 1–37.

LUNARDINI, C. A. . (1979): "Standing Firm: William Monroe Trotter's Meetings With Woodrow Wilson," *Journal of Negro History*, 64, 244–264.

LUNDBERG, S. AND R. STARTZ (1998): "On the Persistence of Racial Inequality," *Journal of Labor Economics*, 16, 292 – 323.

MACLAURY, J. (2014): *To Advance Their Opportunities: Federal Policies Toward African American Workers from World War I to the Civil Rights Act of 1964*, Knoxville.

MARGO, R. A. (1984): "Accumulation of Property by Southern Blacks before World War One: Comment and Further Evidence," *American Economic Review*, 74, 768–776.

——— (1990): *Race and Schooling in the South, 1880–1950: An Economic History*, Chicago: University of Chicago Press.

MILLER, C. (2017): "The Persistent Effect of Temporary Affirmative Action," *American Economic Journal: Applied Economics*, 9, 152–90.

MINKLER, L. AND N. PRAKASH (2017): "The Role of Constitutions on Poverty : A Cross-national Investigation," *Journal of Comparative Economics*, 45, 563–581.

MOREIRA, D. AND S. PEREZ (2020): "Civil Service Reform and Organizational Practices: Evidence from the 1883 Pendleton Act," *mimeo*.

NAIDU, S. (2012): "Suffrage, Schooling, and Sorting in the Post-Bellum U.S. South," 1–60.

PANDE, R. (2003): "Can Mandated Political Representation Increase Policy Influence for Disadvantaged Minorities? Theory and Evidence from India," *American Economic Review*, 93, 1132–1151.

ROBACK, J. (1986): "Southern Labor Law in the Jim Crow Era: Exploitative or Competitive?" *University of Chicago Law Review*, 51, 1161–1192.

SACERDOTE, B. (2005): "Slavery and the Intergenerational Transmission of Human Capital," *The Review of Economics and Statistics*, 87, 217–234.

SARSONS, H. (2020): "Interpreting Signals in the Labor Market: Evidence from Medical Referrals," *mimeo*.

SCHEIBER, J. L. AND H. N. SCHEIBER (1969): "The Wilson Administration and the Wartime Mobilization of Black Americans, 1917 – 18," *Labor History*, 10.

SMITH, J. (1984): "Race and Human Capital," *American Economic Review*, 74, 685–698.

SMITH, J. AND F. WELCH (1989): "Black Progress After Myrdal," *Journal of Economic Literature*, 27, 519–564.

SOSNA, M. (1970): "The South in the Saddle: Racial Politics during the Wilson Years," *Wisconsin Magazine of History*, 54, 30–49.

SUNDSTROM, W. A. (1994): "Color Line: Racial Norms and Discrimination in Urban Labor Markets, 1910–1950," *Journal of Economic History*, 54, 382–396.

——— (2007): "The Geography of Wage Discrimination in the pre–Civil Rights South," *Journal of Economic History*, 67, 410–444.

WEISS, N. (1969): "The Negro and the New Freedom: Fighting Wilsonian Segregation," *Political Science Quarterly*, 84, 61–79.

WHATLEY, W. AND WRIGHT (1994): "Race, Human Capital, and Labor Markets in American history," in *Labour Market Evolution : The Economic History of Market Integration, Wage Flexibility and the Employment Relation*, ed. by G. Grantham and M. MacKinnon, Taylor & Francis, 270–300.

WOODWARD, C. V. (1955): *The Strange Career of Jim Crow*, New York: Oxford University Press.

XU, G. (2018): "The Costs of Patronage: Evidence from the British Empire," *American Economic Review*, 108, 3170–3198.

YELLIN, E. (2013): *Racism in the Nation's Service: Government Workers and the Color Line in Woodrow Wilson's America*, University of North Carolina Press.

Figures and Tables

Figure I: Example of matching strategy – John A. Davis vs. Willard A. Pollard
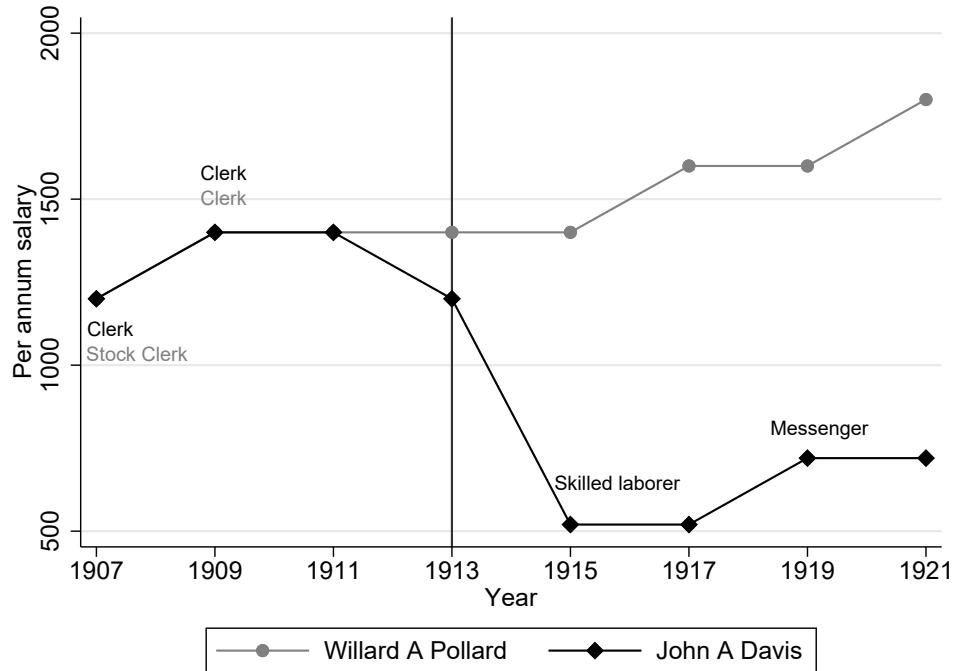
Notes: The figure illustrates the matching strategy for the case of John A. Davis (black civil servant) and Willard A. Pollard (white civil servant). The career progression shown for both civil servants is based on actual data on salaries and job titles from the Federal Registers. The solid line marks the year of Wilson's inauguration and implementation of the segregation order.

Figure II: Racial earnings gap around Woodrow Wilson's Presidency
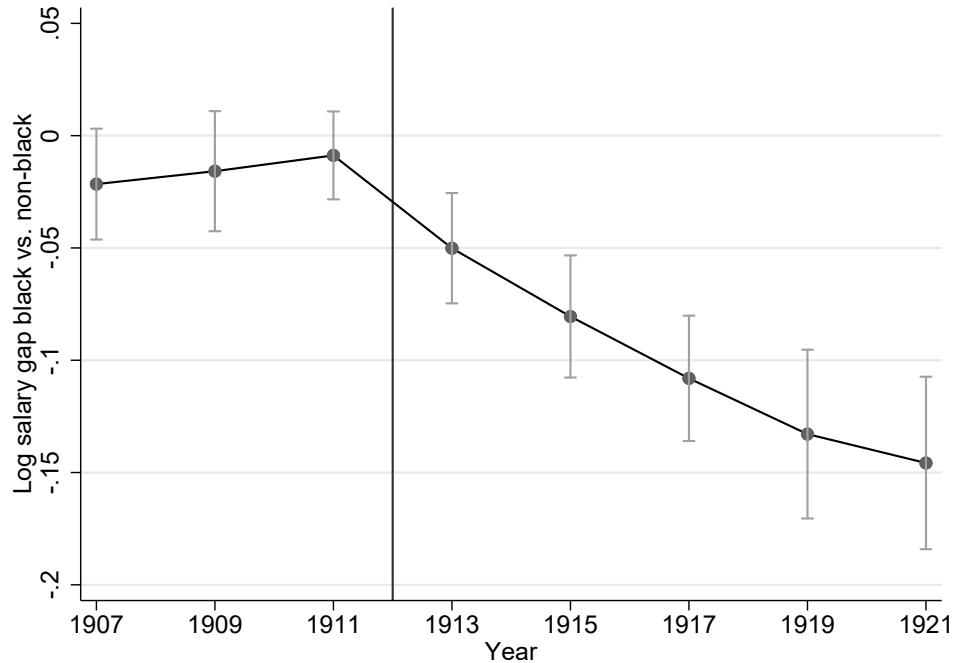
Notes: The figure shows the estimated black vs. white wage gap for the matched sample of civil servants from the Federal Registers (matched based on sex, the 1911 department, bureau, seniority, and salary), conditional on year FEs (Table II, column 3). The solid line marks the year of Wilson's inauguration and implementation of the segregation order. The 95% confidence intervals are based on standard errors clustered at the individual-level.

Figure III: Change of the racial earnings gap under Woodrow Wilson by department
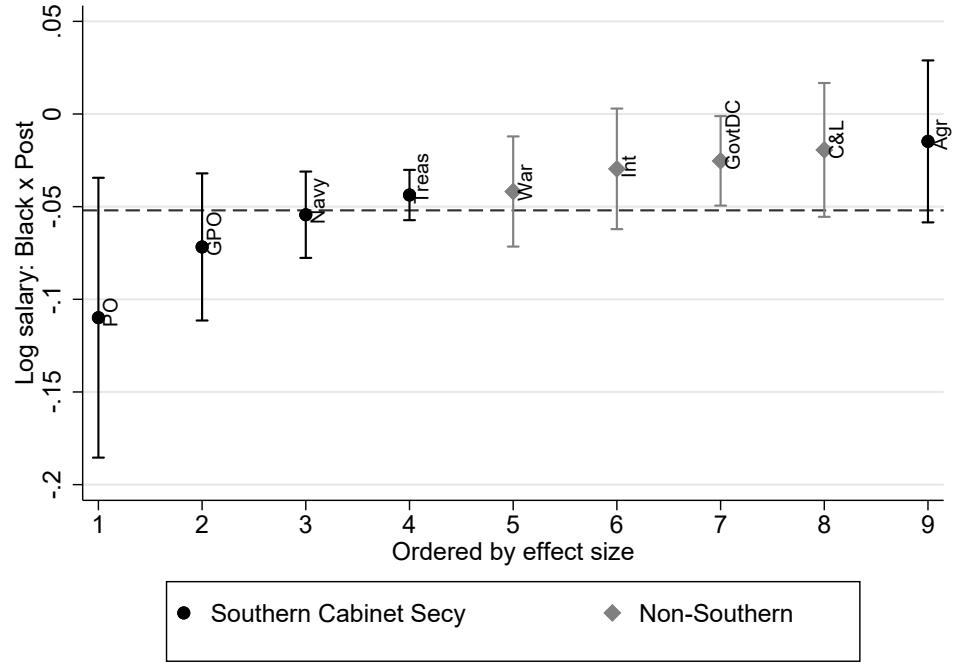
Notes: The figure illustrates the heterogeneity of $Black_i \times Post_t$ (Table II, column 3), by department. We exclude departments with less than 50 black civil servants in any given year, as well as departments not observed throughout the entire sample period (1907-1921). The estimates shown in black font are for departments with Cabinet secretaries from southern states, while those in gray font are for departments headed by Cabinet secretaries from northern states. The horizontal dashed line indicates the aggregate (pooled) effect size. The 95% confidence intervals are based on standard errors clustered at the individual-level.

Figure IV: Entry and exit of black civil servants by earnings decile around Woodrow Wilson's Presidency

(a) Intensive margin – already serving

(b) Extensive margin – new entrants
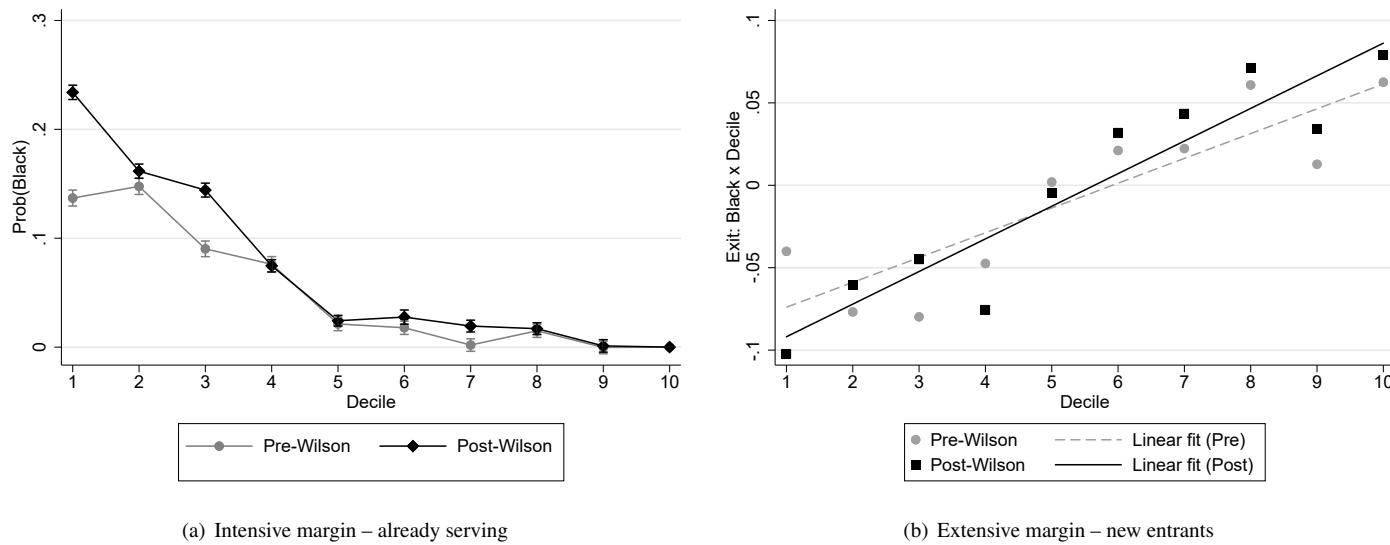
Notes: Left panel (a): The estimates are based on the full sample of entrants (defined by the year a civil servant is observed the first time). The omitted baseline category is the highest earnings decile. Right panel (b): The estimates show the differential exit of black (vs. white) civil servants by earnings decile before and after Wilson's inauguration and implementation of the segregation order. The sample comprises all serving civil servants. The regression versions are reported in Appendix Table AV.

Figure V: Returns to education by race before and after Woodrow Wilson's Presidency

(a) Black civil servants

(b) White civil servants
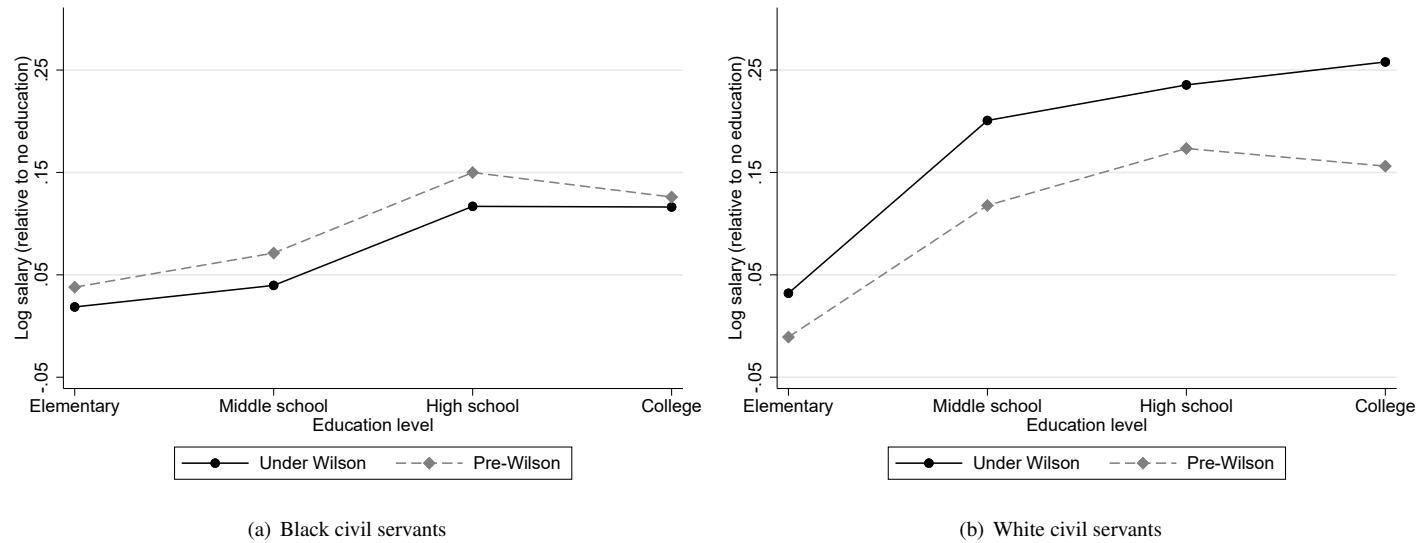
Notes: The figure shows the returns to education for 3-7 years of schooling (elementary), 8-10 years (middle school), 11-14 years (high school) and ≥ 15 (college) by race, before and after Woodrow Wilson's inauguration and implementation of the segregation order. The omitted category is no completed education (0-2 years). Left panel (a): Black civil servants. Right panel (b): Non-black civil servants. The sample is restricted to civil servants serving in 1911 who could be linked forward to the 1940 census.

Figure VI: Home ownership gap by race, before and after Woodrow Wilson's Presidency
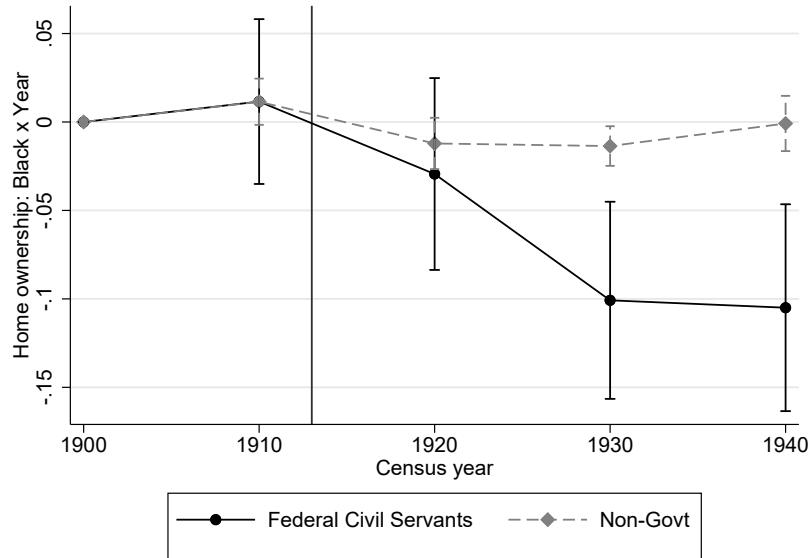
Notes: The figure shows the home ownership gap between black and white civil servants around Woodrow Wilson's inauguration and implementation of the segregation order (Table V, column 5). The dashed line shows the same gap for the general census population with the same age, sex, occupational score and state of residence (IPUMS sample). The solid line marks the year of Wilson's inauguration and implementation of the segregation order. The 95% confidence intervals are based on standard errors clustered at the individual-level.

Table I: Descriptive statistics of civil servants – full sample vs. matched sample

	(1)	(2)	(3)	(4)
	Non-black		Diff Black - Non-black	
	Mean	SD	Raw	Matched
Female	0.147	0.354	0.050***	0.003
			(0.004)	(0.007)
Log(salary)	6.882	0.665	-0.373***	-0.008
			(0.008)	(0.009)
Earliest year	1911.82	5.077	0.269***	0.035
			(0.021)	(0.028)
Paid per annum	0.533	0.498	-0.040***	0.002
			(0.006)	(0.008)
Paid per month	0.103	0.304	-0.012***	-0.002
			(0.004)	(0.005)
Sample	Full sample		Serving 1911	
Observations	614,074		73,596	48,384

Notes: The unit of observation is an individual-year, and the time period is 1907-1921. The matched sample (column 4) is based on matching on sex, department, bureau, salary, seniority (earliest year of service), and the type of pay (e.g. per annum, per month etc.) in 1911. Robust standard errors. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table II: Impact of Woodrow Wilson's segregation regime on the racial earnings gap

	(1)	(2)	(3)	(4)	(5)
		Log annual salary		Full-time	Salary pctile
Mean of dep. var	6.782	6.782	6.797	0.548	49.91
Black	-0.059***	-0.013			
	(0.009)	(0.009)			
Black × Wilson		-0.084***	-0.039***	-0.024***	-3.348***
		(0.009)	(0.008)	(0.007)	(0.308)
Year FEs	Y	Y	Y	Y	Y
Individual FEs			Y	Y	Y
Observations	206,007	206,007	198,073	198,073	198,073

Notes: The table presents regression estimates of the impact of Wilson's segregation policy on the racial earnings gap within the federal government. The unit of observation is the individual-year. The sample includes all civil servants that were matched and serving in 1911, covering their careers between 1907-1921. Black is a dummy that is 1 if the civil servant is predicted to be black. Wilson is a dummy that is 1 for 1913 and after. In column 5, the dependent variable is the percentile corresponding to the wage of the civil servant. All salaries are annualized. The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table III: Decomposition – Drivers of the increasing racial earnings gap

	(1)	(2)	(3)	(4)	(5)
			Log annual salary		
Mean of dep. var	6.782	6.782	6.797	6.695	6.695
Black	-0.013	-0.007			
	(0.009)	(0.006)			
Black × Wilson	-0.084***	-0.010	-0.014**	-0.046***	-0.030***
	(0.009)	(0.006)	(0.006)	(0.012)	(0.011)
CEM			Baseline		Match HC
Year FEs	Y	Y	Y	Y	Y
Job title FEs		Y	Y		
Individual FEs			Y		Y
Sample		Full sample		HC sample	
Observations	206,007	205,578	197,627	50,203	50,203

Notes: The table shows regression estimates of the impact of Wilson's segregation policy on the racial earnings gap within the federal government. The unit of observation is the individual-year. Black is a dummy that is 1 if the civil servant is predicted to be black. Wilson is a dummy that is 1 for 1913 and after. The sample in columns 1-3 includes all civil servants that were matched and serving in 1911, covering their careers between 1907-1921. In columns 4-5, the sample is restricted to those who could also be linked to the 1940 census to obtain human capital (HC) measures. Column 5 augments the coarsened-exact-match by also matching on years of education. All salaries are annualized. The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table IV: Returns to education by race, around Woodrow Wilson's Presidency

	(1)	(2)	(3)	(4)
	Log annual salary			
Mean of dep. var	6.824	6.537	6.783	6.782
HC measure	0.024***	0.019***	0.024***	0.097***
	(0.002)	(0.002)	(0.002)	(0.003)
HC measure × Wilson	0.004**	-0.003	0.004**	-0.053***
	(0.002)	(0.002)	(0.002)	(0.003)
Black			0.069**	-0.010
			(0.028)	(0.010)
Black × Wilson			-0.014	-0.022
			(0.027)	(0.019)
HC measure × Black			-0.005*	-0.001
			(0.003)	(0.003)
HC measure × Black × Wilson			-0.007***	-0.007**
			(0.003)	(0.003)
HC measure	Years of education			Tenure
Year FEs	Y	Y	Y	Y
HC measure + HC measure × Black			0.018***	0.096***
			(0.002)	(0.002)
Sample	White	Black	Full sample	
Observations	110,182	18,426	128,608	206,007

Notes: The table shows regression estimates of the impact of Wilson's segregation policy on the racial earnings gap within the federal government, broken down by measures of human capital. The unit of observation is the individual-year. Black is a dummy that is 1 if the civil servant is predicted to be black. Wilson is a dummy that is 1 for 1913 and after. The sample includes all civil servants for whom human capital measures are available and serving in 1911, covering their careers between 1907-1921. In columns 1-3, the human capital measure is the years of education. In column 4, the human capital measure is the years of tenure, as measured by the years since the civil servant is first observed in the data. All salaries are annualized. The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table V: Home ownership gap by race, around Woodrow Wilson's Presidency

	(1)	(2)	(3)	(4)	(5)
	Probability of home ownership				
Mean of dep. var	0.388	0.388	0.388	0.388	0.388
Black	-0.015	0.021			
	(0.013)	(0.017)			
Black $\times$ Wilson		-0.072***	-0.075***	-0.083***	-0.069***
		(0.021)	(0.022)	(0.021)	(0.019)
Census year FEs	Y	Y	Y	Y	Y
Individual FEs			Y	Y	Y
CEM		Baseline		Match home ownership	
				1910	1900/1910
Observations	12,746	12,746	12,746	12,693	12,746

Notes: The table shows regression estimates of the impact of Wilson's segregation policy on the racial earnings gap in home ownership. The unit of observation is the individual-year. Black is a dummy that is 1 if the civil servant is predicted to be black. Wilson is a dummy that is 1 for 1913 and after. The sample includes all civil servants who could be linked to the census rounds of 1900 to 1940. The dependent variable is the probability of an individual in the census sharing the same full name and birth state of a given civil servant to report owning a home. Columns 1-3 report the estimates using the baseline match (based on matching the sex, department, bureau, salary, seniority (earliest year of service) and type of pay (e.g. per annum, per month etc.). In column 4, individuals are also matched based on home ownership status in 1910. Columns 5 further refines the coarsened-exact-match by including home ownership status in 1900. The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table VI: Intergenerational effects on years of completed education and earnings

	(1)	(2)	(3)	(4)	(5)
	Years of education			Log salary	Percentile
Mean of dep. var	12.17	15.99	15.89	3.154	0.612
Black	-1.107*	-2.594***	-2.585***	-0.608***	-0.165***
	(0.640)	(0.121)	(0.121)	(0.020)	(0.006)
Young × Black	-0.184	1.126***	1.125***	0.074***	0.006
	(0.689)	(0.137)	(0.137)	(0.022)	(0.007)
Federal govt			-4.629***	0.127**	0.053***
			(0.214)	(0.054)	(0.016)
Young × Federal govt			0.699***	0.027	-0.005
			(0.269)	(0.059)	(0.018)
Black × Federal govt			1.374**	0.517***	0.138***
			(0.620)	(0.129)	(0.038)
Young × Black × Federal govt			-1.499**	-0.390***	-0.093**
			(0.691)	(0.138)	(0.041)
Age FEs	Y	Y	Y	Y	Y
State FEs	Y	Y	Y	Y	Y
Sample	Govt	Non-Govt	Pooled sample		
Observations	3,334	126,878	130,212	88,318	88,318

Notes: The table shows regression estimates of the impact of Wilson's segregation policy on the racial earnings gap for the children of black and white civil servants in 1940. The unit of observation is the individual-year. Black is a dummy that is 1 if the parent was predicted to be a black civil servant. Wilson is a dummy that is 1 for 1913 and after. Federal govt is a dummy that is 1 if the parent was a federal civil servant and 0 if the parent was employed in the private sector but of comparable age and occupational income score. In columns 1-3, the dependent variable is the years of education; in column 4, the dependent variable is the log annual salary; column 5 reports the percentile corresponding to the earned annual salary. The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Appendix

Figure AI: Distribution of occupational earnings score in 1910 by race and sector
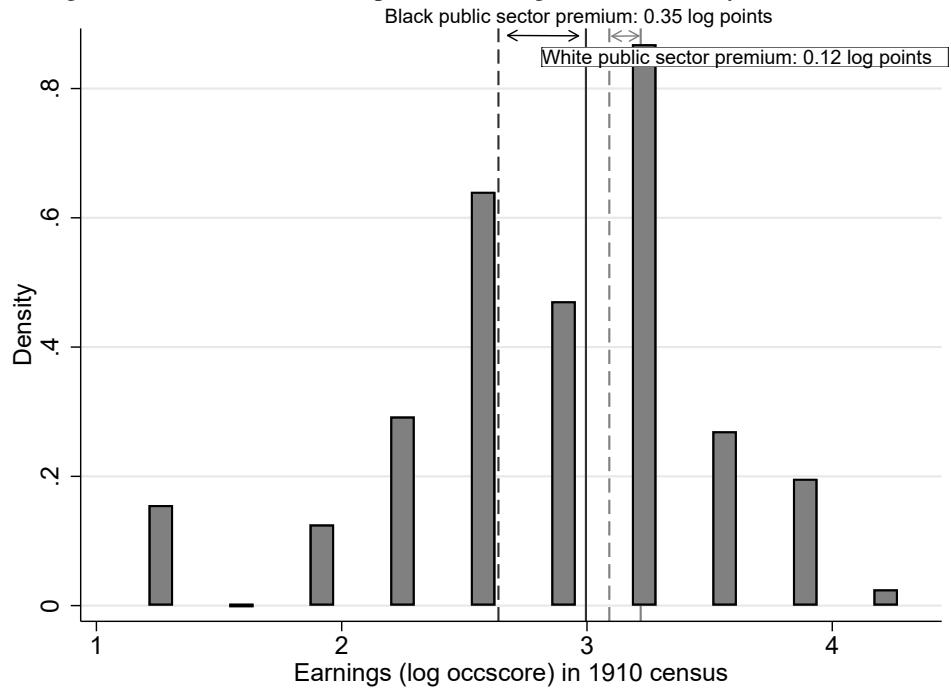
Notes: The figure shows the distribution of the (log) occupational income scores from the 1910 census (IPUMS sample). The sample is restricted to all working individuals aged 18-55. The vertical lines show the mean income scores for black and white individuals by sector. The dashed lines show the private sector means, and the solid lines show the public sector means.

Figure AII: Sample of the Federal Registers 1913

Davis   DIRECTORY.   **Davis**

(275)

Figure AIII: Black-white earnings gap in the decennial census
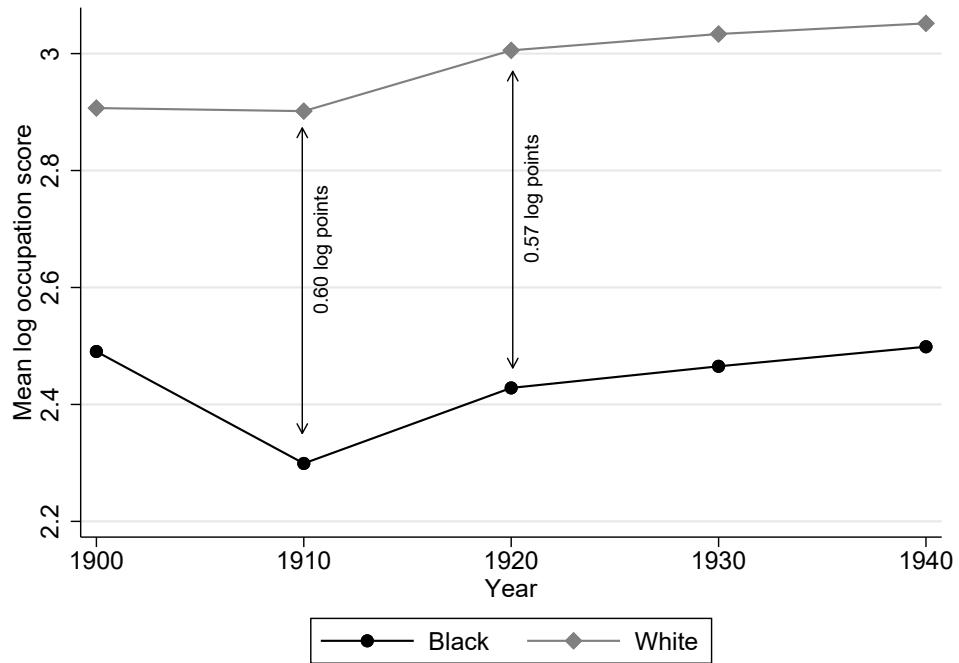
Notes: The figure shows the mean black-white gap in (log) occupational income score for the census rounds 1910 to 1940 (IPUMS sample).

Table AI: Validating the black measure

	(1)	(2)
	Black (hand coded)	
Mean of dep. var	0.0638	0.0638
Pr(Black | Full name, Birth state)	0.656***	
	(0.074)	
1[Pr(Black | Full name, Birth state) > 0.5]		0.558***
		(0.068)
Observations	627	627

Notes: The unit of observation is the individual-year. The table correlates the predicted black measure with the hand coded measure for black civil servants. The results are based on a random sample of 1,000 civil servants drawn from the Treasury in 1911. The hand match rate is 62%. Dependent variable is a dummy for a black civil servant. Pr(Black | Full name, Birth state) is the share of census respondents who report being black and share the same full name and birth state. Robust standard errors. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table AII: Main result – Robustness to measurement and sample

	(1)	(2)	(3)	(4)	(5)
			Log annual salary		
Mean of dep. var	6.797	6.797	6.797	6.839	6.927
Black × Wilson	-0.039***			-0.072***	-0.061***
	(0.008)			(0.008)	(0.013)
1[Pr(Black | Full name, Birth state)>0.9]		-0.055***			
		(0.007)			
Pr(Black | Full name, Birth state)			-0.050***		
			(0.009)		
Year FEs	Y	Y	Y	Y	Y
Individual FEs	Y	Y	Y	Y	Y
Sample		Baseline		Unique match	Balanced
Observations	198,073	198,073	198,073	103,430	43,085

Notes: The unit of observation is the individual-year. Black is a dummy that is 1 if the civil servant is predicted to be black. Wilson is a dummy that is 1 for 1913 and after. Column 1 provides the baseline estimates (corresponding to Table II, column 3); column 2 replicates the main results using an alternative cut-off to identify black civil servants (c =90%); column 3 uses the probabilistic measure for black civil servants; column 4 restricts the sample to only civil servants who were uniquely matched in the census based on their full name and birth state; column 5 restricts the sample to civil servants who are observed in each year between 1907-1921. All salaries are annualized. The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table AIII: Main result – Heterogeneity

	(1)	(2)	(3)	(4)	(5)
			Log annual salary		
Mean of dep. var	6.782	6.804	6.661	6.782	6.782
Black	-0.013	0.028	-0.056**	-0.025*	-0.014
	(0.009)	(0.018)	(0.029)	(0.013)	(0.010)
Black × Wilson	-0.084***	-0.064***	-0.111***	-0.069***	-0.088***
	(0.009)	(0.017)	(0.034)	(0.012)	(0.010)
[Heterogeneity]		-0.262***	-0.123***	0.092***	-0.270***
		(0.013)	(0.019)	(0.012)	(0.019)
[Heterogeneity] × Wilson		0.069***	0.065***	-0.093***	-0.008
		(0.015)	(0.023)	(0.012)	(0.019)
Black × [Heterogeneity]		0.083***	0.095***	0.016	0.008
		(0.024)	(0.035)	(0.019)	(0.028)
Black × [Heterogeneity] × Wilson		-0.036	0.014	-0.022	0.019
		(0.024)	(0.041)	(0.018)	(0.027)
[Heterogeneity]	n/a	Southern appointed	Democrat appointed	Employed in D.C.	Female
Year FEs	Y	Y	Y	Y	Y
Observations	206,007	155,255	55,670	206,007	206,007

Notes: The unit of observation is the individual-year. Black is a dummy that is 1 if the civil servant is predicted to be black. Wilson is a dummy that is 1 for 1913 and after. Column 1 provides the baseline estimates (corresponding to Table II, column 2); column 2 tests for heterogeneity by whether a civil servant is appointed from the South or not; column 3 tests for heterogeneity depending on whether a civil servant is appointed from a Democrat congressional district or not (since we do not observe the year of appointment for civil servants who joined prior to 1907, the sample is restricted to civil servants joining between 1909-1911); column 4 tests whether the effects vary by whether the civil servant is located in D.C. or not; column 5 tests whether the effects vary by gender. All salaries are annualized. The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table AIV: Decomposing the main result – Job title FEs

	(1)	(2)	(3)	(4)	(5)
			Log annual salary		
Mean of dep. var	6.782	6.782	6.782	6.781	6.796
Black	-0.013	-0.007	-0.007	-0.009**	
	(0.009)	(0.006)	(0.005)	(0.004)	
Black × Wilson	-0.084***	-0.010	-0.006	-0.007	-0.012**
	(0.009)	(0.006)	(0.006)	(0.005)	(0.006)
Year FEs	Y	Y	Y		
Job title FEs		Y			
Job title FEs × Dept FEs			Y	Y	Y
Job title FEs × Year FEs				Y	Y
Individual FEs					Y
Observations	206,007	205,578	205,345	205,191	197,204

Notes: The unit of observation is the individual-year. Black is a dummy that is 1 if the civil servant is predicted to be black. Wilson is a dummy that is 1 for 1913 and after. In columns 2-5 we include flexible job title fixed effects that are allowed to vary by department and year. All salaries are annualized. The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table AV: Entry and exit – Extensive margin

	(1)	(2)
	Black	Exit
Mean of dep. var	0.125	0.361
Log(Salary)	-0.062***	-0.115***
	(0.001)	(0.002)
Log(Salary) × Wilson	-0.057***	-0.015***
	(0.002)	(0.002)
Black		-0.173***
		(0.037)
Black × Wilson		-0.269***
		(0.046)
Log(Salary) × Black		0.023***
		(0.006)
Log(Salary) × Black × Wilson		0.039***
		(0.007)
Year FEs	Y	Y
Sample	Entrants	Serving
Observations	324,824	574,834

Notes: The unit of observation is the individual-year. The regression in column 1 corresponds to Figure IV, Panel (a). The sample is restricted to entrants between 1907-1921; the regression in column 2 corresponds to Figure IV, Panel (b). Black is a dummy that is 1 if the civil servant is predicted to be black. Wilson is a dummy that is 1 for 1913 and after. The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table AVI: Descriptive statistics – Measures of human capital by race

	(1)	(2)	(3)	(4)
	Non-black		Diff Black - Non-black	
	Mean	SD	Match w/o HC	Match w/ HC
Years of education	10.586	3.874	-1.988***	0.005
			(0.096)	(0.136)
College	0.078	0.269	-0.001	0.000
			(0.004)	(0.005)
High school	0.243	0.429	-0.053***	0.002
			(0.007)	(0.008)
Elementary	0.704	0.456	-0.260***	-0.004
			(0.010)	(0.013)
Observations	39,219		29,383	12,268

Notes: The table provides descriptive statistics for civil servants from the Federal Registers, comparing the full sample to those who could be matched to the 1940 census. The unit of observation is an individual-year, and the time period is 1907-1921. The matched sample (column 3) is based on matching on sex, department, bureau, salary, seniority (earliest year of service), and type of pay (e.g. per annum, per month etc.) in 1911. In column 4, civil servants are also exactly matched on the years of education. The variable elementary is defined as 3-7 years of schooling; the variable high school is defined as 11-14 years and college is defined as 15 or more years of schooling. Robust standard errors. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.