The racial wealth gap, 1860-2020*

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Abstract

The racial wealth gap is the largest of the economic disparities between Black and white Americans, with a white-to-Black per capita wealth ratio of 6 to 1. It is also among the most persistent. In this paper, we provide a new long-run series on white-to-Black per capita wealth ratios from 1860 to 2020, combining data from the US Decennial Census, historical state tax records, and a newly harmonized version of the Survey of Consumer Finances (1949-2019). Using these data we show that wealth convergence was rapid in the 50 years after Emancipation, but slowed to a halt by 1950. A simple model of wealth accumulation by racial group reveals that even under equal conditions for wealth accumulation, convergence is a distant scenario given vastly different starting conditions under slavery. Accounting for post-Emancipation differences in wealth accumulating opportunities indicates that the racial wealth gap is on track to arrive at a "steady state," close to today's levels. Our findings shed light on the importance of policies such as reparations, which address the historical origins of today's persistent gap, as well as policies that reduce inequality and thereby improve the relative wealth position of Black Americans.

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1 Introduction

The racial wealth gap is the largest of the economic gaps between Black and white Americans, with a white-to-Black average wealth ratio of of 6 to 1 in 2019. Further, the gap has been remarkably stable over the late 20th and early 21st centuries. Although there is a large literature focusing on the wealth gap in recent decades, much less is known about the historical evolution of the racial wealth gap. In this project, we use historical Census data and state tax records, the historical and modern Survey of Consumer Finances ("SCF"), as well as additional data sources to document the evolution of the racial wealth gap over the last 160 years. A key contribution of this work will be a harmonized series of Black and white per capita wealth in the US from 1860 to 2020, which we will make publicly available.

Our paper addresses three key questions: What has been the long-run evolution of the racial wealth gap? What factors have shaped the gap? What policies would speed convergence in Black-white wealth and to what extent?

Initial patterns in our data suggest that despite rapid accumulation of wealth by Black Americans and sharp episodes of income convergence in the 20th century (World War II and the Civil Rights era), racial wealth convergence stalled by the mid-20th century. We hypothesize that vastly different starting conditions and differential returns on wealth for Black and white Americans have contributed to a racial wealth gap approaching a "steady state," close to today's levels. We contribute some of the first evidence on the racial wealth gap during the 20th century as well as racial differences in wealth portfolios and returns on wealth during this time period as well. Finally, our results shed light on the efficacy of policies such as reparations, baby bonds, and wealth taxes in accelerating convergence.

Despite substantial scholarship on the contemporary racial wealth gap and its determinants, as well as a smaller literature on post-Emancipation gaps, there is no work to date on the evolution of the racial wealth gap over this full historical period. Through an ambitious data collection and harmonizing effort drawing on several data sources, we are working to fill in this missing time series of the racial wealth gap from 1860 to 2020. We collect information and harmonize across three key sources: state-level tax records, US Decennial Census data, and a harmonized version of the Survey of Consumer Finances spanning 1949 to 2019.

Our new long-run series reveals two important facts about the long-run evolution of the racial wealth gap. First, the period of fastest convergence was the 50 years following Emancipation. Second, starting in the mid-20th century, convergence came to a halt, with racial wealth gaps slightly worsening over the last several decades. If present trends in the data continue, the racial wealth gap appears to be headed to a steady state with average white wealth at least five times greater than average Black wealth.

We rationalize this "hockey-stick" pattern in the long-run wealth gap with a simple model of wealth accumulation for each racial group. This framework reveals that even under equal conditions for wealth accumulation, in other words, equal capital gains, rates of return, and savings rates, and with the observed level of income convergence since 1870, the racial wealth gap would still be 2 to 1 in the year 2100. Further, the true evolution of the wealth gap shows

even less progress than this stylized model. To understand why, we explore differences in wealth accumulation conditions faced by each group.

The harmonized SCF developed by Kuhn et al. (2020) allows for an in-depth study of the racial wealth gap over the second half of the 20th century, beginning roughly two decades before other commonly used sources, such as the PSID. The data allow us to document differences in portfolio composition, capital gains, returns on wealth, and income saved by racial group over this 70-year period. These differences shed light on the slow rate of convergence between Black and white households. For example, Black households tend to hold more wealth in housing and less in stocks relative to white households. While housing wealth has appreciated since 1950, stock equity appreciated by five times as much, leading white households to have enjoyed far greater capital gains over this period. Savings rates also differ by racial group although these differences can also be attributed to factors such as initial wealth, education, and age. These patterns point to potential mechanisms through which the gap persists or through which it might be ameliorated.

After documenting these patterns using the historical SCF, we examine counterfactual scenarios under which wealth convergence could occur within a reasonably short time frame, for example by 2050. We begin by choosing capital gains, rates of return, income growth rates, and savings rates for Black households that would lead to convergence by this date. The results of this exercise highlight how implausible convergence is via manipulation of any of these parameters. In short, Black households would have to be endowed with orders of magnitude greater income growth, savings rates, and rates of return to close the racial wealth gap by 2050.

In a final section, we discuss the implications of our findings for policies aimed at reducing wealth inequality and the racial wealth gap. We note that policies such as a wealth tax or baby bonds may induce virtuous cycles by not only improving the relative wealth position of Black households, but through feedback effects that close gaps in savings rates and rates of return, for example. Still, such policies are likely insufficient for addressing the vastly different starting conditions for Black and white Americans as a legacy of slavery. The wealth gap has largely followed a pattern of convergence in line with simple models of wealth accumulation under these starting conditions. Policies such as reparations may be the most effective at hastening convergence under these conditions.

Our paper contributes to several strands of literature on racial wealth differences—both historical and contemporary. A number of papers study the racial wealth gap in the post-Emancipation years using state-level tax records and historical Census data. We review this literature and our contribution in detail in Section 2. A large literature focuses on the racial wealth gap and its determinants in the modern era.[1] This work has documented the role of marriage and family structure, income and demographics, differences in permanent income, inheritance, life cycle effects, the role of the Great Recession, and finally a suite of policies with potential for ameliorating the gap. Our paper contributes to this literature by providing historical perspective on the racial wealth gap. We show that only extreme distortions of savings rates, income growth, and capital gains can overcome the slow rate of convergence determined

[1] An incomplete list of such works include Altonji et al. (2000); Altonji and Doraszelski (2005); Barsky et al. (2002); Charles and Hurst (2002); Chiteji and Stafford (1999); Gittleman and Wolff (2004); Wolff (2001).

both by the starting conditions in the wealth gap and in decades-long disadvantages in wealth accumulating conditions for Black Americans. Policies that do not directly address the initial conditions of the racial wealth gap may be insufficient for bringing about convergence.

Our paper also contributes to the literature on wealth inequality and its long-run dynamics (Piketty, 2013; Piketty and Zucman, 2014; Saez and Zucman, 2016). These papers document rising wealth inequality in the 20th and 21st centuries, analyzing the role of returns on capital and rising top incomes, among other factors. We adopt a simple framework inspired by this literature to understand the evolution of the per capita white-to-Black wealth ratio over the last 160 years. The most simplified version of the model matches the basic shape of the long run gap we observe in our newly harmonized data. Allowing for differing wealth accumulation conditions per racial group enriches our simulation of the racial gap and generates an even better fit with the data, capturing in particular the complete stagnation and even reversal of racial wealth convergence in recent decades.

The rest of our paper is structured as follows. In the next section, we review the literature on historical differences in wealth accumulation by Black and white Americans. Section 3 describes the construction of our long-run series on the per capita white-to-Black wealth ratio. Section 5 provides a simple framework for wealth accumulation by racial group over the long run. In Section 5.2, we utilized the newly harmonized historical and modern SCF to document differences in wealth portfolios, savings rates, capital gains, and return on assets by racial group dating back to 1950. Section 6 discusses counterfactual and policy scenarios that speed up wealth convergence, and Section 7 concludes.

2 Related literature on the historical racial wealth gap

The limited availability of wealth data for Black and white individuals before 1968 has restricted much of the analysis of the literature to recent decades. Nevertheless, a number of papers investigate trends in Black and white wealth formation in the late 19th and early 20th centuries. These studies have largely relied on property tax records from select Southern states that tabulated assessed wealth or tax payments separately for Black and white populations.

Du Bois (1901) uses tax records for the state of Georgia to document patterns in landholding by Black individuals in that state. Higgs (1982) uses race-specific data from Du Bois (1901) and the Comptroller-General of Georgia to illustrate a substantial increase in the total assessed value of Black wealth in Geoargia over the period 1874-1915. Margo (1984) incorporates property tax data with race identifiers for available years from the additional states of Louisiana, North Carolina, Virginia, and Kentucky where he likewise finds sustained increases in aggregate Black wealth and declines in the per capita wealth gap in all of these states but Louisiana. Margo (1984) argues that the part of this growth may be due to discriminatory over-assessment of Black-owned property for tax purposes—a pattern that has been documented in tax assessment today (Avenancio-León and Howard, 2019)—but Higgs (1984) argues there is limited justification for this claim.

Several studies have modeled and empirically demonstrated the critical role of the post-Civil-

War racial disparity in wealth endowments for continued inequality in this period and beyond. Using the same tax data from Georgia, the first study in this vein by DeCanio (1979) estimates that this initial wealth disparity accounts for 64-80

DeCanio (1979) uses a theoretical model to show that the redistribution of "40 acres and a mule" to Black families would have substantially improved their relative position, but in the best-case scenario would have only allowed Black families to eventually achieve half of per capita white wealth. Miller (2020) studies the impact of land grants to Black families in the Cherokee Nation after emancipation and finds reductions in the racial wealth gap in the Nation relative to the rest of the South.

Beyond this key early period, qualitative work has pointed to potential differences across states in the number of Black businesses and prosperous individuals that warrant investigation and/or confirmation by the quantitative methods crafted for this proposal. Specifically, two related studies, Schweninger (1989) and Schweninger (1990), show that a wealthy black entrepreneurial and planter class composed of freed Black people before the Civil War in the Lower South, especially in New Orleans, Charleston, and several other Louisiana parishes. Importantly, however, Schweninger (1989) claims this group's wealth largely deteriorated by 1870 whereas an emergent urban Black population in the Upper South continued to gain wealth by becoming farmers, skilled artisans, and small business owners, beginning in the 1840s, but especially after emancipation. A study by Canaday (2008) uses individual property tax assessment records for Calhoun County, South Carolina matched to complete count Census data and finds that both Black men and women experience faster wealth accumulation than white individuals between 1910 and 1919.

A related literature focuses on racial inequality in homeownership. Collins and Margo (2011) traced the evolution of the racial homeownership gap from 1870 to 2007. The gap narrows in the 1870 to 1920 period but shows remarkable stability thereafter. These data do not incorporate information on the value of homes, however, which is only available starting in 1930 and for which complete count census data do not exist after 1940 (the full count 1950 census will not be declassified until 2022). A study by Akbar et al. (2019) documented how neighborhood racial transition in 10 northern cities during the first Great Migration led to changes in rental and house prices that eroded the value of Black homes and thus posed a barrier to Black wealth accumulation by 1940.

In prior work of two of this current project's coauthors, Kuhn et al. (2020) harmonized the historical and modern files of the Survey of Consumer Finances (SCF) creating a new dataset of household level wealth and income information for the US from 1949 to 2016. Although primarily focused on the role of asset prices and portfolio composition in wealth dynamics in the postwar period, the authors also provide a brief analysis of the racial wealth gap confirming stability and persistence in this large gap over the postwar period.

Our project will provide the first comprehensive picture of the racial wealth gap from the Civil War through the present. A key contribution will be a harmonized series of Black and white wealth per capita created by drawing on a large number of different data sources. The next section describes these sources and our methodology for constructing the historical series

in detail.

3 Data sources on historical wealth measures by racial group

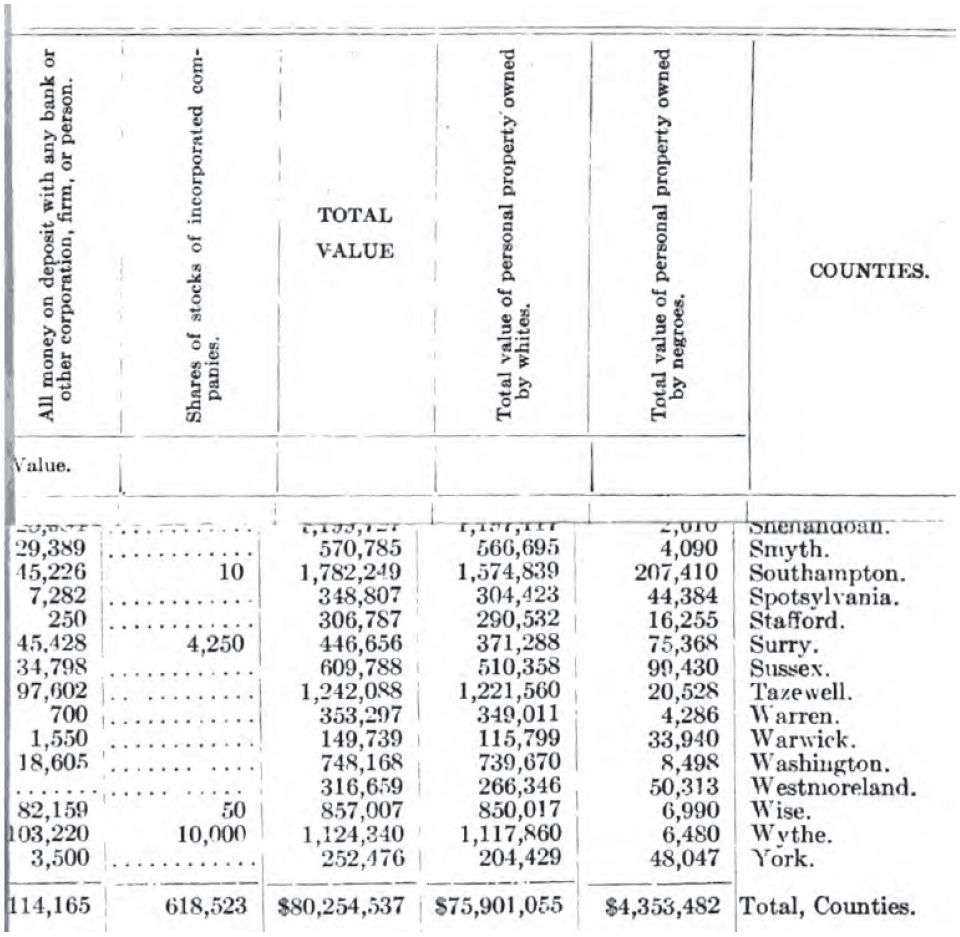
We investigate the evolution of the racial wealth gap using a variety of state- and national-level sources. Specifically, our wealth data were assembled from state fiscal reports (1866-1916); the US decennial Census (1860 and 1870); aggregate Black wealth estimates by Monroe Work (1863-1936); and the historical and modern Survey of Consumer Finances (1949-2019). Additionally, we use population data from the Census as well as the Census Bureau's report on the U.S. Black population from 1790 to 1915.

For the state-level data in the years following Emancipation, we follow the method of Higgs (1982) and Margo (1984). In doing so, we used the website HathiTrust Digital Library (`https://www.hathitrust.org/`) to access annual tax auditor reports for available Southern states in available years in the period 1866-1916. Data were obtained directly from such reports for the following states: Louisiana, North Carolina, Virginia, Kentucky, and Arkansas. These reports provide either county-level aggregates of assessed wealth by racial group or aggregate tax payments by racial group. In the latter case, we imputed Black and white aggregate wealth by assuming the Black-white ratio of property tax payments equalled the wealth ratio and multiplying the former by the state's reported aggregate wealth for that year or an adjacent year, drawing from the imputation strategy employed by Margo (1984). We also included similar data from Georgia, which had been previously assembled by Du Bois (1901). To complete the early state-level dataset, per capita wealth observations from Margo (1984) were combined with population figures to calculate aggregate wealth levels by race in years where the corresponding state fiscal report was not found online. Figure 2 depicts an excerpt from the Virginia state auditor report for the fiscal year ending in 1904.

For national wealth aggregates and per capita measures for the late 19th century, we rely on the US Decennial Census for the years 1860 and 1870.[2] Census enumerators were instructed to record personal property for those with at least $100 and real property for all. The 1850 Census only recorded real property, therefore we begin our analysis in 1860, prior to Emancipation and the Civil War. The 1860 Census of Population does not include a count of the enslaved, who were enumerated in separate slave schedules. We use the Census's 1918 publication "Black Population 1790-1915" to obtain estimates of the Black population in 1860 Cummings and Hill (1918). The 1870 Census of Population is the first full accounting of the Black population in the United States.

For national estimates of Black wealth in the early 20th century, we digitize estimates from *The Negro Year Book* (Work, 1922) in select years between 1863 and 1936. While information on Work's methodology is limited, the estimates seemingly incorporate extensive research conducted by Work on the growth of Black churches, farmlands, businesses, and other assets on top of additional indicators of Black social and economic progress. Notably, Work includes state-level wealth estimates in his yearbooks that are consistent with the data we digitized from state

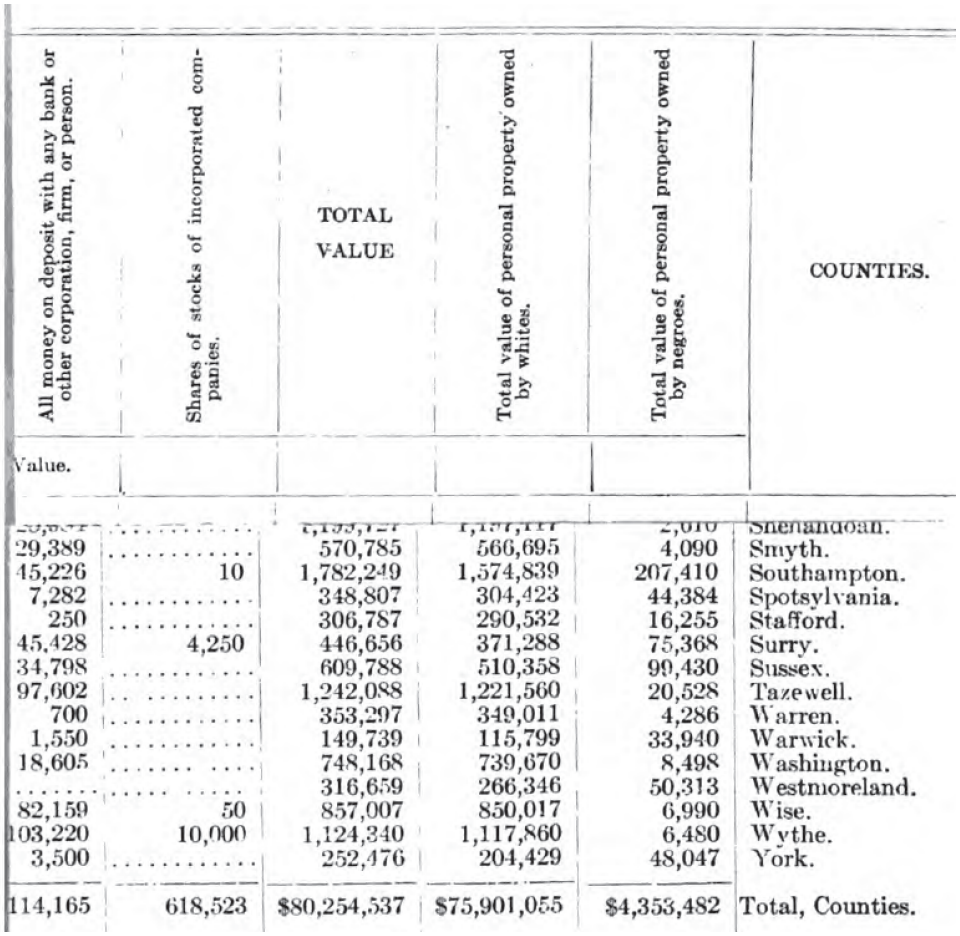
[2]We use the IPUMS version of the complete count censuses for these years (Ruggles et al., 2020).



All money on deposit with any bank or other corporation, firm, or person.	Shares of stocks of incorporated companies.	TOTAL VALUE	Total value of personal property owned by whites.	Total value of personal property owned by negroes.	COUNTIES.
Value.					
[illegible]	[illegible]	[illegible]	[illegible]	2,010	Shenandoah.
29,389	.....	570,785	566,695	4,090	Smyth.
15,226	10	1,782,249	1,574,839	207,410	Southampton.
7,282	.....	348,807	304,423	44,384	Spotsylvania.
250	.....	306,787	290,532	16,255	Stafford.
45,428	4,250	446,656	371,288	75,368	Surry.
34,798	.....	609,788	510,358	99,430	Sussex.
97,602	.....	1,242,088	1,221,560	20,528	Tazewell.
700	.....	353,297	349,011	4,286	Warren.
1,550	.....	149,739	115,799	33,940	Warwick.
18,605	.....	748,168	739,670	8,498	Washington.
.....	.....	316,659	266,346	50,313	Westmoreland.
82,159	50	857,007	850,017	6,990	Wise.
103,220	10,000	1,124,340	1,117,860	6,480	Wythe.
3,500	.....	252,476	204,429	48,047	York.
114,165	618,523	$80,254,537	$75,901,055	$4,353,482	Total, Counties.

Figure 1: Virginia auditor report, 1903-1905

auditor reports. Work's national Black wealth estimates are low compared to the 1870 Census; however, once the levels are adjusted, the trend matches well with the data from Census and the historical SCF, available from 1949 onwards.



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114,165	618,523	$80,254,537	$75,901,055	$4,353,482	Total, Counties.

Figure 2: Virginia auditor report, 1903-1905

For the years 1913-1936, we also incorporated estimates from Saez and Zucman (2016) on aggregate wealth for the United States. We subtract from these estimates Work's estimates for national Black wealth to generate a proxy for national white wealth during this period. Given the demographic makeup of the country during this period and patterns of wealth-holding in the Census, we believe this generates a reasonable estimate of white national wealth.

Finally, from 1949 to the present, we utilize a newly harmonized series of the Survey of Consumer Finance (SCF+), which provides micro-level data on households' socioeconomic characteristics and wealth composition. The SCF+ is an extension of the Survey of Consumer Finances (SCF) provided by Kuhn et al. (2020). Before the modern Survey of Consumer Finances (SCF), which the U.S. Federal Reserve Board has conducted every three years since 1983, the Survey Research Center of the University of Michigan gathered data on household income and wealth along with their demographics at an annual frequency from 1947 to 1971, and again in 1977. Kuhn et al. (2020) extract this historical data based on the original codebooks and match the variables across the historical and modern waves. The final dataset allows us to study the joint distribution of income and wealth consistently over the period from 1949 to 2019.

Wealth in the SCF+ comprises marketable wealth, which is the current value of all marketable assets net the current value of debts. Assets include liquid assets (certificate deposits, checking and savings accounts, call and money market accounts, housing and other real estate, bonds, stocks, corporate and non-corporate equity, and defined contribution retirement accounts. Total liabilities are the sum of housing debt, car loans, education loans, loans for consumer durables, credit card debt, and other non-housing debt. We exclude social security and defined benefit pension claims, which are not available over the full period. Using these data, we compute decadal averages of per capita wealth by race.

4 Long-run trends in racial wealth inequality

We construct our long-run series on the racial wealth gap by combining data from the several sources described above. In this section we first describe the insights that can be gleaned from state-level auditor reports on wealth accumulation by Black Americans after the Civil War and compare our results to those of Margo (1984). We then describe the methodology used to derive a long-run wealth series combining information from state reports, Monroe Work's national Black wealth estimates, and the US Decennial Censuses of 1860 and 1870. The construction of this series will require some assumptions and adjustments to harmonize the data sources over time that we discuss below.

Figure 3 plots our digitized data from state auditor reports on aggregate Black wealth by state between 1866 and 1916. Our findings are broadly consistent with Margo (1984), who finds that Black wealth accumulation was substantial over these years across the states in the sample.[3] We also find that the white-to-Black wealth ratio declines substantially in these states, consistent with the work of Margo (1984) and Higgs (1982).[4] Figure 4 depicts these results.

We now turn to our estimation of the national racial wealth gap using the data sources described above. The starting point for our analysis is the US Decennial Census data from 1860 and 1870. In the 1860 and 1870 Census, we have information on personal property and real estate for each person. We construct total wealth as the sum of the personal property and real estate of a person. Personal property is the contemporary dollar value of all stocks, bonds, mortgages, notes, livestock, plate, jewels, and furniture (in 1860, slaves are also included). Real estate is the contemporary dollar value of any real estate. The Census data cover the universe of enumerated individuals in the United States, an advantage over survey datasets. We assume that the enslaved, who are not enumerated in 1860, had no property, thus we impute zero wealth for the enslaved and obtain counts for the full Black population from the Black Population Census report (Cummings and Hill, 1918).

[3] Here nominal aggregate wealth was adjusted to $1910-1914 using the Warren-Pearson Index, following Margo (1984).

[4] In the reports identified by Margo (1984) for Louisiana, the only available data were 1) Black wealth for country parishes (outside of New Orleans or Orleans Parish), 2) white wealth for country parishes, and 3) total wealth for the state. Using the complete-count census data for 1870, we calculated the ratio of white-to-Black wealth in New Orleans in 1870 and used this to impute aggregate Black and white wealth for the entire state by assuming that the ratio for New Orleans is constant over the period. With this adjustment, the slowdown in wealth convergence in Louisiana is more muted than in Margo (1984). See Appendix Table 6.

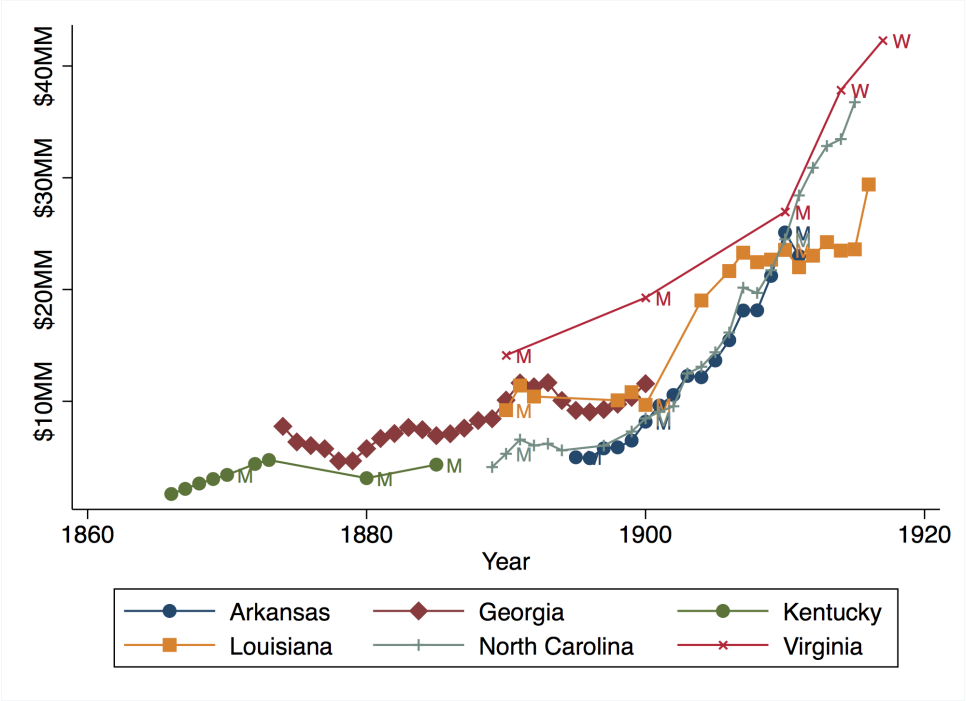


Figure 3: Aggregate Black wealth by state, 1860-1920 ($1910-1914)

Notes: Estimates adjusted to be in real $1910-1914 using the Warren-Pearson Index. *Source*: State auditor reports; Margo (1984): "M"; Work (1922): "W".

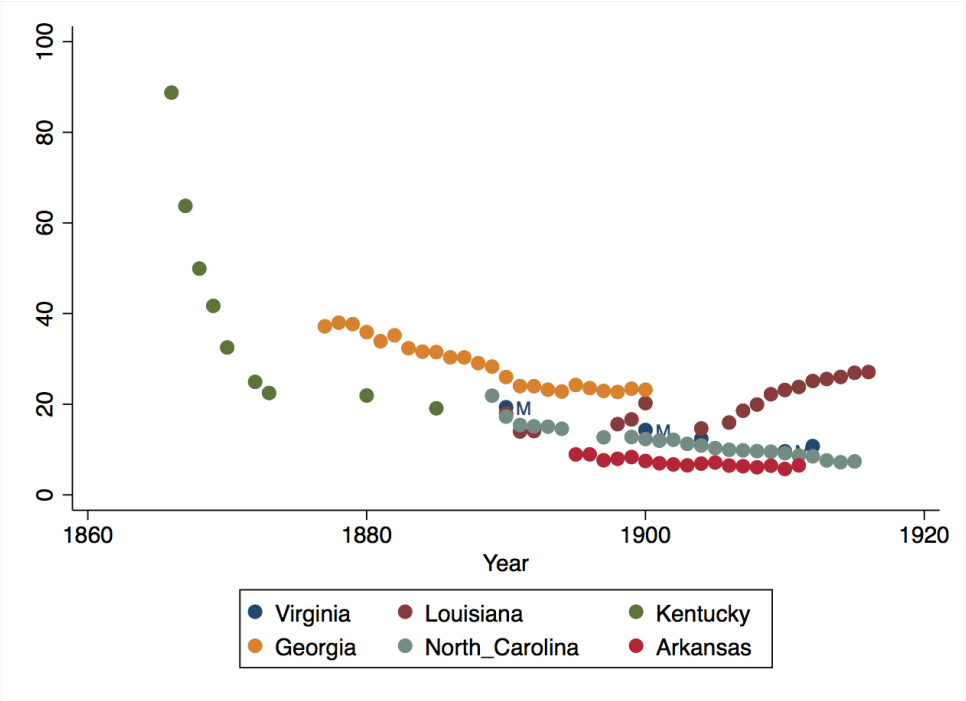


Figure 4: White-Black per-capita wealth ratio by state, 1860-1920

Source: State auditor reports; Margo (1984): "M".

There are four challenges that arise with Census data. First, as in all survey-based data reported wealth in the Census exhibits substantial rounding. Second, values for personal property is not collected if it is less than 100 dollars. This threshold applies to the vast majority of households, approximately 33 million out of 38 million observations. Third, real estate reports the gross value of real estate not taking into account any mortgage debt. Fourth, there is censoring at the top of the wealth distribution as personal property or real estate values are only reported up to 999,997 dollars. To deal with censoring, we provide below a sensitivity analysis with respect to the 100 dollar threshold that suggests that the effect is likely small and if anything tend to lower the racial wealth gap in 1870. For the censoring at the upper end of the distribution, we use a simple imputation approach. Using the estimate by Saez and Zucman (2016) on wealth concentration in 1913, we assume that the same wealth concentration applies to 1870. Saez and Zucman (2016) estimate that the richest 0.01 percent of households owned 8.8 percent of all wealth. We use the estimate of total wealth from Census (1907) to compute the total wealth owned by the top 0.01 percent of households.[5] We then compute per tax unit wealth in this group based on the population estimates and impute this value for all households who report real estate or personal property above the censoring point. Our estimate results in 3.4 million dollars of average wealth for these households.

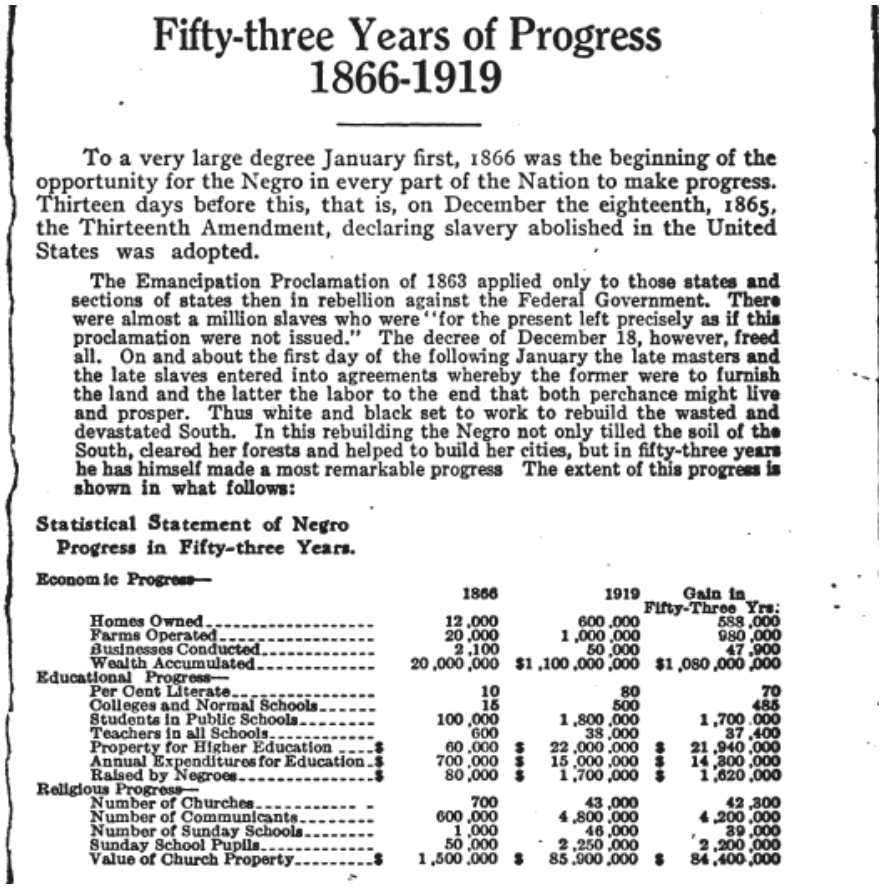
Using the Census data, we group households in Black and non-Black households and compute average per person wealth. The ratio of these averages yields our estimate for the racial wealth gap of 20.2 in 1870. This racial wealth gap implies that for each dollar of wealth a non-Black person owned in 1870, a Black person owned 5 cents. There is no further wealth data from Census after 1870. To construct the time series for the wealth gap, we use the state tax records from Arkansas, Georgia, Kentucky, Louisiana, North Carolina, and Virgina. Based on the estimate for wealth owned by Black persons in these states, we construct an estimate for wealth growth over this time period by running a linear regression of log wealth on a time trend and state fixed effects. The estimated coefficient for the time trend is $\hat{\beta} = 0.057$.[6] We use this average time trend to extrapolate total wealth of the Black population after 1870 until 1904. We combine these estimates for the stock of wealth of the Black population with the estimates of total wealth from Census (1907) to construct wealth of the non-Black population as a residual. In a final step, we divide the stock of wealth for the Black and the non-Black population by the population in each group to get an estimate of per person wealth.

For the time period from 1910 to 1936, we rely on estimates for wealth of the Black population from Work (1922). Work (1922) provides estimates for wealth of the Black population going back to 1863. Using his available estimates to derive a growth rate of wealth for the same time period (1870-1904) results in a very similar growth rate of $\tilde{\beta} = 0.061$. His estimates for wealth of the Black population differ however substantially in level. Using his estimates around the time of the 1870 Census results in a wealth level of the Black population that is less than 20 percent of the Census numbers. We will therefore rely on the time trend from his estimates for the time period from 1913 to 1936 but we adjust the level of the resulting wealth gap to align with our estimates. For total wealth, we rely on estimates as reported in Saez and Zucman

[5] We consider only reference persons when computing the number of households in 1870.
[6] The regression has an adjusted R^2 of 0.8236.

(2016) and construct wealth of the non-Black population and per person numbers as before. For the period starting in 1950 until today, we rely on the SCF+ data compiled in Kuhn et al. (2020). Kuhn et al. (2020) report racial wealth differences for the time period from 1950 to 2016 but consider wealth differences at the household level. We use the SCF+ data to construct per person estimates of the racial wealth gap.

Using the data from Work (1922) (see 5 below, we estimate an average wealth gap over the time period from 1913 to 1936 of 19.6, which is almost at the level of 1870. This level is substantially above our estimate for 1904 based on the extrapolated Census data (9.1) and the resulting 1936 estimate of 14.7 is also substantially above the estimate for the 1950s from the SCF+ data (6.2). We therefore adjust the level of the wealth gap based on the data from Work (1922) to match the linear trend of connecting our estimates until 1904 to the SCF+ data starting in 1950. The resulting adjustment factor is 0.515 so that the wealth gap is roughly cut in half compared to the unadjusted estimates.



Fifty-three Years of Progress
1866-1919

To a very large degree January first, 1866 was the beginning of the opportunity for the Negro in every part of the Nation to make progress. Thirteen days before this, that is, on December the eighteenth, 1865, the Thirteenth Amendment, declaring slavery abolished in the United States was adopted.

The Emancipation Proclamation of 1863 applied only to those states and sections of states then in rebellion against the Federal Government. There were almost a million slaves who were "for the present left precisely as if this proclamation were not issued." The decree of December 18, however, freed all. On and about the first day of the following January the late masters and the late slaves entered into agreements whereby the former were to furnish the land and the latter the labor to the end that both perchance might live and prosper. Thus white and black set to work to rebuild the wasted and devastated South. In this rebuilding the Negro not only tilled the soil of the South, cleared her forests and helped to build her cities, but in fifty-three years he has himself made a most remarkable progress The extent of this progress is shown in what follows:

Statistical Statement of Negro Progress in Fifty-three Years.

	1866	1919	Gain in Fifty-Three Yrs.
Economic Progress—			
Homes Owned	12,000	600,000	588,000
Farms Operated	20,000	1,000,000	980,000
Businesses Conducted	2,100	50,000	47,900
Wealth Accumulated	20,000,000	$1,100,000,000	$1,080,000,000
Educational Progress—			
Per Cent Literate	10	80	70
Colleges and Normal Schools	15	500	485
Students in Public Schools	100,000	1,800,000	1,700,000
Teachers in all Schools	600	38,000	37,400
Property for Higher Education	$ 60,000	$ 22,000,000	$ 21,940,000
Annual Expenditures for Education	$ 700,000	$ 15,000,000	$ 14,300,000
Raised by Negroes	$ 80,000	$ 1,700,000	$ 1,620,000
Religious Progress—			
Number of Churches	700	43,000	42,300
Number of Communicants	600,000	4,800,000	4,200,000
Number of Sunday Schools	1,000	46,000	39,000
Sunday School Pupils	50,000	2,250,000	2,200,000
Value of Church Property	$ 1,500,000	$ 85,900,000	$ 84,400,000

http://www.hathitrust.org/access_use#pd-google
https://hdl.handle.net/2027/uc1.d000440432

Figure 5: Excerpt from *The Negro Year Book* (Work, 1922)

Figure 6 shows the resulting time series. Our current long-run series shows the rapid convergence in the racial wealth gap after Emancipation, continued progress over the late 19th and early 20th century followed by stagnation. Remarkably, the racial wealth gap in 1920 was only moderately higher than it is today. In addition, it appears that convergence has completely stopped. The slope in the wealth gap after 1970 is slightly positive. Under these conditions, if trends continue as they have over the last four decades, there is no indication that further

progress will be made in closing the racial wealth gap.

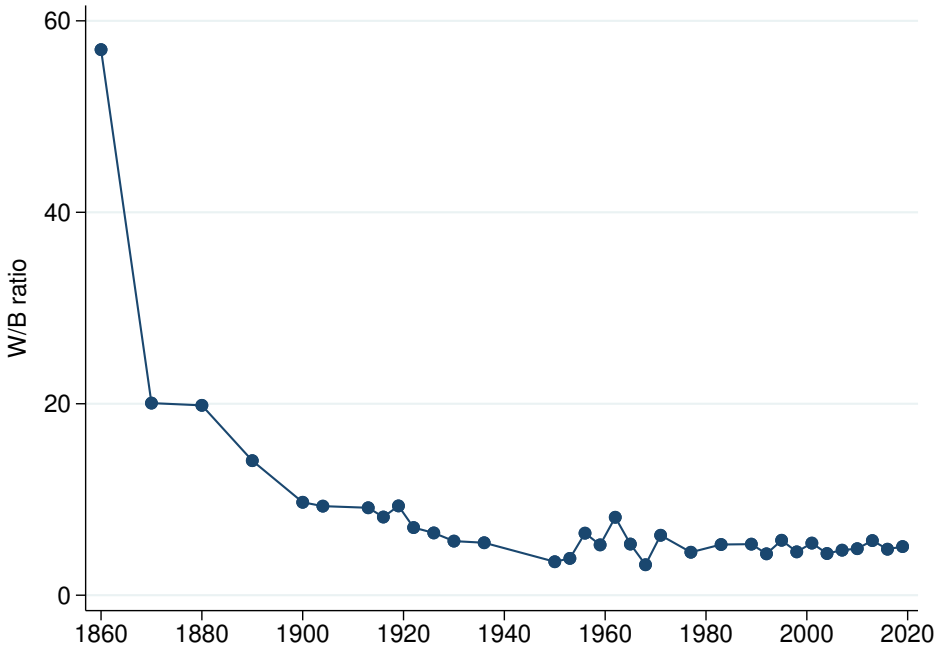


Figure 6: White-Black wealth ratio: 1860-2020

Our current long-run series is our best approximation of the national racial wealth gap from 1860 to the present given the data we currently have. Below we outline a number of ways in which we are improving these data.

Additional state-level tax records We have identified several sources of individual-level pre-World-War-II tax records from additional southern states and localities, which we are currently linking to complete count censuses where we observe an individual's racial identity. This extends the method of Canaday (2008)–who linked individuals from a single county in South Carolina–to all counties in all states where records are available. Thus far, we have identified the following states where additional records are available: Virginia, Texas, Tennessee, and Mississippi. We have already begun digitizing tax records for New Orleans, for which race-specific property estimates are missing in the Louisiana state auditor reports.

Census of Agriculture We also intend to use 1900-1940 Censuses of Agriculture which recorded information on farm values and farm ownership separately by racial group. Although these data provide information only on the farm sector, agriculture was a key sector of both employment and land ownership for Black Americans, particularly in the decades following Emancipation.

1930 and 1940 Census of Population The 1930 Census is the first to ask households about the value of their homes. Given the importance of real estate as a source of Black wealth as we document in Section 5.2, the aggregate value of farms and homes owned by Black Americans

will provide an important second estimate of national Black wealth prior to the SCF+ series, which begins in 1949.

Black banks Information on the deposits and liabilities of Black banks covering the period are available from Harris (1936), Work (1922), Stein and Yannelis (2020), and Ammons (1996). These data cover a time period that overlaps with race-specific farm ownership and farm values data from the Census of Agriculture as well as data on housing values from the Census of Population. We intend to use these data to refine our measures of Black wealth for the pre-WWII period and to provide additional information on the composition of Black wealth during this time period.

5 Determinants of the racial wealth gap

In this section, we introduce a simple yet intuitive theoretical framework to understand the long-run dynamics of the racial wealth gap documented in Section 4 and Figure 6. We start with the assumption of equal rates of return, capital gains, and savings rates across the two groups. Given starting conditions in wealth and income gaps in 1870 and observed growth in per capita income by racial group, we show that under these ideal conditions, wealth convergence is a distant, even unattainable, prospect. Still, under these conditions, the wealth gap would be about half the size it is today. We then address differences in (i) returns on wealth and (ii) saving rates across groups as potential determinants of the slower convergence of the racial wealth gap as observed in the data. Afterwards, we utilize micro-level household survey data of the SCF+ to shed light on the differences in these two components across racial groups.

5.1 Understanding long-run wealth gap dynamics

We start by introducing a simple conceptual framework of wealth accumulation to understand the long-term dynamics of the racial wealth gap. In the spirit of Garbinti et al. (2020), we utilize the following transition equation:

$$\begin{aligned} W^j_{t+1} &= (1+q^j)\left[W^r_t + s^j(Y^r_t + r^j W^j_t)\right], \text{where} \\ Y^j_t &= (1+g^j)Y^j_{t-1}. \end{aligned} \tag{1}$$

Subscription $j = \{b, w\}$ represents the two racial groups (b for Black and w for White), W^j_t and W^j_{t+1} the real per capita wealth of group j at time t and $t+1$, and Y^j_t the per capita labor income of group j at time t, which evolves with a growth rate g^j. In the equation, wealth is accumulated with regard to three distinct components: rate of return r^j, capital gains q^j, and saving rates of households s^j.

As a starting point, we assume that r, q, and s are identical across the two racial groups. The purpose of this exercise is to analyze how the racial wealth gap would have converged starting

from Emancipation to the current period, if Black and White households faced equal conditions for accumulating wealth. The only difference we allow is their income growth; our estimates of annualized income growth indicate that Black income per capita grew at a higher rate than white (2.4% vs. 1.8%).[7] For r, q, and w we plug in the annualized average of the national estimates of Saez and Zucman (2016), which are $q = 1\%$, $r = 6\%$, and $s = 8\%$. We start with initial values that are in line with white-to-Black per capita wealth- and income ratios in 1870, which are 20:1 for wealth and 3.6:1 for income.[8] Figure 7 presents the evolution of the simulated wealth gap in comparison to our historical estimates.

Our simulated wealth gap (grey solid line) converges in a similar manner as the observed wealth gap (blue dots), where we observe rapid convergence from the post-Emancipation years until the early-to-mid 20th century, after which convergence slowed down considerably. After 1950, our simulation shows continued convergence while the observed wealth gap has stagnated or even worsened (in the 1970s, the slope is positive). In addition, the simulated wealth gap is always below the actual data, which suggests that if Black and white individuals had had equal wealth accumulation conditions in terms of returns, capital gains, and saving rates, the wealth gap would have been lower than it is today.

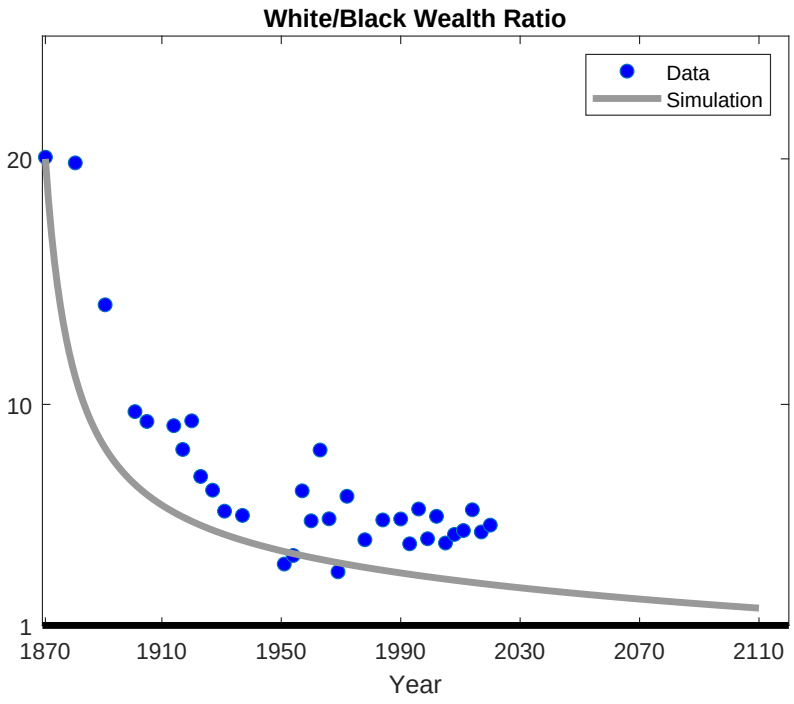


Figure 7: Simulation exercise with equal conditions

An additional question arises at this point: under equal conditions, would we be able to reach full wealth convergence in the near future? Table 1 presents the simulated wealth- and income gaps for the future periods. The real wealth- and income ratio of the year 2020 are in the first column, while column 2 to 4 present the simulated values in the year 2020, 2050, and 2100. Our results show that even under equal conditions, the wealth gap will not fully disappear

[7] For 1870, we utilize the historical income data of Margo (2016).

[8] Wealth ratios are from our historical wealth measure and the income ratio comes from Margo (2016).

within the next 200 years. 30 years from now, we would still have a ratio of 2.3:1, while the income gap is by 1.2:1. In the year 2100, by which time income will have fully converged, the wealth ratio would be still by 1.8:1. This is a striking result, as our simple exercise shows that (i) full income convergence will not be able to close the wealth gap, and (ii) even with equal wealth accumulating conditions, the initial conditions in 1870 are so severe that we may never experience racial wealth convergence.

	2020 (data)	2020	2050	2100
Wealth ratio (W/B)	5.7	2.7	2.3	1.8
Income ratio (W/B)	1.5	1.5	1.2	1

Table 1: Simulated wealth gap: 2020-2100

5.2 Differences in returns on wealth

In this section we depart from our simulation exercise and explore the role that observed differences in returns on wealth and savings rates may have played in the slowdown in racial wealth convergence in the post-1950 period. We use the SCF+ to measure these differences and to provide empirical evidence on how wealth is distributed across Black and white households and how their asset holdings differ. Finally, we estimate average capital gains and yields separately for Black and white households and discuss the impact of each on wealth accumulation for each group.

5.2.1 Returns on wealth: 1950-2019

We start by presenting the asset portfolio composition of Black and white households during 1950 and 2019. Figure 8 shows the average portfolios of white and Black households.[9] They do not only greatly differ in size, but also in composition. In particular, the share of non-financial assets is substantially larger for Black households. with housing accounting for almost 60% of their wealth (see Table 2). Compared to this, Black households have much lower business and equity wealth compared to white households.

Differences in portfolio composition are linked to different exposures to asset price developments and yields, which are crucial for wealth accumulation (Kuhn et al., 2020; Xavier, 2020). In particular, low holdings of stock- and business equity by Black households may have substantial effects on their wealth accumulation, as these asset classes have not only experienced a strong increase in their prices during the last several decades, but also yield high returns. In addition, the Black population has been exposed to discrimination and constraints with regard to their investment, starting from limited access to banks after Emancipation (Stein and Yannelis, 2020; Baradaran, 2017) and red-lining in the real estate market (Jackson, 1980; Aaronson et al., 2020). All these can exacerbate differences in wealth returns, as Black households may possess lower-quality assets than white households.

[9]For our purpose, we exclude household heads that are categorized as Hispanic or other.

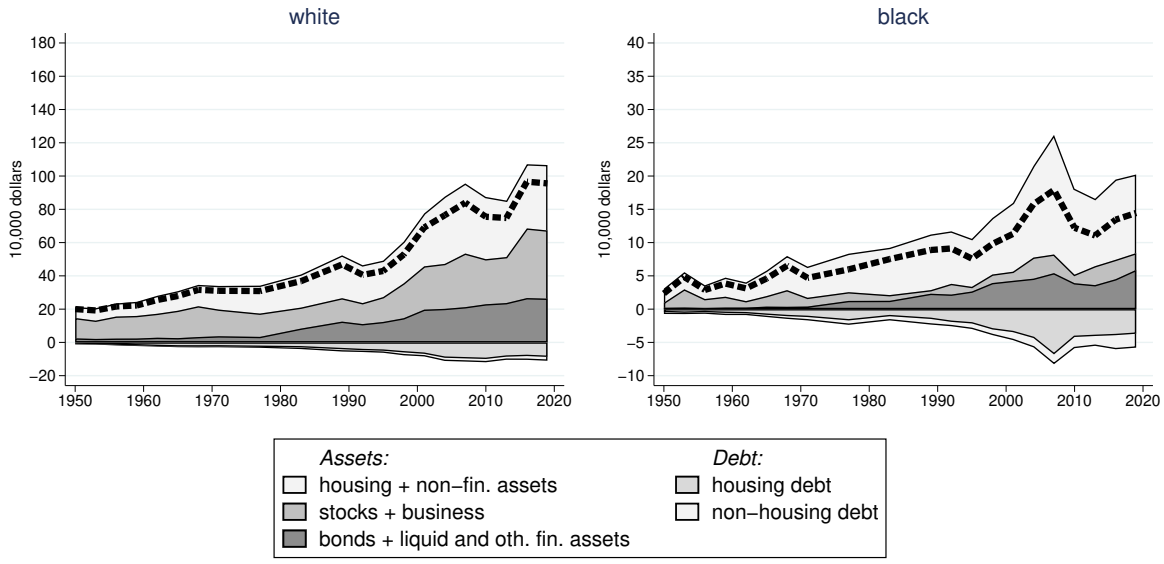


Figure 8: Portfolio composition: 1950-2019

Table 2: Portfolio shares

Decade	Other nonfin	Housing	Business	Equity	Liquid assets	Other fin
White						
1950	0.03	0.31	0.37	0.19	0.11	-
1960	0.02	0.33	0.30	0.24	0.10	-
1970	0.02	0.37	0.24	0.27	0.10	-
1980	0.04	0.45	0.24	0.11	0.12	0.04
1990	0.05	0.44	0.19	0.08	0.13	0.11
2000	0.05	0.39	0.18	0.14	0.09	0.15
2010	0.04	0.39	0.19	0.13	0.08	0.17
2020	0.03	0.33	0.22	0.17	0.07	0.18
Average	0.03	0.38	0.24	0.17	0.10	0.08
Black						
1950	0.05	0.49	0.36	0.05	0.05	-
1960	0.07	0.56	0.20	0.12	0.05	-
1970	0.07	0.61	0.15	0.11	0.06	-
1980	0.09	0.65	0.11	0.01	0.10	0.04
1990	0.09	0.62	0.08	0.01	0.07	0.13
2000	0.08	0.57	0.07	0.04	0.06	0.19
2010	0.07	0.60	0.09	0.03	0.05	0.16
2020	0.07	0.53	0.10	0.04	0.07	0.20
Average	0.07	0.58	0.15	0.05	0.06	0.09

We define the total return on an household's asset portfolio as a weighted sum of the return on different asset classes with regard to its share of total wealth:

$$R_w = \sum_c \omega_c R_c, \tag{2}$$

where R_c denotes the return on asset class c and ω_c its weight as a share of total wealth. In turn, the total return R_w can be decomposed into (1) capital gains, which reflect asset price fluctuations, and (2) a yield component, which captures the net income generated by the asset. We estimate these two components separately for Black and white households and examine how the differences affect their wealth accumulation.

Capital gains Capital gains may also explain the slowdown in Black-white wealth convergence, as portfolio compositions differ substantially by racial group. We first calculate the average yearly rate on capital gains of different asset classes (equity, housing, and business) and calculate the average Black- and white capital gain rates according to their portfolio composition. For real estate and equity, we use the values provided by the Macrohistory Database of Jordà et al. (2019).[10] To calculate capital gains of businesses, we use data from the US Financial Accounts.[11] We assume that liquid assets do not yield any capital gains. Afterwards, we calculate the average capital gains rate of Black and white household's total asset portfolio using equation (2). Table 3 presents the yearly average capital gains rate from 1950 to 2019.

Table 3: Real capital return on portfolio, yearly average over 1950-2019

	Average capital gain	White	Black
Equity	5.50%	0.94%	0.28%
Liquid assets	0%	0%	0%
Housing	0.8%	0.30%	0.50%
Business	3.37%	0.81%	0.51%
Total on portfolio	1.99%	2.01%	1.29%

Note: Race-specific capital gains are calculated using the average capital gain of a specific asset class multiplied by the average share of this asset of the total portfolio during 1950-2019 (see Table 2).

Between 1950 and 2019, stock equity has experienced the highest price increase with an average rate of 5.5%, followed by business equity (with 3.37%). Housing, on the other hand, had much lower capital gains with an average of 0.8%. In total, white households have earned on average 2.01% on their total portfolio due to capital appreciation, which is about 1.6 times higher than the capital gains of the average portfolio of Black households (1.29%).[12]

[10] We deflate the nominal capital gain rates provided in their dataset.

[11] For noncorporate equity, we use the series "Nonfinancial noncorporate business; proprietors' equity in noncorporate business (wealth)," and for corporate equity the series "Households and nonprofit organizations; corporate equities." Both series are deflated by the CPI deflator.

[12] These estimates, however, assume that Black and white households are exposed to the same asset price

Yields on wealth Another channel that can affect the wealth gap is differential returns by racial group within a given asset class. We address this channel by calculating yields on different asset classes by racial group using the method of Moskowitz and Vissing-Jørgensen (2002) and Kartashova (2014) using data of the SCF+. Specifically, we calculate average annualized yields over two waves t and $t+1$ using information on the value of an asset and the value of the associated income flow during the year preceding it. For example, the average annualized yield R over two consecutive waves t and $t+1$ is computed as the geometric average of returns R_1 and R_2:

$$R_1 = \left(1 + \frac{3CI_{t-1}}{P_t}\right)^{\frac{1}{3}} \tag{3}$$

$$R_2 = \left(1 + \frac{3CI_t}{P_t}\right)^{\frac{1}{3}} \tag{4}$$

$$R = (\sqrt{R1 \times R2} - 1) \times 100, \tag{5}$$

where CI represents the capital income and P the price of an asset.[13]

For the whole sample period 1950 to 2019, the SCF+ provides information on two aggregate sources of capital income. First, there is an aggregated variable that includes income from interest, dividends, and rent. Second, business income data is available. Only after 1983 does the SCF+ include information on capital income of different asset classes, including non-taxable investments such as municipal bonds, dividend income, other interest income, and income from rents, royalties, and trusts. We utilize both information and first estimate yields of the two broad capital income definitions for the whole sample period 1950-2019, and afterwards estimate yields on four different asset categories for the post-1989 period: (1) interest-bearing assets (includes all liquid assets, certificates of deposit, directly and indirectly held bonds, and the cash value of life insurance), (2) public equity (households' direct holdings of stock and other public equity that are indirectly owned through mutual funds), (3) business (unincorporated- and incorporated businesses), and (4) real estate.[14] Table 4 presents the averages.

For the whole sample period 1950-2019, Black households have slightly higher yields on their wealth (3.04% vs. 2.72%). However, estimates for Black households are volatile due to small numbers of Black households in the SCF+, giving rise to potentially greater measurement error.[15] . If we turn to the estimated yields for the post-1989 period, Black households have lower yields than white households, except for in business wealth (which is also highly volatile for Black households, probably due to limited data). Interestingly, there is a large difference

development. In reality, they may hold assets of different quality, due to race-specific discrimination in the asset market. For instance, in the real estate market, institutionalized racial discrimination in lending practices among financial institutions may have restricted Black households' access to real estate in high-rated neighborhoods (Jackson, 1980; Akbar et al., 2019). We address this issue in Appendix B and calculate different capital gains rates of Black- and white households using the PSID. Results show that the difference in capital gains is larger when allowing for different capital gains rates within the same asset class.

[13] We also calculate yields on wealth utilizing the method of Bartscher et al. (2020). Results remain robust.

[14] For a detailed description of how to calculate the variables for the post-1989 period, see Appendix C.

[15] The time series of the yields are provided in Figure 13 in Appendix C.

Table 4: Yearly average yield on wealth

Asset	White	Black
1950-2019		
Interest, dividend, rent	3.0%	3.13%
Business	3.21%	5.84%
Total yield	2.72%	3.04%
1989-2019		
Interest-earning assets	1.62%	0.53%
Public equity	2.1%	0.59%
Private businesses	12.12%	17.37%
Real estate	3.18%	3.07%
Total yield	4.64%	4.45%

Note: The total average yield is calculated as a weighted sum of the yield of the four asset categories (interest-earning assets, public equity, private businesses, and real estate) with respect to the average portfolio share in Table 2.

in yield on financial assets, for public equity in particular. On average, white households earn 2.1%, while Black households earn only 0.59%. Nevertheless, the yield on the total portfolio does not differ substantially across Black and white households, as real estate generates similar yields for these two groups, which comprises almost 60% of Black asset portfolios.

In summary, we explored the extent to which Black and white households have accumulated wealth at different rates from 1950 to 2019 due to differences in capital gains and yields. Our results suggest that this may be the case to some extent: on the one hand, white households enjoyed 1.5 times higher appreciation than Black households via capital gains on total portfolios. On the other hand, yield on capital does not differ substantially across Black and white households.

5.3 Differences in saving rates

Finally, we also address the hypothesis that different saving rates across Black and White households may explain the wealth gap. The literature shows that savings rates of households depend heavily on their socioeconomic characteristics such as age, income, and wealth (Juster et al., 1999; Dynan et al., 2004). It is also possible that experiences of historical betrayal by banking institutions may have reduced some Black households' trust in the financial system.[16] Baradaran (2017) describes the failure of the Freedman's Bank in 1874 after bank leaders mismanaged the

[16]For example, Alsan and Wanamaker (2018) find that the Tuskegee experiment reduced Black men's trust in the medical system leading to higher mortality and reduced longevity among that population relative to other demographic groups.

funds and engaged in speculative lending. The incident purportedly led to the loss of about half of accumulated freed persons' savings after the Civil War.

We adopt the method of Dynan et al. (2004) and estimate the so-called *active* saving rates of households for the period 1984-2017, which reflect the amount of money that households actively supply for new investment.[17] For this we utilize data of the Panel Study of Income Dynamics (PSID); a detailed description of the calculation, see Appendix D. In addition, we calculate the saving rates of Black- and White households for three different income groups: the bottom 50%, 50%-90%, and the top 10% of the whole income distribution. Table 5 presents the results.

Overall, Black households on average have lower active saving rates than White households. The difference is the highest among the bottom 50% of the income distribution, where White households have 47% percent higher saving rates, with a decreasing trend as we move to the upper groups (30% for 50%-90% and 15% for the top 10%). During the whole time period, White households have 34% higher saving rates than Blacks.

It is worth noting that here we are looking at the unconditional saving rates as we are interested in examining differences in wealth accumulation conditions that are driving the slow wealth convergence. Nevertheless, it is interesting to analyze whether saving rates of Black- and White households would significantly differ once we condition the saving rates for other socioeconomic characteristics such as wealth, education, or age. A simple regression analysis shows that once we control for these characteristics, the race of the household head does not have a significant effect on saving rates. This first-order result provides more evidence for the hypothesis that differences in saving rates can be explained by socioeconomic differences, rather than for instance, different preferences or trust levels towards the banking system compared to White households.

	White	Black
Bottom 50%	6.08%	4.11%
50%-90%	7.97%	6.15 %
Top 10%	10.02%	8.75%
Total	7.23%	5.39%

Table 5: Active saving rates across different income groups

6 Policy implications: When (and how) will we reach convergence?

Our estimates of capital gains, yields on wealth, and saving rates have shown that there are indeed differences across Black and white households, with Black households having more or less worse conditions for wealth accumulation than white. Differences were especially pronounced in

[17] Total saving rates, which is the change in net wealth in proportion to income, include capital gains and therefore not suitable in visualizing the pure amount of money households additionally invest in wealth.

their capital gains, where white households have 60% higher rates, followed by gaps in savings rates. Yield differences, by contrast, are rather minor. Based on these insights, we now look ahead and ask under what scenarios would we reach convergence in the racial wealth gap in the not-too-distant future. Figure 11 presents the evolution of the white-to-Black wealth ratio after 2020, plugging into our simulation equation (1) the values estimated above for q, r, and s for each racial group. Once again, we draw annualized income growth rates from the data.

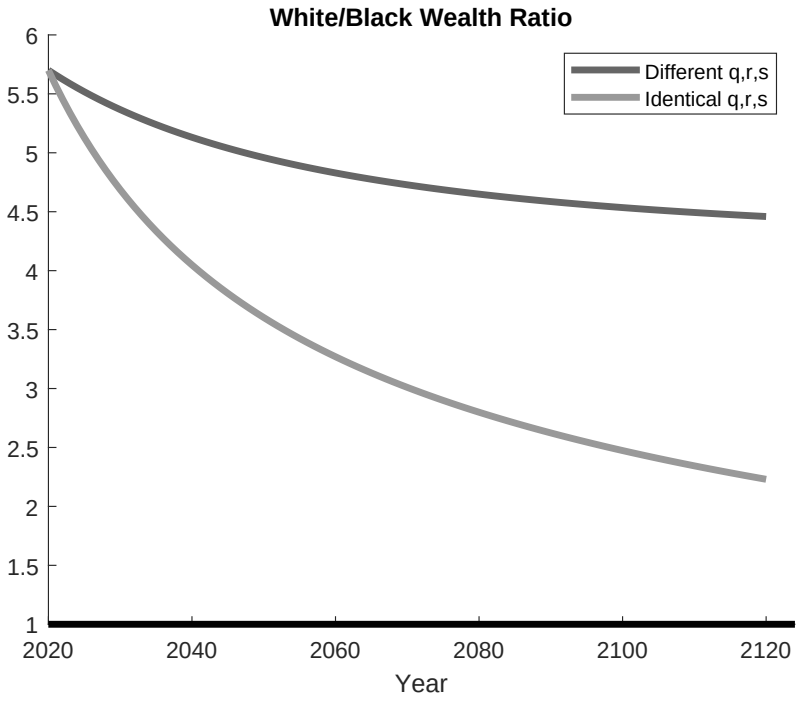


Figure 9: Wealth convergence in the near future?

The answer, strikingly, is never. Rather, it seems that we are not far from a steady state white-to-Black per capita wealth ratio of 5:1 (the racial wealth gap today is 5.7:1). This is in line with the development of the wealth gap of the last 50 years, where convergence literally stopped.

If we instead assume that conditions for wealth accumulation were equal across racial groups (light grey solid line), the ratio would converge further; however, full convergence is not yet in sight. So what conditions would be necessary to bring about convergence in the near future, for example in thirty years from now? Further simulation exercises show that Black households would either need 12.5% income growth, a 33% savings rate, a 6.4% capital gains rate, or a 75% rate of return, see Figure 10. These can be compared to the rates for the white population, which we take from the data for income growth (1.8%) and from Saez and Zucman (2016) for the savings rate (8%), the capital gains rate (6%), and the rate of return (4%). However, as we observe in the data, it is not only unrealistic for Black individuals to experience these extremely high growth rates, but it is rather the case that they experience persistently *lower* capital gains, rates of return, and savings rates due to historical and ongoing discrimination in labor and financial markets.

Our results highlight the importance both of policies designed to address contemporary

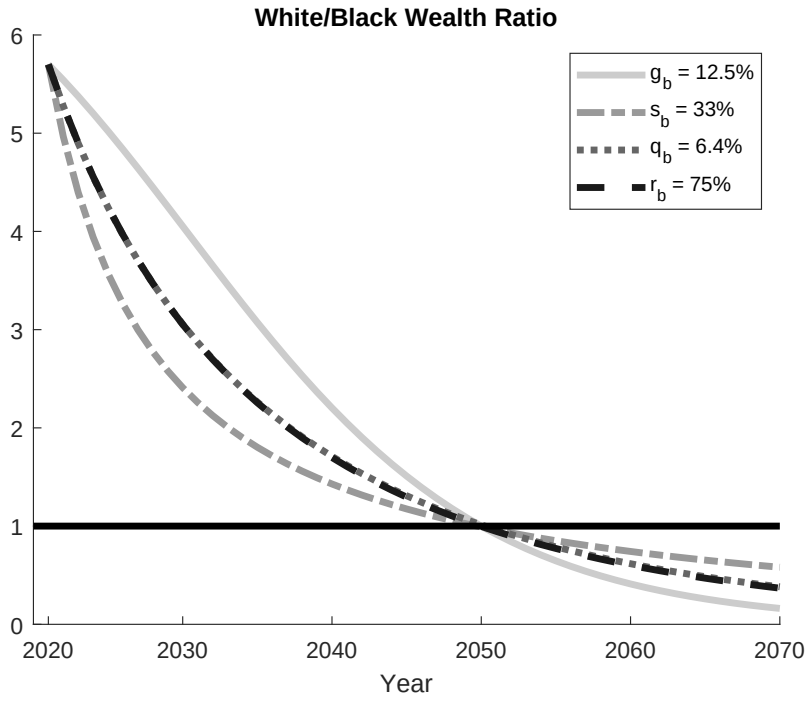


Figure 10: Wealth convergence in 2050?

wealth gaps, which can also have feedback effects on rates of return and savings rates, but also policies that directly address initial conditions in the white-Black wealth gap stemming from the institution of slavery.

Among the former set of policies, a wealth tax for households in the top 0.1% wealth distribution would help slow the growth in the white-Black wealth gap stemming from existing wealth and labor income gaps. Another policy with potential feedback effects is baby bonds. Zewde (2020) analyzes the effect proposals like "baby bonods" would have on wealth inequality and the racial wealth gap by allowing young adults to start with higher wealth, crucial not only for building a base for wealth accumulation, but also for enabling investment in education. Black households would disproportionatey benefit from a progressive baby bonds policy.

Our analysis has shown, however, that even under equal wealth accumulation conditions in financial markets from Emancipation onwards, the white-to-Black wealth ratio today would still be 3:1, about twice as large as the labor income gap. Researchers and policymakers have introduced proposals such as reparations, which specifically target this legacy of slavery on the racial wealth gap. For instance, Darity and Mullen (2020) analyze in their recent book how payments of approximately $267,000 per person among the 40 million eligible black descendants of the American enslaved would eliminate the racial wealth gap caused by systematic discrimination of the Black population prior to and after Emancipation. Our own calculations suggest that this policy would greatly eliminate wealth gaps and move us into a scenario where convergence would occur as opposed to a steady state positive wealth gap.

Convergence would likely be further accelerated through a combination of the policies discussed above as all three would not only disproportionately boost the relative wealth of Black

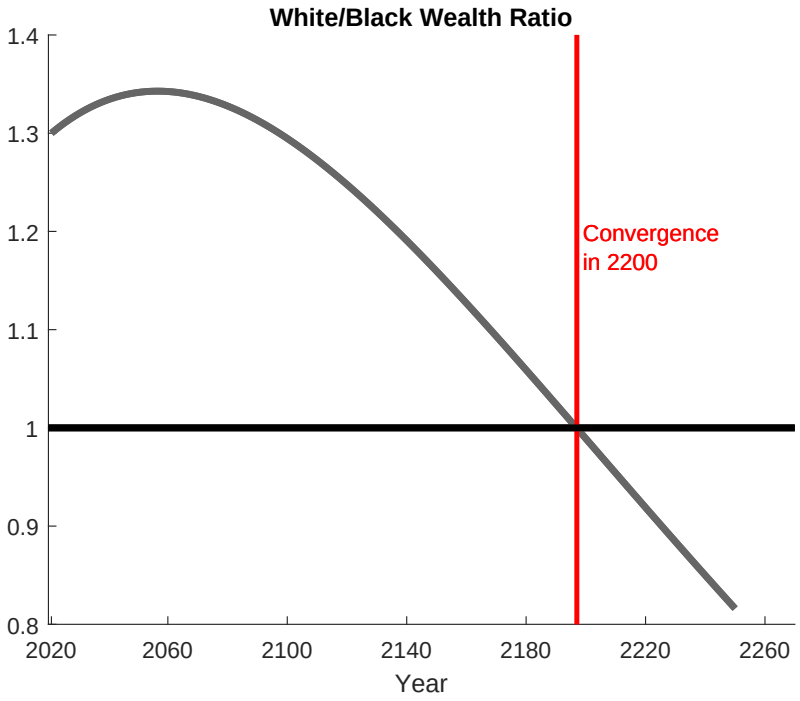


Figure 11: Wealth convergence under Darity and Mullen (2020) reparations

Americans, but also move them into wealth groups with higher capital gains and savings as wealth levels have a significant affect on investment and savings behavior (Dynan et al., 2004; Juster et al., 1999; Kuhn et al., 2020).

7 Conclusion

We document the evolution of the racial wealth gap in the US from 1860 to 2020. Despite rapid convergence of the racial wealth gap during the first 50 years after Emancipation, racial wealth convergence has slowed to a halt since the mid-20th century, with wealth gaps again diverging during the Global Financial Crisis. Given starting conditions as a result of slavery as well as differences in returns on wealth across Black and White households, our analysis suggests that we are caught in a steady state, with a White-to-Black per capita wealth ratio of 5:1 being our final destination. Therefore, policy interventions that can improve the relative wealth standing of Black Americans, such as reparations, baby bonds, and wealth taxes, are crucial to initiate further convergence for the future.

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A Comparison of historical state wealth ratios to Margo (1984)

Below we compare our estimates for the white-Black per capita wealth ratio derived from our digitization of state auditor reports to those of Margo (1984). Table 6 shows that results are broadly similar for most states with Louisiana being the exception. This is due to the fact that the Louisiana state auditor reports exclude data for Orleans Parish, which includes New Orleans. Margo (1984) assumes that country parish ratios apply to the state overall, for which aggregate wealth is available, and computes the state-wide wealth ratio this way. We use a different approach to account for the possibility of greater wealth holding by Black Americans in New Orleans relative to the country parishes. We take the 1870 Census and compute white-to-Black wealth ratios in New Orleans. We then subtract total country parish wealth from total wealth in Louisiana to derive wealth in New Orleans every year for which tax data are available. Assuming that the white-to-Black wealth ratio in New Orleans holds constant over time, we compute Black and white wealth in New Orleans using this method and then recompute the per capita wealth ratio for the state of Louisiana using these adjusted measures for aggregate Black and white wealth in the state.

Table 6: Average white-Black wealth ratios: Margo (1983) & DKKS (2020)

	1870	1880	1885	1890	1895	1900	1910	1910
Arkansas								
Margo(1983)						9	7	6
DKKS(2020)						9	7	6
Georgia								
Margo(1983)								
DKKS(2020)		36	36	32	26	24	23	
Kentucky								
Margo(1983)	36	22	22	19				
DKKS(2020)	33							
Louisiana								
Margo(1983)					18		20	25
DKKS(2020)					14		16	19
North Carolina								
Margo(1983)					17		13	9
DKKS(2020)					17		12	9
Virginia								
Margo(1983)					19		14	10
DKKS(2020)							13	11

Source: Margo (1983): Margo's (1983) data originally collected from southern state auditor reports and reported for selected years in Table 1. DKKS (2020) calculated from their new digitization of these same reports and supplemented by W.E.B. Du Bois's data on property holdings by race in Georgia from 1877 to 1900.

B Heterogeneous capital gains: the PSID

We calculate capital gains across the two racial groups by utilizing the data of the Panel Study of Income Dynamics (PSID). The PSID is a nationally representative longitudinal study of US families over time since 1968. Starting from 1984, the PSID introduces a detailed wealth module, where households are asked to report their holdings in different asset classes. One advantage of the PSID over the SCF+ is its panel dimension, which is useful for estimating the change in households' investment decisions over time that allows us to estimate capital gains for each asset class separately. In every wave, respondents are asked to report the present value of their asset, i.e. how much money they would receive if they sold it today. In addition to the current value of an asset, households are also asked to report whether they have further invested (or withdrawn)

money in the asset since the last survey wave. In order to obtain a clean measure of the pure capital gain of an asset, we need to subtract this actively invested amount. The average yearly return on capital of an asset i during two waves t and $t-p$ is calculated as follows:

$$cg_{i,t,t-p} = \left(\frac{W_{i,t} - AS_{i,t}}{W_{i,t-1}} \right)^{\frac{1}{p}} - 1 \tag{6}$$

where $W_{i,t}$ is the current value of an asset i at time t, AS_t the actively invested (or de-invested) amount, and $cg_{i,t,t-p}$ is the rate of capital gain or loss. Again, we calculate capital gains of three asset categories: equity, housing, and business. As data is available starting from 1985, we are able to calculate capital gain rates during 1989-2017.[18] Table 7 presents the results.

Table 7: Yearly capital gains on wealth

Asset	Average		White	Black
	PSID	Other		
Equity*	4.03%	6.73%	5.78%	0.98%
Liquid assets	0%	0%	0%	0%
Housing	2.70%	1.03%	2.37%	2.16%
Business	5.56%	4.89%	6.17%	2.78%
Total on portfolio	3.01%	2.64%	3.36%	1.72%

Note: The total capital gain on portfolio is calculated as a weighted sum of the capital gain rates of the asset categories with respect to their average portfolio share. The second column provides estimates of capital gains using external sources such as the Macro History Database of Jordà et al. (2019) and the Financial Accounts.

* Prior 2001, the PSID does not provide information on pure stock holdings, as they combine the information on stock holdings in form of IRAs.

Indeed, the rate on capital gains/losses differ substantially across Black and White households. In particular, capital gains differ greatly for business- and stock equity wealth, where on average White households experienced capital gains of 5.78% on stocks and 6.17% on businesses, while only 0.98% and 2.78% for Black households, respectively. For housing, capital gains do not substantially differ, with White households having on average 0.1 times higher capital gains on their main dwelling and other real estate. For private businesses, White households experienced approx. 2% higher gains. As a result, capital gain on the whole asset portfolio for White

[18] Before 2001, the PSID does not separate between private stock investment and investment in IRAs. Therefore, capital gains on stock equity is calculated for the 2001-2017 period. Note that our capital gain measures are exposed to measurement error, as the answers to the amount actively invested in assets are very noisy. Especially for Black households, there are much less data points compared to White households, which also affects the quality and accuracy of our capital gain rate measure. Therefore, we adjust for outliers for each asset type in a different way because, for instance, business wealth is very scarce among Black households and thus must be adjusted in another way than the value of main dwelling. Nevertheless, our measures provide insights to which degree capital gains on different types of assets may differ across Black and White households.

households is 1.95 times higher than for Black households. This is slightly larger than the ratio we obtain by assuming equal capital gain rates (1.6).

C Calculating yields

For the period 1989-2019, we closely follow the method of Xavier (2020) to calculate the yields on wealth. In this appendix, we provide information on which data is used to estimate income flows of different asset classes. Again, the average annualized yield R over two consecutive waves t and $t+1$ is computed as the geometric average of returns R_1 and R_2:

$$R_1 = \left(1 + \frac{3CI_{t-1}}{P_t}\right)^{\frac{1}{3}} \tag{7}$$

$$R_2 = \left(1 + \frac{3CI_t}{P_t}\right)^{\frac{1}{3}} \tag{8}$$

$$R = (\sqrt{R1 \times R2} - 1) \times 100, \tag{9}$$

where CI presents the capital income and P the price of an asset.

Interest-bearing assets This asset category includes all liquid assets, certificates of deposit, directly and indirectly held bonds, and the cash value of life insurance. Capital income on this asset is the total annual interest income that the households report.

Public equity Public equity is defined as the sum of households' direct holdings of stocks and other indirectly held stocks through mutual funds. The income flow are the dividends generated by these assets.

Private business equity Wealth from private businesses are defined as the share of net equity in non-publicly traded businesses, which includes both unincorporated and incorporated businesses. We estimate the profits generated by private businesses by closely following the method of Moskowitz and Vissing-Jørgensen (2002) and Kartashova (2014). They adjust the reported income from businesses for corporate taxes, retained earnings, and the unreported labor income of entrepreneurs.

Real estate Exact data on the total income generated by real estate is not provided by the SCF+. Rather, the households are asked to report their overall earnings on rent, royalties, and trust. We follow the method of Xavier (2020) and extract the capital income that is exclusively generated by rent. We assume that if (1) households do not own primary residence or any real estate or (2) they do not own any other real estate and has declared royalties, their reported income is associated with royalties or trust, but not rents. We deduct these values from the total income of this category.

Figure 12 presents the yields calculated with the above-mentioned method for 1989-2019 and Figure 13 are the yields with the more rough estimates of capital income for the whole period 1950-2019. Remember that for pre-1989 period, the SCF+ only provides two broad categories of income flows of assets, namely (1) income from dividends, interest, and rent, and (2) business income. Therefore, for the first category we aggregate financial wealth and real estate wealth to calculate the yields.

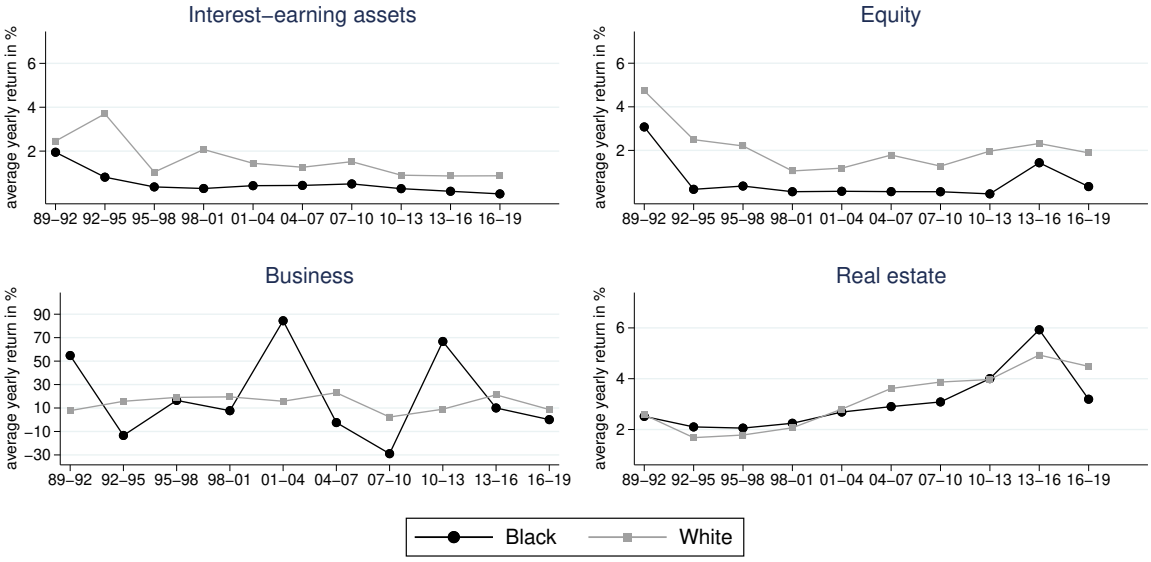


Figure 12: Yearly yield on different asset classes

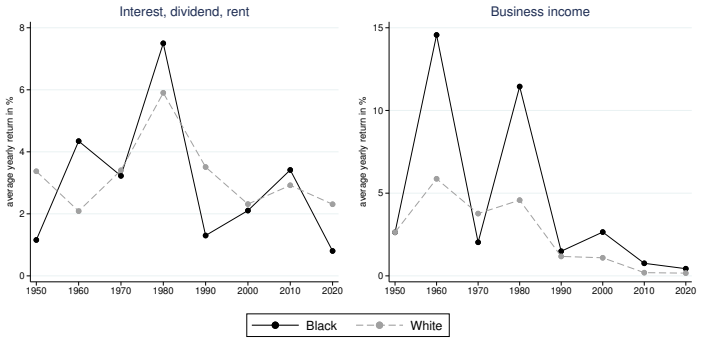


Figure 13: Yearly yield on different asset classes, 1950-2019

D Active saving of households

Active savings are defined as the following:

- Active savings =
  - + Active savings in main dwelling
  - + net amount invested in real estate (excluding main dwelling)

+ change in the net value of vehicles

+ net amount invested in business

+ net amount put into IRA

+ net investment into stocks

+ change in the value of cash assets

+ change in the net value of other assets

- change in the value of other debt

Active savings in main dwelling is not straightforward and thus be estimated separately for households that live in the house and those who moved out. If the family did not move, the active savings are the reduction in mortgage principal. If the household moved out, then the change in the net value of the house is considered as active savings. Also, we consider the value of additions and improvements to the house as active savings as well. For real estate, vehicles, business, IRA, and stocks, the PSID provides information on how much money the households actively put in (or cash out) since the previous wave. We use this information to calculate the active savings for these asset categories. Finally, the PSID assumes that the change in cash assets and other (financial) assets is purely driven by active savings. Nevertheless, the category "other assets" may include interest-generating assets, such as this assumption may overestimate the pure amount households have actively saved. Therefore, we assume a 1% annual real rate of return for this asset category and deduct this amount from its change in value.

The active saving rate is then calculated by taking the ratio of active savings and the sum of total family income during the two consecutive waves. Figure 14 presents the results for 1989-2017. Note that the starting from 1990s, the PSID does not provide information on the amount of income taxes. Therefore, we cannot calculate the saving rates of households with respect to their *disposable income*. Nevertheless, our estimates in Figure 14 is quite in line with the NIPA measures of saving rates, with a slight level shift (our estimates being lower than the NIPA). Nevertheless, this is an important channel that we must address in the near future.

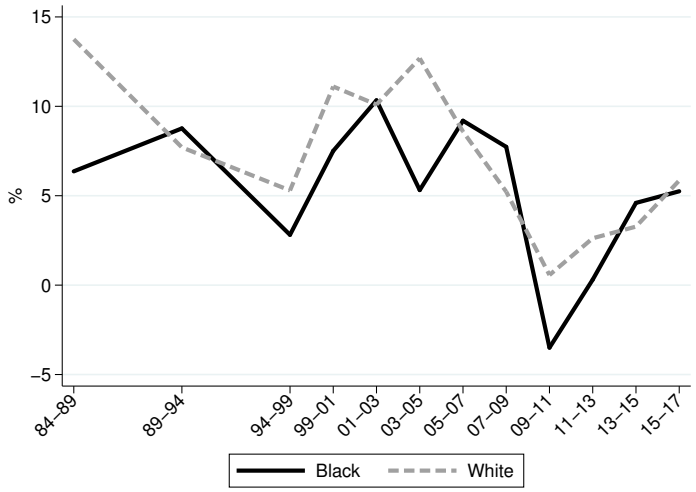


Figure 14: Average annualized saving rates: 1984-2017