Online appendix for "The racial wealth gap, 1860-2020"

Α	Data sources for historical racial wealth gap series	3
	A.1 Southern state auditor reports, 1866-1936	. 7
В	Additional details on construction of the historical racial wealth gap series	19
	B.1 Top-coding in the 1860 and 1870 censuses	. 19
	B.2 Alternative assumptions around bottom-censoring in the 1870 census $\ldots \ldots \ldots$. 19
	B.3 Estimating Black wealth growth rates from state tax data	. 20
	B.4 Sensitivity of growth rate estimate to dynamics in assessment ratios and Black over- assessment	. 26
	B.5 Reconstruction and adjustment of Monroe Work's national Black wealth estimates from the Negro Year Book series	. 27
С	Alternative wealth gap estimates during the interwar period	31
	C.1 Racial gaps in farm values, housing wealth, and financial wealth	. 31
	C.2 Study of Consumer Purchases in the United States	. 32
D	Robustness checks and sensitivity analyses for wealth gap series and addition results	<mark>al</mark> 35
	D.1 Robustness checks and sensitivity analyses for wealth gap series	. 35
	D.2 Black and non-Black per capita wealth	. 42
	D.3 Wealth gap between white Americans and other racial and ethnic minorities	. 45
E	The conditional racial wealth gap	49
\mathbf{F}	Historical violence, institutions, and the racial wealth gap	52
	F.1 Years as a free state and racial wealth inequality	. 52
	F.2 Historical racial regime and the racial wealth gap	. 54
	F.3 Wilmington, NC in 1898	. 56
G	Black-to-white wealth ratios and Black Americans' share of national wealth, 186 2020	<mark>0-</mark> 58
н	Homeownership and housing wealth gaps, 1860-2020	62

Ι	I Racial gaps in q and s implied by fitting wealth accumulation model to the data						
J	Estimating racial differences in q and s using the SCF+	71					
	J.1 Racial differences in capital gains rates	71					
	J.2 Racial differences in savings rates	74					
K	The racial wealth gap along the distribution	78					
	K.1 Racial wealth rank gap	79					

Appendix A Data sources for historical racial wealth gap series

We draw on numerous sources to construct our baseline white-to Black per capita wealth gap series as well as our robustness checks. Table A.1 organizes sources for our baseline series by period and racial group. Below we introduce each source in turn before delving into additional details on newly digitized sources.

Complete-count US censuses of 1860 and 1870 We obtain our earliest measures of Black and non-Black wealth at the national level from the complete 1860 and 1870 census. All census data were obtained from Ruggles et al. (2021). Starting in 1860, census enumerators recorded the real property and personal property of every household member. Our measure of wealth is the sum of reported real and personal property. Census enumerators were provided with detailed instructions listing the kinds of items to be included in personal property; furthermore, the instructions explicitly stated that the personal property column was meant to encompass all wealth not captured in the real property column. Note that in 1870, enumerators were instructed to record personal property for those with at least \$100 and real property for all. In Appendix B, we describe how we address both bottom censoring and top-coding in the census. We include the relevant portions of enumerator instructions from https://usa.ipums.org/usa-action/variables/PERSPROP#questionnaire_text_section below.

Real property, 1860: "Value of Real Estate. – Under heading 8, insert the value of real estate owned by each individual enumerated. You are to obtain this information by personal inquiry of each head of a family, and are to insert the amount in dollars, be the estate located where it may. You are not to consider any question of lien or encumbrance it is simply your duty to enter the value as given by the respondent."

Real property, 1870: "Property. Column 8 will contain the value of all real estate owned by the person enumerated, without any deduction on account of mortgage or other incumbrance, whether within or without the census subdivision or the country. The value meant is the full market value, known or estimated."

Personal property, 1860: "Value of Personal Estate.- Under heading 9, insert (in dollars) the value of personal property or estate. Here you are to include the value of all the property, possessions, or wealth of each individual which is not embraced in the column previous, consist of what it may; the value of bonds, mortgages, notes, slaves, livestock, plate, jewels, or furniture; in fine, the value of whatever constitutes the personal wealth of individuals."

Personal property, 1870: "Personal estate,' column 9, is to be inclusive of all bonds, stocks, mortgages, notes, live stock, plate, jewels, or furniture, but exclusive of wearing apparel. No report will be made when the personal property is under \$100."

Southern state auditor reports, 1866-1929 Our estimates of Black wealth for the years 1880, 1890, 1904, 1912, 1922, and 1926 are constructed by estimating the growth rate of Black wealth from 1870 to 1929 using annual or biennial southern state auditor reports of Black wealth. These reports

contained exhaustive accounts of state government finances, including – most importantly for our purposes – detailed information on property valuation and taxation at the county and state level. For some number of years, the following states reported such information separately by racial group: Georgia, Louisiana, North Carolina, Virginia, Kentucky, and Arkansas. We digitized property valuations and tax payments data for the relevant reports for these states to construct measures of Black and white wealth. A full description of these data and our digitization follows in Appendix A.1 below.

The Negro Year Book, 1930 and 1936 The Negro Year Book was a statistical encyclopedia on Black Americans published between 1913 and 1945 by Monroe Nathan Work (and collaborators after his death in 1945).

These books, edited by Monroe Nathan Work (1866-1945) contain historical and contemporaneous statistics on Black economic status, including estimates of aggregate Black wealth. We draw on these estimates for measures of Black wealth during the Great Depression. Estimates are available for 1930 and 1936 in these years. We describe our reconstruction of Work's approach for estimating national wealth and our subsequent adjustment of his estimates in Appendix B.5.

National wealth sources, 1870-1936 For the time period 1870-1936, we do not have separate information on national non-Black wealth. Therefore, we estimate non-Black wealth by subtracting total national wealth from our estimated Black wealth measures. We draw national wealth estimates for the period 1870-1922 from the U.S. Census Bureau's "Wealth, Public Debt, and Taxation" report covering national and state-level wealth from 1850 to 1922 (United States Bureau of the Census, Carruthers, et al., 1924).⁴⁵ We use total taxable wealth as our measure of national wealth. Estimates are available for the following years: 1870, 1880, 1890, 1900, 1904, and 1922. For the years 1926, 1930, and 1936, we use national wealth estimates from Saez and Zucman (2016). The measure is net private wealth.

Historical and modern waves of the Survey of Consumer Finances (SCF+) From 1949 to the present, we use harmonized waves of the Survey of Consumer Finances (the 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, Schularick, and Steins (2020). Before the modern 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, Schularick, and Steins (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 from 1949 to 2019.

Wealth in the SCF+ comprises marketable net 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

⁴⁵Early editions were titled "Wealth, Debt, and Taxation."

the sum of housing debt, car loans, education loans, loans for consumer durables, credit card debt, and other non-housing debt. As we focus on marketable wealth, we exclude social security and defined benefit pension claims. We use these data to compute per capita wealth by racial group.

Year	Ble	Black	Nat	National
	Measure	Source	Measure	Source
1860	Personal + real property	Census	Personal + real property	Census
1870	Personal + real property	Census	Estimated value of all tax- able property	Wealth, Public Debt, and Taxation Report
1880, 1890, 1900, 1904, 1912, & 1922	$W_t = W_{1870}$, $e^{(\text{estimated growth rate})(t-1870)}$, estimated growth rate is $\hat{\beta}$ from Log wealth _{st} = $\alpha + \beta \cdot t + \delta_s + \varepsilon_{st}$, where Log wealth _{st} is the log of Black wealth collected from auditor reports from states containing racial break- downs of assessed wealth and tax payments	Southern state auditor reports	Estimated value of all tax- able property	Wealth, Public Debt, and Taxation Report
1926	Same as for 1871-1922.	Same as for 1871-1922.	Net private household wealth (after 1922)	Saez & Zucman (2016)
$1930 \ \& \ 1936$	Estimated wealth, levels ad- justed	Work (1930; 1936)	Net private household wealth	Saez & Zucman (2016)
1950-2019	Net wealth	SCF+	Net wealth	SCF+

Period-by-racial-group schematic of wealth measures and data sources for baseline series Table A.1

6

A.1 Southern state auditor reports, 1866-1936

Our primary data sources for estimating Black wealth in the late 19th and early 20th centuries are the annual or biennial auditor, treasurer, or comptroller reports for the states of Arkansas, Georgia, Kentucky, Louisiana, North Carolina, and Virginia. These reports contained financial accounts that included government spending, revenue, and debts; audits on financial records; savings on state banks and pension funds; and, detailed information on property valuation and taxation.⁴⁶ For varying amounts of time, each of the six states listed above reported either property valuations or tax payments separately for their Black and white populations. Figure A.1 shows an excerpt from the 1903-1905 auditor report for the state of Virginia. These reports were originally analyzed by Du Bois (1901) and Higgs (1982) (Georgia only) and Margo (1984a) (the remaining five states) to understand post-Civil-War wealth accumulation by Black Americans as well as Black-white wealth dynamics during this period. In this appendix, we briefly describe our digitization and construction of Black and white wealth measures from these data. We also provide descriptive statistics on Black wealth and racial wealth inequality in these states.

 $^{^{46}}$ For a detailed description of the general property tax system in place in the US at the time, see Dray, Landais, and Stantcheva (2023).

Figure A.1 Virginia auditor report, 1904

10

All money on deposit with any bank or other corporation, firm, or person.	Shares of stocks of incorporated com- panies.	TOTAL VALUE	Total value of personal property owned by whites.	Total value of personal property owned by negroes.	COUNTIES.
Value.	Ĺ	1	1		
29,389		570,785	566,695	4,090	Snenandoan. Smyth.
45,226	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.
03,220	10,000	1,124,340	1,117,860	6,480	Wythe.
3,500		252,476	204,429	48,047	York.
				\$4,353,482	Total, Counties.

Notes: Excerpt from Virginia's Annual Report of the Auditor of Public Accounts for the year 1904 showing county totals of personal property for white and Black Virginians separately. Data sources: Auditor of Public Accounts (1904).

Digitization We used the website HathiTrust Digital Library (https://www.hathitrust.org/) to access scanned auditor reports, which we downloaded and from which we digitized the relevant information. We then supplemented with dozens of physical copies of additional reports available in the Princeton University Library ("PUL") or via inter-library loan ("ILL"), which we scanned and then digitized in a similar manner.

We were unable to obtain either digital or physical copies for a handful of years – 1873 for Georgia, 1923 for North Carolina, and 1928 for North Carolina and Virginia. Additionally, some of the original books contained missing or damaged pages, preventing data collection for that year. We supplemented our data on Georgia with data from Du Bois (1901), which provided Black wealth estimates for 1873. We also supplemented our data for North Carolina and Virginia in the late 1920s using Work (1926) and Work (1931). We have digitized state-level wealth data from the following reports and other sources for each state:

- 1. Arkansas: Auditor of State (1896; 1898; 1901; 1903; 1904; 1906; 1909; 1911; 1913).
- Georgia: Comptroller General of the State of Georgia (1878; 1879; 1882; 1884a; 1884b; 1885; 1888; 1890; 1891; 1892; 1893; 1894; 1895; 1898; 1899; 1900; 1886; 1887; 1894; 1896; 1900; 1901; 1902; 1904; 1905; 1907; 1908; 1909a; 1909b; 1911; 1912; 1913; 1914; 1915; 1916; 1917; 1918; 1919; 1920; 1921; 1922; 1924; 1925; 1926; 1927; 1928; 1929; 1930; 1931; 1932; 1933; 1934; 1935; 1936; 1937); Du Bois (1901).
- Kentucky: Auditor of Public Accounts, of the State of Kentucky (1866; 1867; 1869; 1871; 1873; 1877a; 1877b; 1879; 1883; 1885); Margo (1984b).
- Louisiana: Auditor of Public Accounts for the State of Louisiana (1892; 1894; 1896; 1900; 1906; 1908; 1910; 1912; 1914; 1916; 1918).
- North Carolina: Auditor of the State of North Carolina (1891; 1892; 1893; 1894; 1895; 1896; 1898), State Tax Commission (1903; 1904a; 1904b; 1905; 1906; 1907; 1908; 1909; 1910; 1911; 1912; 1913; 1914; 1915; 1891; 1917; 1918; 1919; 1920; 1921; 1922; 1923; 1923; 1925a; 1925b; 1926; 1929; 1930); Work (1926; 1931).
- 6. Virginia: Auditor of Public Accounts (1891; 1892; 1893; 1894; 1895; 1896; 1899; 1900; 1901; 1902; 1903; 1904; 1907; 1910; 1911; 1912; 1913; 1916a; 1916b; 1917; 1918; 1919; 1920; 1922; 1923a; 1923b; 1925; 1926; 1926; 1927; 1930); Work (1931).

The following chart indicates the state-years of data available.

Year	Arkansas	Georgia	Kentucky	Louisiana	North Carolina	Virginia
1866		U	, j			U
1867						
1868						
1869						
1870						
1871						
1872						
1873						
1874						
1875						
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1900						
1901						
1902						
1903						
1904						
1905						
1906						
1907			ļ			
1908			ļ			
1909						

Scanned books on HathiTrust Physical books from PUL/ILL Additional data from Work

Year	Arkansas	Georgia	Kentucky	Louisiana	North Carolina	Virginia
1910						
1911						
1912						
1913						
1914						
1915						
1916						
1917						
1918						
1919						
1920						
1921						
1922						
1923						
1924						
1925						
1926						
1927						
1928						
1929						
1930						
1931						
1932						
1933						
1934						
1935						
1936						

Scanned books on HathiTrust Physical books from PUL/ILL Additional data from Work **Construction** 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 follow Margo (1984a) and impute Black and white aggregate wealth by assuming the Black-white ratio of property tax payments equals the wealth ratio and multiplying the former by the state's reported aggregate wealth for that year or an adjacent year. We detail our approach for each state below.

- 1. Arkansas: The auditor reports for the state contained, for all years, assessed valuations of total property (not broken down by race) along with total property tax payments by racial group. Following Margo (1984a), we imputed Black and white aggregate wealth by assuming the Black-white ratio of property tax payments equals the wealth ratio and multiplying the former by the state's reported aggregate property valuation for that year.
- 2. Georgia: The comptroller reports for the state consisted, for all years, of assessed valuations of total property (not broken down by race) along with assessed valuations of total property of Black residents. We calculated white wealth by subtracting Black assessed valuations from total assessed valuations.
- 3. Kentucky: The information contained in the reports differed by year. Between 1866 and 1877, the reports contained information on total assessed valuations (not broken down by race) and assessed valuations for Black residents. For these years, we calculated white wealth by subtracting Black assessed property from total assessed property. From 1880 forward, the reports contained information on total assessed property broken down by race.
- 4. Louisiana: The auditor reports for the state consisted, for all years, of county-level total assessed wealth broken down by racial group.
- 5. North Carolina: The information contained in the reports differed by year. Between 1889 and 1894, the reports contained information on total assessed property (not broken down by race) along with total property tax payments by racial group. Following Margo (1984a), we imputed Black and white aggregate wealth by assuming the Black-white ratio of property tax payments equals the wealth ratio and multiplying the former by the state's reported aggregate property valuation for that year. From 1897 forward, the reports contained information on total assessed property broken down by racial group.
- 6. Virginia: The auditor reports for the state consisted, for all years, of county-level total assessed real and personal property broken down by racial group. We summed real and personal property to obtain total assessed wealth for each group.

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 (1984a). Table A.2 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 (1984a) 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.

	1870	1880	1885	1890	1895	1900	1910
Arkansas							
Margo $(1984b)$					9	8	6
Our estimates					9	8	6
Georgia							
Margo $(1984b)$							
Our estimates		36	31	26	24	23	16
Kentucky							
Margo $(1984b)$	36	22	19				
Our estimates	33	22	19				
Louisiana							
Margo $(1984b)$				18		20	25
Our estimates				16		16	17
North Carolina							
Margo $(1984b)$				17		12	9
Our estimates				17		12	9
Virginia							
Margo $(1984b)$				19		14	10
Our estimates				19		14	10

Table A.2White-Black per capita wealth ratios from state tax records

Notes: Wealth gap estimates from state auditor reports. Margo (1984b) refers to the data originally collected from southern state auditor reports and reported for selected years in Table 1 of that paper (Margo, 1984a). Data sources: Our estimates are calculated from a new digitization of the same reports and supplemented with data from Du Bois (1901) on Georgia.

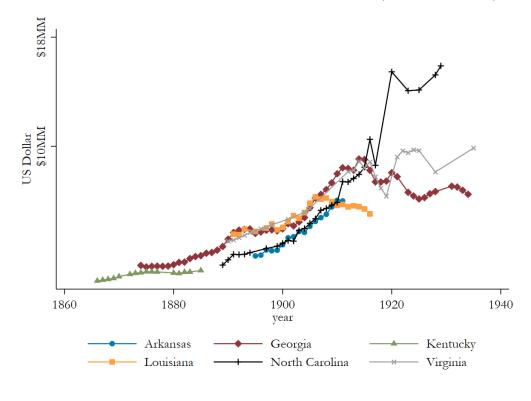
Descriptive patterns in Black wealth and white-to-Black wealth ratios in the six states Figure A.2 plots aggregate assessed Black wealth in each of the six states adjusted using the Warren-Pearson Index to the 1910-1914 price level. The figure shows that the assessed wealth of Black Americans grew substantially over this period in each of the six states, with particularly fast growth around the turn of the 20th century.⁴⁷

Figure A.3 plots the white-to-Black per capita wealth ratios for each state. The pattern of rapid initial convergence followed by a slowdown that we document in our national series also holds for these six states.

Figure A.4 extends the above analysis using data from the census and from the SCF+. As there is no consistent micro-level data with information on states, we draw on various data sources. For 1860 and 1870, we use the full-count census data that include information on the states (filled dark blue diamonds). The red hollow circles represent the average racial gap in taxable wealth coming from the Southern state auditor reports. For the post-1950 period, we first utilize the SCF+ that provides regional information until 1983 (green diamonds). Afterwards, we use the PSID (yellow triangles). Overall, we observe that even in the more recent period, the wealth gap in the six southern states the same hockey-stick shape of convergence as the national average, albeit with an initially higher average.

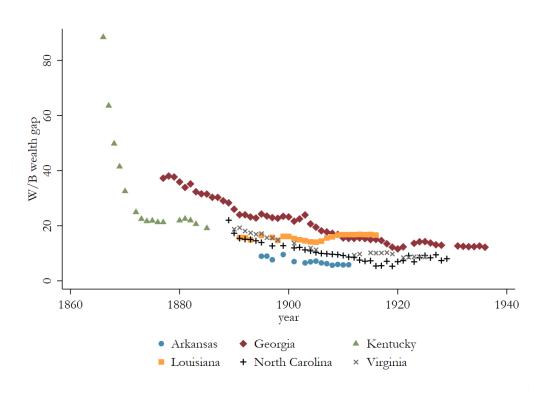
⁴⁷Assessed wealth is not equivalent to the market value of wealth, and extensive documentation of assessment ratios shows that they varied over time and across locations (Dray, Landais, and Stantcheva, 2023). Thus changes in assessed values are not equivalent to changes in market values. We discuss the role of assessment ratios over this time period in detail in Appendix B.3, where we describe our estimation of Black wealth growth rates using these data.

Figure A.2 Aggregate Black wealth by state, 1860-1920 (in \$1910-1914)



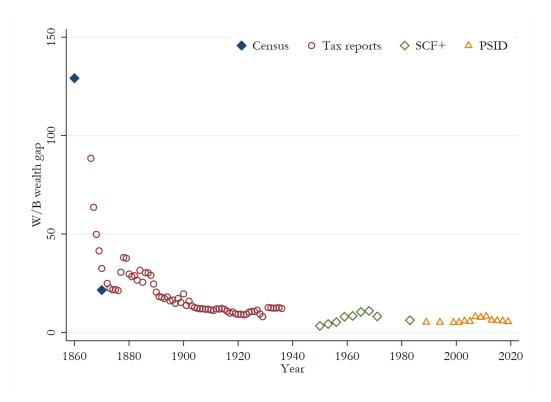
Notes: Measures of aggregate assessed Black wealth for the six southern states with auditor reports recording Black and white wealth or tax payments separately (Arkansas, Georgia, Kentucky, Louisiana, North Carolina, and Virginia). Note, we omit the years 1918 and 1919 for North Carolina where fluctuations in total property seem implausibly large, even after adjusting for assessment ratio changes. Estimates are adjusted to be in \$1910-1914 using the Warren-Pearson Index (United States Bureau of the Census, 1949). Data sources: Southern state auditor reports (see Appendix Section A.1).

Figure A.3 White-Black per capita wealth ratio in the six tax data states, 1860-1936



Notes: White-to-Black per capita wealth gaps for the six southern states with auditor reports recording Black and white wealth or tax payments separately (Arkansas, Georgia, Kentucky, Louisiana, North Carolina, and Virginia). Data sources: Southern state auditor reports (see Appendix Section A.1) and Cummings and Hill (1918).

Figure A.4 White-Black per capita wealth ratio in the six tax data states, 1860-2020



Notes: White-to-Black per capita wealth gap series in Arkansas, Georgia, Kentucky, Louisiana, North Carolina, and Virginia. The dark blue filled diamond presents the results using census data. Red hollow circles are from tax reports in the six southern states. Green hollow diamonds represents the racial wealth gap using the SCF+. Finally, the yellow triangles are based on data of the PSID. Data sources: Census (Ruggles et al., 2021); southern state auditor reports (see Appendix Section A.1); Du Bois (1901); SCF+; and the PSID.

Appendix B Additional details on construction of the historical racial wealth gap series

This appendix provides additional details on the construction of our long-run series.

B.1 Top-coding in the 1860 and 1870 censuses

There are very few top-coded observations in the 1860 and 1870 census (211 in 1860 and 432 in 1870). To adjust for top-coding, we take the earliest available estimates for wealth concentration at the very top of the U.S. wealth distribution from Saez and Zucman (2016). They report that the top 0.01 percent of tax units owned 8.8 percent of total wealth in 1913. To impute wealth levels of top-coded observations, we take national estimates of total taxable wealth from United States Bureau of the Census, Carruthers, et al. (1924), which was \$16,159,616,068 in 1860 and use this to derive an estimate for average wealth of the top 0.01 percent of tax units in 1860. In the Census data, we consider the household to be equivalent to the tax unit and replace all top-coded observations using this estimate for average top wealth. In other words, we estimate that the top 0.01 percent of the top-coded households. We proceed with the same steps for 1870 and estimate that the average wealth of the top 0.01 percent of the wealth distribution was wealth of \$3,432,867. The estimate for national wealth in 1870 is \$30,068,518,507.

Because top-coded individuals make up less than .01% of the population in both censuses and we only impute wealth for the top-coded individuals, we end up with a top 0.01% share of 4.4% in 1860 and 6.9% in 1870. A top .01% share of 4.4% is the median top 0.01% share observed in the time series by Saez and Zucman (2016) while 6.9% is in the third quartile of their estimates. In case we underestimate top white wealth with this imputation, as a sensitivity check, we used the minimum and maximum values of the top 0.01% share from Saez and Zucman (2016) for the years 1913 to 2012 – which are 2.2% and 11.4%, respectively – to generate alternative estimates of the wealth of top-coded white individuals. Doing so gives us a range of estimates for the wealth gap in 1860 of 55.0 to 56.7 and a range in 1870 of 20.6 to 21.6 .

B.2 Alternative assumptions around bottom-censoring in the 1870 census

In the first step, we consider the 1860 census data that does not have censoring at 100 dollars for personal property. We use these data to estimate the share of persons with personal wealth of zero conditional on having wealth below 100 dollars. For the Black population, we include the enslaved population of 3,858,866 persons with personal property of 0 dollars. We find that 99.4% of the Black population and 97.5% of the white population in 1860 that report personal property below 100 dollars report zero dollars of personal property. In the entire population only 15.1% of all individuals, 17.3% of white individuals and 1.3% of Black individuals, report positive values for personal property in 1860.

We then consider the 1870 data and find that the recording of personal property in 1870 also contains slightly above 80,000 non-zero observations below 100 dollars whereas there should be none (54,000 white individuals, 26,000 Black individuals). We consider these records as the result of data

collectors not following the instructions and also recording values below 100 dollars. Based on these records, we estimate separately for the Black and white population conditional means for personal property below 100 dollars in 1870, i.e., we compute the conditional mean for positive personal property below 100 dollars for Black and white individuals. For Black individuals, we get a mean of 39 dollars and for white individuals a mean of 48 dollars. We impute these means to a fraction of individuals that according to our 1860 estimates should have non-zero personal property below 100 dollars, i.e., we match the 1860 share for the Black and white population with "true zeros." Before the imputation, average personal property of Black individuals was 15 dollars and it is 15 dollars after the imputation. For white individuals, we have 248 dollars of average personal property before the imputation and 249 dollars including the imputation. The share of individuals with zero wealth in the group of individuals with less than 100 dollars is 99.8% for white individuals before the imputation and it is 97.5% after the imputation. For Black individuals, the share of Black individuals with zero personal property conditional on having less than 100 dollars of personal property is 99.4% after the imputation unchanged from the 99.4% before the imputation. The shares for zero wealth after the imputation are targeted based on the 1860 data.

In both years, we replace missing observations with zeros. In 1860, we replace 2,004 observations for real estate and 1,608 observations for personal property. In 1870, we replace 329 observations for real estate and 355 observations for personal property.

B.3 Estimating Black wealth growth rates from state tax data

We use data from the state auditor reports described in Appendix A.1 to estimate growth rates of Black wealth, which we then use to extrapolate aggregate Black wealth as recorded in the 1870 Census until the year 1926. Specifically, we regress log wealth in state s on a linear time term t and state fixed effects δ_s :

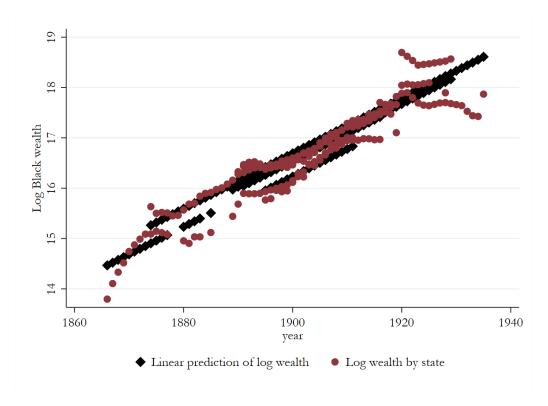
$$\log w_{st} = \alpha + \beta t + \delta_s + \varepsilon_{st}.$$
(6)

Because we have an unbalanced panel of state-years, we weight the regression by the inverse number of observations.⁴⁸ Figure B.1 plots predicted log wealth $(\log \hat{w}_{st} = \hat{\alpha} + \hat{\beta}t + \hat{\delta}_s)$ against observed log wealth for the six states using the estimated coefficients from regression equation 10. The figure shows a close fit to the data. Our extrapolation of Black wealth after 1870 using this estimated growth rate $(\hat{\beta})$ is described in Section III.

As discussed in Section III.A.2., we must make two assumptions to apply the growth rate estimated using assessed Black wealth in these six states to Black wealth nationally. First, the growth rate of Black wealth in these six states must be representative of the national growth rate of Black wealth. Second, that changes in assessment ratios and Black over-assessment do not bias our estimate of the growth rate. We explore these issues in detail in this Appendix section.

 $^{^{48}}$ We find a similar growth rate using the unweighted regression.

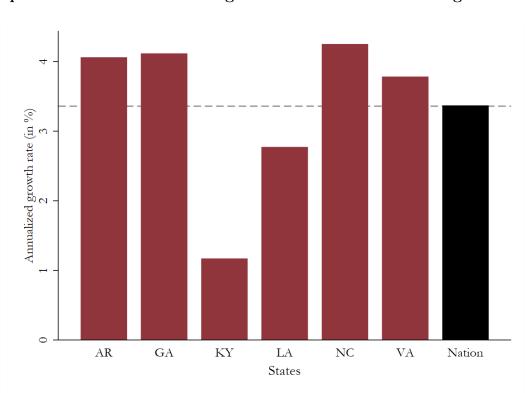
Figure B.1 Log wealth and predicted log wealth for six southern states

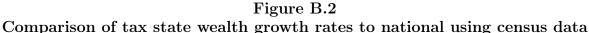


Notes: Log wealth and log wealth predicted using a linear time trend and state fixed effects. States included are Kentucky, North Carolina, Georgia, Arkansas, Virginia, and Louisiana. Data sources: Southern state auditor reports; Du Bois (1901); Work (1922); and Margo (1984a).

B.3.1 Comparison of growth rates in tax record states to national growth rates

As a first step, we compare growth rates in Black wealth in the six states for which we have tax data to that of Black wealth nationally using the available data. First, we examine the growth rate in real wealth using the 1870 census, which recorded real property, and the 1930 and 1940 censuses which recorded home values for owner-occupied homes.⁴⁹ Taking the log of Black real wealth in 1870 and the log of Black real wealth averaged across 1930 and 1940, we construct the growth rate as the annualized difference in log wealth across the two periods. Figure B.2 shows the results. As seen in the figure, while some of the six states have growth rates higher than the national, others have growth rates below. The average growth rate across these states, depicted in the dashed line is extremely similar to the national growth rate.





Notes: State-level and national growth rates in real property values (from 1870 to the 1930s (averaging 1930 and 1940). The horizontal dashed line marks the average growth rate across the six southern states with data on wealth by racial group from 1860 to 1929. The states are Kentucky, Arkansas, Virginia, Georgia, Louisiana, and North Carolina. The dashed line shows the average growth rate across the six states. Data sources: 1870, 1930, and 1940 complete-count censuses (Ruggles et al., 2021).

 $^{^{49}}$ We cannot separately identify home values from other real property in 1870, and the 1930-1940 censuses does not include measures of personal property or real estate wealth beyond home values (for owner-occupied units). We take the average of 1930 and 1940 to smooth out real wealth declines during the Great Depression which may have been differential across states and regions.

B.3.2 Evolution of southern Black wealth shares

In a second step, we examine to what extent the share of aggregate Black wealth located in the six states (and the South overall) changed over time. A simple decomposition relates the growth rate of Black wealth in one set of states to that of Black wealth in the other states. For simplicity, we write this decomposition in terms of the South versus the North, but we show empirically that the six states with tax data are in fact more representative of the national picture than the South as a whole.

Denote total Black wealth in region $i = \{S, N\}$ in period t by $W_t^{B,i}$, where S stands for South and N for North (or non-South). Total national Black wealth (W_t^B) is then, per definition, the sum of northern and southern Black wealth:

$$W_t^B = W_t^{B,S} + W_t^{B,N}.$$

Define the share of aggregate Black wealth in the South in period t as

$$\alpha_t = \frac{W_t^{B,S}}{W_t^B}.$$

In this case, national wealth growth rate g is a wealth-share-weighted average of northern and southern wealth growth rates:

$$\frac{W_{t+1}^B}{W_t^B} = \frac{W_{t+1}^{B,S} + W_{t+1}^{B,N}}{W_t^{B,S} + W_t^{B,N}}$$
(7)

$$1 + g = \alpha_t (1 + g^S) + (1 - \alpha_t)(1 + g^N)$$
(8)

Finally, the growth rate of the southern Black wealth share α is

$$\begin{aligned} \frac{\alpha_{t+1}}{\alpha_t} &= \frac{W_{t+1}^{B,S}}{W_{t+1}^B} \frac{W_t^B}{W_t^{B,S}} \\ &= \frac{1+g^S}{1+g} \\ &= \frac{1+g^S}{1+\alpha_t g^S + (1-\alpha_t)g^N} \\ &= \left(\alpha_t + (1-\alpha_t)\frac{1+g^N}{1+g^S}\right)^{-1}. \end{aligned}$$

Therefore,

$$\alpha_{t+1} = \alpha_t \left(\alpha_t + (1 - \alpha_t) \frac{1 + g^N}{1 + g^S} \right)^{-1}.$$
(9)

Thus, the evolution of the southern wealth share depends on the relative growth rates of Black wealth in the North compared to the South. Only if the northern black growth rate exceeds the growth rate in the South, we will observe declining southern Black wealth shares (and vice versa).⁵⁰

Given these insights, we now explore the evolution of the Black wealth share in the tax states and in the South overall from 1870 to 1950. During this period, we only have micro-level data on total wealth from the 1870 census and SCF+, which starts in 1950. Thus, we also construct share of Black housing wealth in these regions over time, so we can examine wealth shares in 1930 and 1940 as well, using data from census.⁵¹ Figure B.3 presents the time series of the shares of total Black wealth and housing wealth in the tax states and the South relative to the country as a whole from 1870 to 1950.

The picture that emerges is one of relative stability. The share of Black wealth in the South decreased from 61% in 1870 to 47% in the post 1950 period. The share of housing wealth in the region fell from 56.5% in 1870 to 55.8% over the 1930-1940 period and to 43% in 1950. The share of Black wealth located in the states with tax data remained even steadier over the long run. The share of total Black wealth in the six states was 25% in 1870 and 24% in the post-1950 period. The share of Black housing wealth located in these states fell slightly from 25% in 1870 to 23% in the 1930-1940 period and 16% in the post-1950 period.

A decline of 2 pp over the 60 year period between 1870 and 1930 would imply a log growth rate in the six states that is 2.30% basis points smaller than that in the remaining states (0.0534% in the tax states compared to 5.36% in the remaining states). Thus, we conclude that the states with tax data on Black wealth have growth rates representative of Black wealth in the nation overall.

B.3.3 Black churches

In addition to the evidence above, we also provide an alternative estimate for Black wealth growth rates using information on the economic characteristics of Black churches. Black churches began forming before the Civil War and became centers of postbellum Black American life. New congregations would either buy land and build a structure for worshipping or would purchase white church buildings (Woodson, 1921; Rabinowitz et al., 1978). Typically, funds for church projects, buildings, and building improvements were raised from the community (Du Bois, 1903). According to Rabinowitz et al. (1978), Black churches became a testament to Black material progress after Emancipation. He writes that "[t]o trace the move of a church from its original building to another larger and more attractive one is to trace 'the progress of the race."

To measure the growth in the value of property owned by Black churches, we use data from the census of religious bodies. Table B.1 shows the wealth of Black churches in 1890, 1906, 1916, and 1926. Using these data, we regress log Black church property values on a linear time trend:

$$\log \text{Church Wealth}_t = \gamma + \beta^{\text{Church}} t + \epsilon_t.$$
(10)

We estimate an average growth rate (β^{Church}) of 0.0549, very similar to the trend in log Black wealth from the state auditor reports covering a similar period, from 1870 to 1917. This independent estimate

 $^{^{50}}$ See Kuhn, Schularick, and Steins (2020) for a similar argument regarding wealth shares of poor and rich households over time.

⁵¹We use real property as our measure of housing wealth in 1870.

of the growth rate from Black wealth church property values corroborates our estimate from the state tax data.

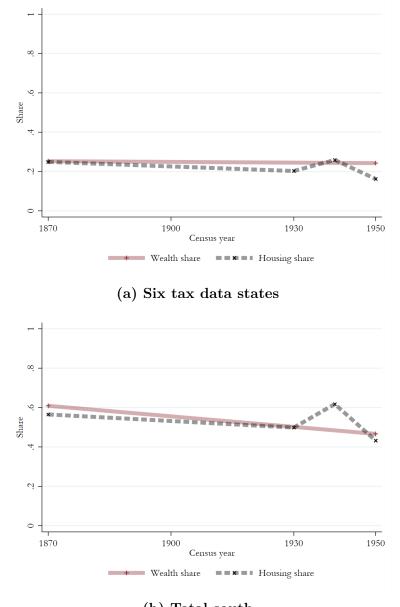


Figure B.3 Southern Black wealth and housing wealth share, 1870-1950

(b) Total south

Notes: Panel (a) presents the time series of the shares of aggregate Black wealth and housing wealth owned by the Black populations of Arkansas, Georgia, Kentucky, Louisiana, North Carolina, and Virginia combined, from 1870-1950. Panel (b) presents the shares of aggregate Black wealth and housing wealth owned by the entire southern Black population. Data sources: Data sources: 1870, 1930, and 1940 complete-count censuses (Ruggles et al., 2021) and SCF+.

	1890	1906	1916	1926
Value of Black churches	\$26,626,448	\$56,636,159	\$86,809,970	\$205,782,628

Table B.1Value of Black churches, 1890-1926

Notes: Data on the value of Black church property from 1890 to 1926. All values are current dollar values. Data sources: Census of religious bodies (United States Bureau of Census, 1992).

B.4 Sensitivity of growth rate estimate to dynamics in assessment ratios and Black over-assessment

In this section, we assess how changes in assessment ratios and Black over-assessment might affect our estimated growth rates using data on assessed wealth. We digitized data on assessment ratios for the six states with racial breakdowns in their auditor reports. We corroborated our data with data kindly shared by Dray, Landais, and Stantcheva (2023) and find that the two data series are extremely consistent (a correlation of .94 across state-years).

Figure B.4 plots our data assessment ratios and the number of states for which we observe assessed wealth from auditor reports each year. Reported in the figure is the average growth rate in assessment ratios based on a regression of log assessment ratios on a time trend, weighted by the inverse number of observations.

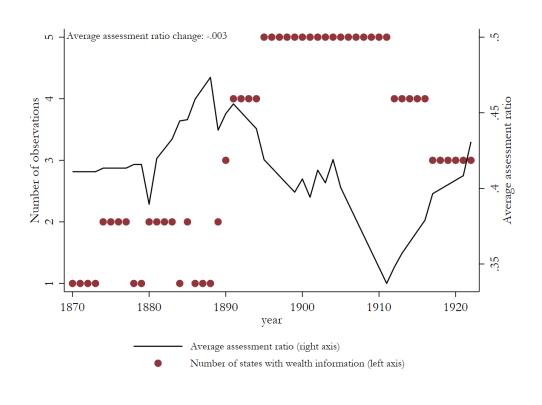
The decline in the assessment ratio is estimated to be 3 basis points. Adjusting by this amount would revise our wealth gap estimate to 5.5 from 5.8. However, any increases in Black over-assessment (the ratio of Black to white assessment ratios) work in the opposite direction.

We evaluate three possibilities for Black over-assessment. The first takes the data from Snavely (1919) for Virginia and assumes that the Black-to-white assessment ratio widened from 1 to 1.22 over this 60-year period. We take an alternative estimate for Georgia from Margo (1984a) and assume that the Black-to-white assessment ratio widened from 1 to 1.48 over this 60-year period. Finally, we also show the growth rate for an alternative lower estimate of changes in Black over-assessment from 1 to 1.10.

We show the impact of these potential changes in Black over-assessment in conjunction with assessment ratio declines. Assessment ratios for the states for which we have Black wealth data fell by 3 basis points over this 60-year period. Our middle-of-the-road assumption on changes in Black overassessment fully counteracts this decline in assessment ratios. We adhere to our baseline estimate for this reason.

We also use data from Martin (1913) on estimates of Black per capita wealth (originally from Thomas (1901)) and white per capita wealth to corroborate our wealth gap estimate for 1900. Martin (1913) reports a Black per capita estimate of \$90 and a white per capita estimate of \$1000, in nominal terms. This yields an alternative nationwide wealth gap estimate for 1900 that is extremely close to our baseline estimate, both around 11 to 1.

Figure B.4 Assessment ratios by state, 1860-1920



Notes: Assessment ratios for the six southern states with auditor reports recording Black and white wealth or tax payments separately (Arkansas, Georgia, Kentucky, Louisiana, North Carolina, and Virginia). Data sources: "Wealth, Debt, and Taxation" reports (United States Bureau of the Census, 1907; United States Bureau of the Census, Hirsch, et al., 1915; United States Bureau of the Census, Carruthers, et al., 1924).

B.5 Reconstruction and adjustment of Monroe Work's national Black wealth estimates from the *Negro Year Book* series

Every edition of the *Negro Year Book* edited by Monroe Work provided national estimates of Black wealth estimates. However, information on the methodology or sources behind these estimates is scarce. In this section, we describe our reconstruction of Work's estimates from raw sources using the information available in the books. We also describe our adjustment of these estimates to make them consistent with our overall time series of Black wealth.

B.5.1 Reconstruction of Work's Black wealth estimates

The sections of the Negro Year Book that provide national wealth estimates follow a common pattern. When describing the economic progress of the Black population, Work typically described data from Georgia, North Carolina, and Virginia auditor reports and how Black wealth in these states changed over time (see Figure B.5 below). He would then state that the growth of property in the rest of the country "has no doubt been as rapid." We use our digitized tax data together with the description of data from Monroe Work's reports to reconstruct his estimates. Such a reconstruction will naturally

involve choices, and we experimented to get close to his historical estimates. We believe the result of the experimentation yields a description on how to construct his estimates that appears to us reasonable and likely.

Figure B.5 Monroe Nathan Work methodology

2

NEGRO YEAR BOOK.

In Virginia in 1917 Negroes owned 1,733, 745 acres of land valued at \$10,986, 993. The assessed value of their real and personal property was \$42,291,830. In those states where there are no separate returns for white and Negro property owners, the increase in property holdings has no doubt, been as rapid as in Georgia, North Carolina and Virginia. Through purchases and increase in values, property holdings of Negroes of the country increased during the year by probably, \$40,000,000. It is estimated that the total wealth of the Negroes of the United States is about One Billion One Hundred Million Dollars. They own twenty-one million acres of land, or more than thirty-two thousand square miles; an area greater than that of the state of South Carolina.

Notes: Excerpt from the Negro Year Book of 1919. Data sources: Work (1919).

For the year 1873, Monroe Work reports a level of 50 million dollars of national Black wealth. This level is much lower than the level of national Black wealth from the 1870 Census, which is already 191 million dollars. We think his lower level results from him relying on tax data. Also, for the 19th century, Work focuses on the data from Georgia. Total Black wealth in Georgia in 1873 is 6.16 million. We conjecture that he used the wealth data from Georgia as representative for the entire Black population in the United States at that point in time. If this is true, then we arrive at the national wealth estimate for the Black population by dividing total Black wealth in Georgia by the share of the Black population living in Georgia.

Using linear interpolation between Censuses, we get that 11.1 percent of the Black population lived in Georgia in 1873. The resulting national wealth estimate are 55.2 million dollars, hence, only 10 percent higher than the level reported by Monroe work. We therefore think that given the data listed in his reports this is the approach he used to construct his level estimate. We apply the same methodology for the two other estimates for the 19th century in 1883 and 1893. It is important to note that Monroe Work's first report appeared in 1912 and most of the reported data come from his 1913 report. Hence, he had to construct aggregate Black wealth estimates for a period four decades earlier. At the time of his writing, the economic progress of the Black population had accelerated and wealth growth was higher than in the late 19th century. Based on his description, we infer that he started to rely on wealth growth estimates from the first decade of the 20th century to extrapolate his initial level estimates based on data from Georgia over time.

It is difficult to determine when Monroe Work started to use extrapolation based on growth rates or extrapolation based on levels and population shares. For the late 19th century, the two approaches will be identical if we consider Georgia as the only data source. With the beginning 20th century, data for more states become available. We typically rely on data that cover roughly a decade before his estimates and use all available data for Georgia, Virginia, and North Carolina. We consider five time periods for which we estimate wealth growth rates 1900-1910, 1913-1920, 1916-1922, 1916-1928, and 1922-1932 and apply these estimates to time period from 1903 to 1936. Figure B.6 reports the (log) wealth levels from his reports and our replication. It is quite likely that Monroe Work adjusted his estimates from report to report in the later years especially during the period of the Great Depression. We abstained from such additional adjustment so that we associate our higher wealth levels compared to his original estimates to these missing adjustments. In summary, the replicated time series matches the reported time series very well such that we are confident that we closely approximate his approach to construct national wealth estimates.

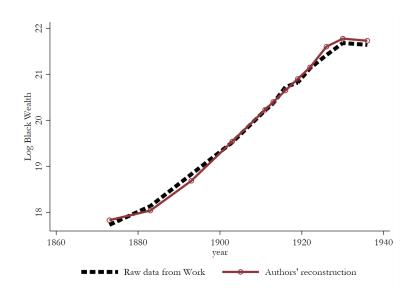


Figure B.6 (Log) Black wealth from Monroe Work and replication

Notes: Raw estimates of Black wealth (logged) from the *Negro Year Book* alongside our reconstruction of these estimates using population and state tax data. Data sources: Southern state auditor reports (see Appendix Section A.1); Work (1915), Work (1917), Work (1922), Work (1926), Work (1931), and Work (1938).

It is important to note that these estimates are all extrapolations from the national wealth estimate based on Georgia data. Given that his national wealth estimate is too low, all subsequent extrapolated wealth levels will be too low unless the wealth growth rate is also overestimated. We corroborated the level of wealth growth, thus the lower initial levels in the late 19th century also account for the need to adjust the wealth levels from his estimation upward. We describe our adjustments of these estimates below.

B.5.2 Adjustment of Work's Black wealth estimates

To make Work's estimates of Black wealth consistent with our full time series of Black wealth from census, our extrapolation based on tax records, and the data from the SCF+, we proceed as follows. We first construct the linear time trend between Black per capita wealth from 1925 to 1929 to 1950 to 1953. We compare average per capita Black wealth implied by Work's estimates for the years 1930 and 1936 to the level of Black per capita wealth implied by the linear time trend described above. We

take the ratios of these averages as the scaling factor that we then apply to the original Work estimates to adjust them in levels. Using this approach, we keep the time series variation implied by the Work estimates and adjust only their levels over time. The resulting adjustment factor is 0.603.

Appendix C Alternative wealth gap estimates during the interwar period

C.1 Racial gaps in farm values, housing wealth, and financial wealth

We construct an alternative estimate of the racial wealth gap in 1930 and 1940 combining estimates of total farm value by owner status and racial group from the census of agriculture and home values by race from the census of population. Below, we detail how we construct white and Black farm and housing wealth, followed by a discussion of the financial wealth gap between the two groups, which we do not observe at a national level.

Farm wealth gap Tabulations of the census of agriculture from 1900 to 1940 provide breakdowns of total farm land and building value by racial group and owner status (owner, manager, or tenant). We calculate white farm wealth as the difference between total farm land and building values across all operated farms regardless of ownership status and total farm land and building values of Black-owned farms. We compute per capita farm wealth gaps from these two measures using the number of non-Black (NB) and Black (B) individuals:

Per capita farm wealth gap =
$$\frac{\text{Farm wealth}^{NB}/\text{Non-Black pop}}{\text{Farm wealth}^{B}/\text{Black pop}}$$
,

where Farm wealth^{NB} = Farm value^{All}_{operated} – Farm value^B_{owned} and Farm wealth^B = Farm Value^B_{owned}.

Housing wealth gap We use the census of population microdata from 1930 and 1940 to calculate housing wealth gaps. The 1930 census is the first census in which enumerators elicited home values from homeowners. We construct per capita housing wealth gaps as follows:

Per capita housing wealth gap =
$$\frac{\text{Housing wealth}^{NB}/\text{Non-Black pop}}{\text{Housing wealth}^{B}/\text{Black pop}}$$
.

Thus, we measure the ratio of non-Black-to-Black per capita home values in these years.

We construct an alternative overall wealth gap for 1930 and 1940 by summing farm and housing wealth for each group and calculating the per capita wealth ratio for combined farm and housing wealth. The results are extremely close to our baseline series.

C.2 Study of Consumer Purchases in the United States

We use data from the 1935-1936 Study of Consumer Purchases in the United States (SCP) (Bureau of Labor Statistics, US Department of Labor, 2009) to provide an additional alternative estimate of the white-to-Black per capita racial wealth gap during the 1930s. The SCP was conducted jointly by the Bureau of Labor Statistics, the Bureau of Home Economics, and the Department of Agriculture, with the aim of documenting the earning and spending habits of Americans based on sampling units that represent the demographic, regional, and economic characteristics of the United States.

In order to obtain a measure of Black and white wealth, we apply the capitalization method of Saez and Zucman (2016) on the flow variables in the SCP data.⁵² Even though the SCP does not provide the full range of different capital income sources, we do have separate information on households' (i) rental income, (ii) business income, and (iii) dividend income from stocks, bonds, bank accounts, trust funds, etc., which cover a substantial amount of the total flows. In addition to the flow values, the SCP also provides information on the value of the household's main dwelling, as well as of farms (for farm owners). We utilize this information as well to complement our final Black and white wealth measure.

Housing wealth Households' are asked to report the rental income on their first and second home. For the capitalization method, it is important that we only consider rental income of tenant-occupied housing. Therefore, we exclude households if they reported to have lived fully in the reported house. Afterwards, we apply the capitalization factor to obtain the stock value for tenant-occupied housing wealth. This we combine with the reported data on the value of the households' main dwelling and thus obtain an estimate for total housing wealth.

Business wealth The SCP provides data on up to ten household members for labor and/or business income, as well as a separate measure for labor income only. We subtract these two to obtain a clean measure for households' business income.⁵³

Financial wealth The information on financial wealth in the SCP data does not differentiate between asset classes, but only provides the combined interest and dividend income from stocks, bonds, bank accounts, trust funds, etc.. We capitalize this income variable using a capitalization factor that we obtain from combining the capitalization factors of equities with the factor for fixed-income assets. Specifically, we weight the factor for equities by the share of equities in total household wealth relative to the share of fixed-income assets and vice versa for the fixed-income capitalization factor. These two weighted factors are then added together to form the combined capitalization factor that is applied to the interest income and dividends variable. Therefore, we assume that the composition of households' portfolios in the SCP data broadly reflects the composition of U.S. household wealth by asset class in

 $^{^{52} {\}rm The}$ capitalization factors for the different asset classes in 1936 can be found on Gabriel Zucman's website: https://gabriel-zucman.eu/uswealth/.

 $^{^{53}}$ It is not clear from the survey whether business profits other than labor income (from their business) are included in the category "business income".

Saez and Zucman (2016) which we use for weighting the two capitalization factors.⁵⁴

Farm wealth In the SCP, we have information on the total acres of farm land and the share of acres that is owned by the household. Furthermore, households report the value of land and buildings on that farm. We utilize this information to obtain a proxy for the farm wealth of full farm owners.

Alternative wealth gap 1936 After we obtain values of total housing wealth, business wealth, financial wealth, and farm wealth separately for Black and white households, we aggregate all components and divide by their respective population totals to calculate the per capita white-to-Black wealth ratio (WR_{1936}) :

$$WR_{1936} = \frac{House_{1936}^w + Bus_{1936}^w + Fin_{1936}^w + Farm_{1936}^w}{House_{1936}^b + Bus_{1936}^b + Fin_{1936}^b + Farm_{1936}^b} \cdot \frac{pop_{1936}^b}{pop_{1936}^w}.$$
 (11)

Table C.1 presents the results. In the first column, we present our benchmark per capita white-to-Black wealth gap of 1936, which is at a level of 9 to 1. In column 2 and 3, we present two estimates of the wealth gap using the SCP, one without weighting the data (WR_{1936}) , and the other employing poststratification methods to obtain a nationally representative sample (WR_{1936}^w) .⁵⁵ We find the estimates to be extremely similar. The close alignment between this independent estimate of the racial wealth gap using an alternative data source and methodology corroborates the scaling approach we applied to Black wealth estimates from Work (1926), Work (1931), and Work (1938).

$$w_c = \frac{\pi_c^C}{\pi_c^{SCP}} \tag{12}$$

 $^{^{54}}$ With the SCP, we are not able to obtain information on the households' cash holdings. Therefore, our estimated financial wealth gap may be larger than the true gap.

⁵⁵We employ the post-stratification method developed by Berinsky (2006), using income-race-region cells for which we calculate weights such that the SCP data matches the corresponding proportions of the 1940 U.S. census data. The data is weighted in several steps. First, we construct income (using quartiles to obtain four income groups), race (white, Black), and region (South, Non-South) cells in both the SCP and the 1940 census data. Secondly, we calculate the proportions of each income-race-region cell for each data set. Lastly, we calculate the cell-specific weights w_c by applying the following formula:

with c denoting a specific income-race-region cell and π_c^C and π_c^{SCP} denoting cell proportions for census and SCP, respectively. We let $w_i = w_c$ for each household *i* and by construction, the resulting weights are such that $\sum_i^N \frac{w_i}{N} = 1$. As a robustness check, we also compute weights using only race (white, Black) and region (South, Non-South) for a race-region cell definition. The results remain robust.

Table C.1Per capita white-to-Black wealth gap in 1936

	1936 (data)	WR_{1936}	WR^w_{1936}
Wealth ratio (W/B)	8.9	9.00	9.15

Notes: Alternative estimate of the racial wealth gap based on data from the Study of Consumer Purchases in the United States (SCP), 1935-1936. First column presents the white-to-Black per capita wealth gap in 1936 of our baseline series. The wealth ratio in the second column is our estimate from the SCP without weighting the survey data. The last column presents the results with weights. Data sources: Authors' series; SCP (Bureau of Labor Statistics, US Department of Labor, 2009).

Appendix D Robustness checks and sensitivity analyses for wealth gap series and additional results

This section presents robustness checks and sensitivity analyses for our long-run wealth gap series whose construction is described in Section III.. We also present additional results pertaining to racial wealth inequality. We provide a summary of these results in Section III.C. in the main text.

D.1 Robustness checks and sensitivity analyses for wealth gap series

First, we explore the contribution of the abolition of slave wealth to the decline in the racial wealth gap after Emancipation. Figure D.1 presents the racial wealth gap when we exclude slave wealth from our 1860 estimate of white wealth while keeping our measure of per capita Black wealth the same. Excluding white wealth held in enslaved individuals reduces the racial wealth gap to 47 to 1. By comparison, the racial wealth gap in 1870 is 23 to 1. Growth in per capita Black wealth between 1860 and 1870 explains most of the reduction in the wealth gap over these ten years.

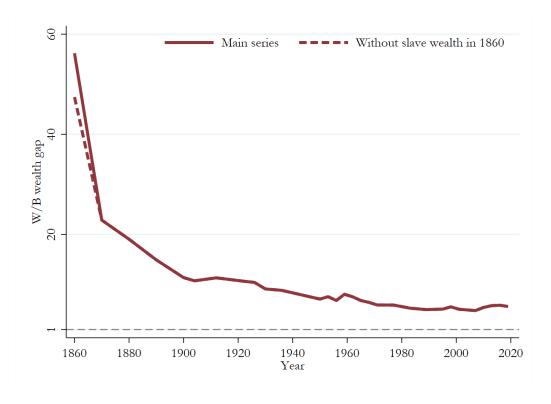
Figure D.2 considers the evolution of the racial wealth gap if we consider only the white population instead of the non-Black population in constructing the gap. Separate wealth information for white and non-Black individuals is only available in selected years. However, the differences between the two are nearly negligible in the historical period. In more recent decades, the wealth gap between white and Black Americans is larger than the gap between all non-Black versus Black Americans.

In Figure D.3, we examine the sensitivity of our racial wealth gap estimates to different assumptions around debt holding. Prior to 1950, we only observe gross wealth. We construct a lower bound for the wealth gap between 1860 and 1950 by assigning all observed aggregate debt in those years to the non-Black population. From 1950 onwards, we directly measure wealth net of debt for each racial group using the SCF+. This extreme assumption around debt holding lowers the racial wealth gap slightly in the historical period, with the biggest effects in 1870 (the gap declines from 23 to 20). In Figure D.4, we use the SCF+ microdata to compare the racial asset gap to the gap in net wealth from 1950 to the present. We find the asset gap to be slightly lower than the wealth gap throughout the whole period.

We explore the sensitivity of our racial wealth gap estimates to measuring wealth per capita vs. per household. Figure D.5 plots household size for Black and non-Black households over time. Differences in household size across racial groups are modest until the 1950s and 1960s and converge again in the 2000s. Figure D.6 compares the household-level racial wealth gap to our baseline series, which measures the per capita gap. We find that the two measures track each other closely due to the relatively small differences in household size over this period.

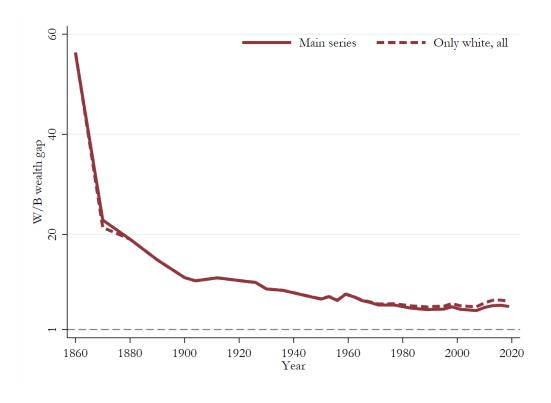
In Figure D.7 we leverage the richness of the SCF+ to compare different versions of the racial wealth gap in a single dataset. Despite some differences in levels, these alternative measures of the wealth gap show similar trends and fluctuations as our baseline series over this 70-year period.

Figure D.1 Wealth ratio, excluding slave wealth in 1860



Notes: White-to-Black per capita wealth gap series with and with out slave wealth as part of our measure of white wealth in 1860. The solid line shows our baseline estimate (with slave wealth), and the red dashed line shows the gap when we exclude slave wealth. Data sources: Authors' series of the white-to-Black per capita wealth ratios from 1860 to 2020.

Figure D.2 Wealth ratio, excluding non-Black, non-white population



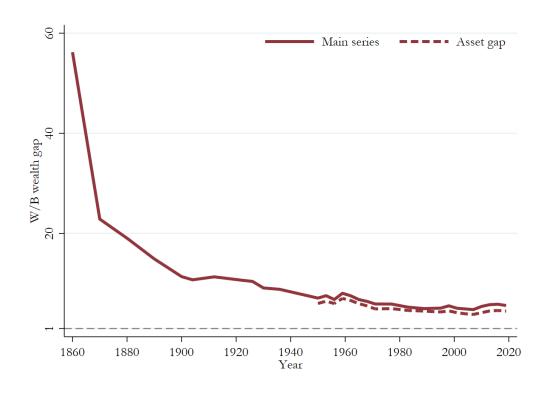
Notes: White-to-Black per capita wealth gap restricting the data to Black and white populations only. The red solid line shows our baseline estimate where we define white per capita wealth as non-Black per capita wealth. The red dashed line shows the wealth gap when we exclude the non-white, non-Black population from the sample for the years when direct measures of white wealth are available (1860, 1870, and 1950-2019. Data sources: Authors' series of the white-to-Black per capita wealth ratios from 1860 to 2020.

Figure D.3 Wealth ratio, adjusting for debt in the historical period



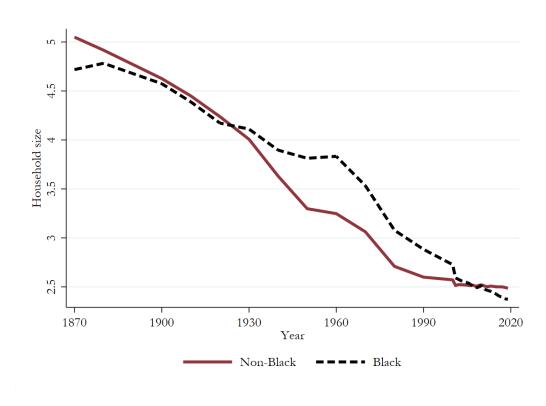
Notes: White-to-Black per capita wealth gap series with debt adjustments for the historical period (1870-1950). The solid line shows our baseline gap, which is the gap in gross wealth for the pre-1950 period. The dashed line shows our lower bound estimate of the wealth gap for this period, constructed by assigning all household debt to the non-Black population. Data sources: Authors' series of the white-to-Black per capita wealth ratios from 1860 to 2020.

Figure D.4 Wealth ratio, ignoring debt



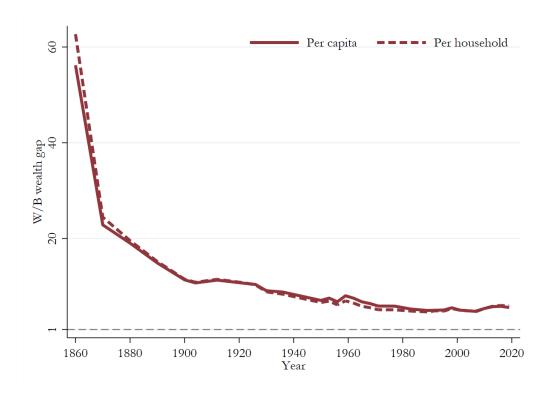
Notes: White-to-Black per capita asset gap series (excluding debt). The solid line shows our baseline series. The dashed line shows the racial asset gap after 1950 using SCF+ microdata. Data sources: Authors' series of the white-to-Black per capita wealth ratios from 1860 to 2020.

Figure D.5 Black and white household sizes, 1870-2020



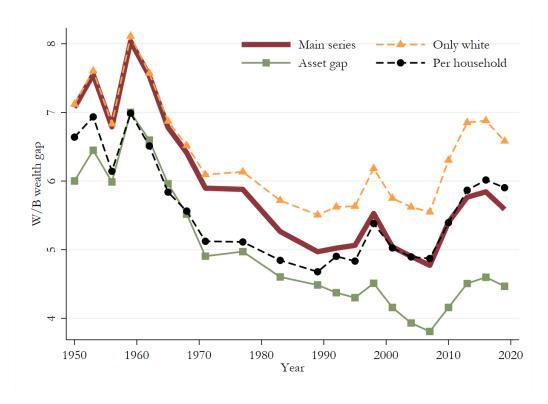
Notes: Household size by racial group from the census. The solid line shows non-Black household size over time. The dashed line shows Black household size. Data sources: Census (Ruggles et al., 2021).

Figure D.6 Per household racial wealth gap



Notes: White-to-Black wealth gap series at the household level. The solid line shows the wealth ratio at the per capita level and the dashed line depicts the household level ratio. Data sources: Authors' series of the white-to-Black per capita wealth ratios from 1860 to 2020.

Figure D.7 Comparison of alternative wealth gap measures since 1950



Notes: The figure shows alternative measures of the racial wealth gap from 1950 to 2020. The solid line shows our baseline series. The dashed line with triangles shows the racial wealth gap if non-Black population is restricted to the white population. The solid line with squares shows the racial asset gap, excluding any debt holdings of households. The dashed line with dots shows the racial wealth gap at the household level. Data sources: SCF+.

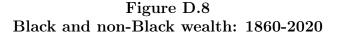
D.2 Black and non-Black per capita wealth

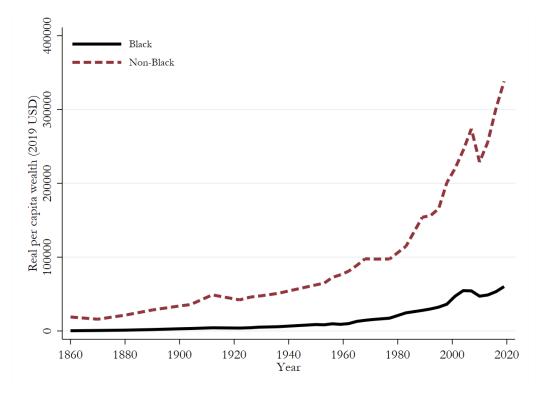
In this section, we present our per capita estimates of Black and non-Black wealth. The sources for our time series are extensively described in Appendix A. To present estimates in real terms, we deflate the Black and non-Black wealth series using two price indices, as there is no consistent price deflator available throughout 1860-2020. The first deflator is the CPI data of the Jordà-Schularick-Taylor Macrohistory Database that is available for 1870-2020. For 1860-1870, we use the Warren-Pearson Index coming from the census document "Historical Statistics of the United States, 1789 - 1957" (Bureau of the Census, 1949). We use the years, where we have both information on the CPI and Warren-Pearson Index, to harmonize the two price deflators. Afterwards, we set the base year of the price deflator to 2019. Figure D.8 presents our benchmark series, while Figure D.9 presents the benchmark series in logs, as this transformation is helpful in capturing particularly salient changes in the slope. Finally, in Figure D.10, we only present the Black per capita wealth series with various robustness exercises described below.

Overall, per capita white wealth has been consistently higher than those of Black. In 1860, an average white American possessed around 19,000 USD (in 2019 Dollars), while the average Black American only had 340 USD. In 2020, the racial difference is substantially lower, with an average

White possessing around 340,000 USD and Black 60,000 USD. This is not surprising, given that over the last 160 years, Black wealth growth was much faster than white, with an annual growth rate of around 3.3%, as opposed to 1.8%. However, after 1980, the dynamics of Black and white wealth seem to have changed. During this period, despite the huge drop during the Global Financial Crisis, white wealth growth is much higher at an annual rate of 3.0%, compared to 2.5% for Black.

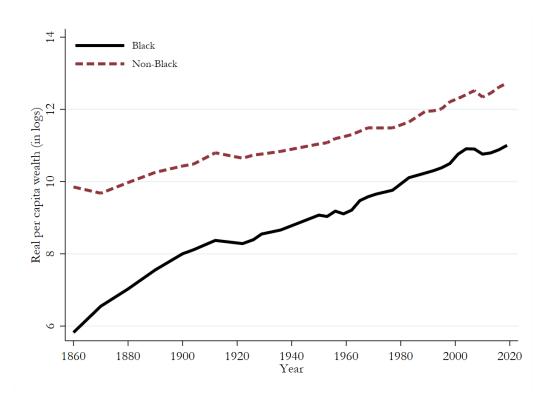
Similar to the white per capita wealth series in Figure D.8, we observe a quite steady increase in Black wealth until the early 20th century, which than slows down in 1920, which is due to high inflation rates during that time. Such dynamics seem to continue in the 1930s, when growth rates of our benchmark Black wealth series are low. Our robustness measures even predict a slight decrease in Black wealth during 1930-1936, see yellow triangles and green dots in Figure D.10. After World War II, Black wealth continues to grow, which then starts to accelerate starting from the 1960s. In particular, we observe a steep increase in Black wealth during the first half of the 2000s, which aligns with the housing market boom period in the US. Such boom in Black wealth accumulation, however, is disrupted by the Global Financial Crisis, which has severe consequences for Black wealth, much stronger than for white: ten years after the crisis, Black wealth reaches levels similar to the pre-crisis level, while white wealth already recovers within less than five years.





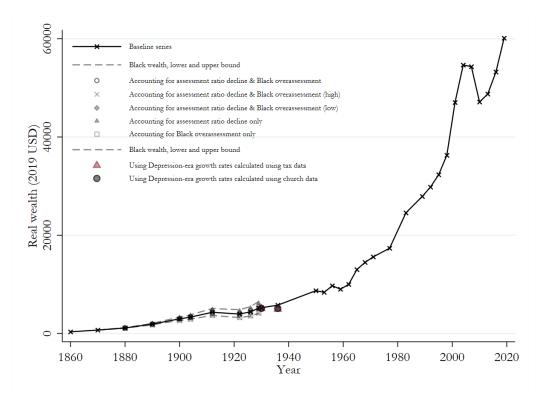
Notes: Real values of per capita Black and non-Black wealth from 1860 to 2020. Details on the construction of this series are available in Section III. All values are normalized to 2019 USD. Data sources: Various, described in Section III. and Appendix A.

Figure D.9 Black and non-Black wealth in logs: 1860-2020



Notes: Log of the real values of per capita Black and non-Black wealth from 1860 to 2020. Details on the construction of this series are available in Section III. Data sources: Various, described in Section III. and Appendix A.

Figure D.10 Black wealth: 1860-2020



Notes: Real values of per capita Black wealth from 1860 to 2020. Details on the construction of this series are available in Section III. All values are normalized to 2019 USD. Data sources: Various, described in Section III. and Appendix A.

D.3 Wealth gap between white Americans and other racial and ethnic minorities

In this section, we compare the per capita white-to-Black wealth gap series with the wealth gap between white Americans and other minority groups. As micro-level data on wealth for other minority groups are not available for the full historical period, we utilize the modern SCF starting from the 1980s. The SCF provides breakdowns for Hispanic, Black, and an "Other" category that pools together Asian Americans and Native Americans.⁵⁶

In Figure D.11 we present the per capita white-to-Hispanic and white-to-Other wealth gap, together with the per capita white-to-Black wealth gap during 1983-2019. Overall, the white-to-Hispanic wealth gap exhibits similar patterns as the white-to-Black wealth gap, while the gap between white Americans and other groups is less than half the size of the other two gaps. In 1983, the average Hispanic American had slightly less wealth than the average Black American (the white-to-Hispanic ratio is around 7 while the white-to-Black ratio is around 6). The two gaps reached the same level in the mid 1990s, and after 1995, both gaps grew larger. Compared to this, the wealth gap between white Americans and other groups exhibits very different patterns: the gap is at a much lower level of around 2:1 and trends

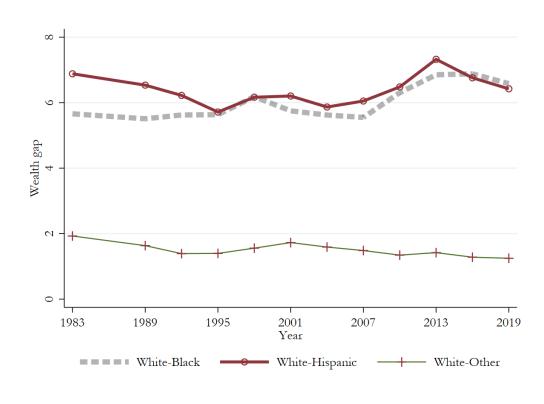
⁵⁶Only in 1983 does the SCF provide separate information on Asian Americans and Native Americans. For consistency, we pool Asian Americans and Native Americans together in the 1983 survey.

gradually downward over the full post-1980 period. Consistent with these findings, we also observe similar portfolio structures across Black and Hispanic households and between white Americans and other groups (see Table D.1). We hypothesize that Hispanic under-representation at the top is likely related to stagnation in the white-Hispanic gap as it is for the white-Black gap (see Section IV.D. and Appendix K).

As a final exercise, we shed light on the role of immigration in the white-Hispanic wealth gap. The existing literature provides evidence that immigrants have lower wealth levels than second- or third-generation-plus Americans (Campbell and Kaufman, 2006). In particular, immigrants from Mexico and Central and South America have much lower median net worth than US-born households and also receive lower intergenerational transfers (Cobb-Clark and Hildebrand, 2006; Hao, 2007; Sheftel, 2023; McKernan et al., 2014; Salgado and Ortiz, 2020). Data on immigration status is not available in the SCF, so we use data from the Panel Study of Income Dynamics (PSID), which provides information on nativity (born in a US state or not) starting in 2013. Table D.2 presents the post-1980 share of immigrants among Black and Hispanic Americans from census data, along with the gap in wealth between each of these groups and that of the average white American using data from the PSID.

According to census, 37% of the US Hispanic population was made up of immigrants during the post-1980 period, while less than 10% of the total Black population was made up of immigrants during this time period. In line with the literature, we observe that the wealth gap between white Americans and US-born Hispanic Americans is much lower than the gap between white Americans and Hispanic immigrants to the US. Among the US-born, the white-to-Black gap is 75% larger than the white-to-Hispanic gap, while the white-to-Hispanic-immigrant gap is 22% larger than the white-to-Black-immigrant gap.

Figure D.11 Wealth ratio between white and other ethnic minorities



Notes: White-to-Black per capita wealth gap series between white and a range of ethnic minority groups. The grey dashed line presents our benchmark white-to-Black wealth gap series. The red line with circles presents the white-to-Hispanic wealth gap. Finally, the thin blue solid line with red crosses present the gap between white and the ethnic group "Other", which includes ethnicities other than white, Black, and Hispanic (thus Asians and Native Americans). Data sources: SCF+.

	Black	Hispanic	Other	White
Housing	58%	59%	48%	39%
Stocks	9%	8%	13%	18%
Business	8%	12%	19%	19%
Fixed income	16%	13%	16%	20%
Other non fin. assets	9%	8%	4%	4%

Table D.1Portfolio composition (% total assets) by ethnic group, 1983-2019

Notes: Average portfolio shares (as % of total assets) of Black, Hispanic, Other, and white over 1983-2019. Other is any ethnic group other than Black, Hispanic, and white. Data sources: SCF+.

Table D.2Hispanic and Black by immigration status

	Black	Hispanic
Immigrant share (% own population)	8%	37%
Wealth gap (All-white / immigrants)	9	11
Wealth gap (All-white $/$ non-immigrants)	7	4

Notes: In the first row we present the immigrant shares of the Black and Hispanic population in the USA post-1980 based on census. In the second row, we utilize data of the PSID during 2013-2019 and estimate the wealth gap between the average white (irrelevant of immigration status) and the considered ethnic minority that are immigrants. In the third row, we present the wealth gap between the average white (irrelevant of immigration status) and the considered ethnic minority that are born in the US. We follow Cooper, Dynan, and Rhodenhiser (2019) and include DC pension in the PSID's wealth concept. Data sources: Census and PSID.

Appendix E The conditional racial wealth gap

A large literature in the 1990s and 2000s explored the role of income differences, differences in household size and structure, and other observable characteristics, such as age, gender, and education, in explaining the racial wealth gap (Terrell, 1971; Blau and Graham, 1990; Smith, 1995; Avery and Rendall, 1997; Menchik and Jianakoplos, 1997; Conley, 1999; Barsky et al., 2002; Altonji and Doraszelski, 2005). The consensus from this literature is that while demographics and income explain a portion of the gap, a gap still remains even after controlling for all of these factors. Furthermore, the portion of the gap explained by observables hinges on whether one uses the relationship between characteristics and wealth estimated off of white individuals (white models) or the relationship estimated off of Black individuals (Black models). The mapping from observables to wealth is weaker among Black Americans. To quote a seminal paper by Blau and Graham (1990) studying the racial wealth gap in the late 1970s, "even if society were successful in eliminating all the disadvantages of blacks in terms of their lower income and adverse locational and demographic characteristics, a large portion of the gap – 78 percent – would remain." Different researchers, using refined measures of permanent income or refined econometric techniques, have still not been able to explain a majority of the gap using coefficients from Black models (Altonji and Doraszelski, 2005; Barsky et al., 2002).⁵⁷ For this reason, the literature since the early 2000s shifted to understanding other determinants of the gap, finding a role for differences in financial behavior, including savings and investment; differences in inheritance; differences in retirement benefits; and differences in asset returns (Gittleman and Wolff, 2004; Bradford, 2014; Killewald and Bryan, 2018; Pfeffer and Killewald, 2019; Kermani and Wong, 2021; Kroeger and Wright, 2021; Boerma and Karabarbounis, 2021; Fairlie, Robb, and Robinson, 2022; Choukhmane et al., 2022).

Rather than focus solely on the determinants of differences in wealth levels, Gittleman and Wolff (2004) investigated the role of savings from income, returns on savings, and inheritance on Black and white wealth accumulation. In a simulation exercise, they show that even if Black and white households had the same saving rates and income, the racial wealth gap would still persist. Other studies emphasize the role of systematic barriers to wealth accumulation that have hampered wealth building of the Black population throughout history (Oliver and Shapiro, 1995; Baradaran, 2017; Althoff and Reichardt, 2022; Baker, 2022).⁵⁸ Our paper contributes to this literature by demonstrating the important and persistent effect of initial conditions and historical dynamics on the wealth gap today.

Given the vast literature on wealth differences and their relationship to demographic and socioeconomic characteristics, the focus of our paper is on the historical development of the racial wealth gap, which we investigate through novel data construction and the application of an accounting framework for wealth accumulation for the two groups. Nevertheless, the data used in our analysis allow us to

⁵⁷Barsky et al. (2002) introduce a nonparametric alternative to the Blinder-Oaxaca-Kitagawa method to allow for a non-linear relationship between income and wealth and find that racial differences in income explain more of the wealth gap than previous work. Nevertheless, income differences still fail to fully account for the racial wealth gap. Finally, Altonji and Doraszelski (2005) investigate the role of permanent income on wealth and confirm the finding from Blau and Graham (1990) that the wealth holdings of Black households are less sensitive to income and demographics than the wealth holdings of white households. Finally, Krivo and Kaufman (2004) confirm such dynamics for the racial housing wealth gap by investigating a wide range of locational, life-cycle, socio-economic, and family characteristics.

 $^{^{58}}$ In Appendix F, we also provides direct, if suggestive, evidence linking historical institutions of racial oppression and racial violence to the wealth gap and Black wealth accumulation.

contribute to the existing literature with an analysis of unstudied historical periods. Specifically, we build on the long timespan of the SCF+ dataset to investigate whether the importance of income and socio-demographic characteristics for Black and white wealth changed over time.

Some important differences with the prior literature on the conditional wealth gap are worth noting. First, our data consists of repeated cross sections rather than the panel data as used in Blau and Graham (1990), Barsky et al. (2002), Gittleman and Wolff (2004), and Altonji and Doraszelski (2005). Second, leveraging our longer run data, we focus on two distinct periods, before and after 1983, while prior studies tend to draw on a specific set of survey waves covering a narrower range of years.

We proceed in the following manner. First, we estimate linear wealth models for Black and white samples of households separately for each survey year. The controls included are total family income, education, age of household head (and its square), household size, marital status, gender of household head, employment status of household head, and working in the industry category "professional." We then conduct the Blinder-Oaxaca-Kitagawa decomposition in the spirit of Blau and Graham (1990) and Altonji and Doraszelski (2005) to investigate the change in Black wealth when applying coefficients estimated using the white sample to average characteristics of the Black sample and vice versa. Table E.1 presents the average of the decomposition results for the pre- and post-1983 period.

In the first row of Table E.1, we present the average of the predicted Black wealth for average Black characteristics from either applying the coefficients from the Black wealth model (columns 1 and 3) or coefficients from the white wealth model (columns 2 and 4) for the two time periods. The same is done for fixed characteristics of white households in row 2. Hence, each row keeps household characteristics fixed and varies model coefficients across columns. Afterwards, we evaluate the contribution of the difference in mean characteristics to the racial wealth gap. We compare the unadjusted difference between white and Black wealth (row 4) to the white-Black difference in wealth under the same wealth model, i.e., the adjusted wealth gap is not the raw wealth gap but the absolute difference between the estimated wealth levels of each racial group using group-specific coefficients. Row 5 reports the share of the unadjusted wealth gap that is accounted for by differences in observable characteristics, i.e., the ratio of rows 3 and 4.

We first focus on the pre-1983 period. In line with the literature, we observe higher predicted wealth levels for the white model which means that observable income and socio-demographic characteristics yield higher returns on wealth in the sample of white households. Predicted Black wealth using Black coefficients is \$36951 but is \$45681 using white coefficients. We observe the opposite for white households. When we apply Black coefficients to average white characteristics (row 2), predicted white wealth is lower (\$83864) than predicting white wealth using white coefficients (\$233863). Under the white wealth model, we find that differences in Black and white income and socio-demographic characteristics account almost all of the wealth differential between Black and white households (97%). By contrast, if the Black wealth model is applied, then observable characteristics account for only 24% of the wealth gap.⁵⁹

 $^{^{59}}$ We exclude the survey year 1968, which appears to be an outlier, with the Black model explaining 100% of the wealth gap in that year, most likely arising from sampling variability and small samples. The median percent explained in the

After 1983, we obtain the same qualitative results in terms of the explanatory power of the white wealth model. However, the explanatory power of the Black model shows a shift up from 24% to 43%. This increase in explanatory power could be due to changes in the Black wealth accumulation function relating to savings behavior or investment choices. Alternatively, such improvements could stem from reductions in discrimination in housing and financial markets or the reduction of other frictions that dampen the relationship between income and other characteristics and wealth.

Finally, though our results are qualitatively comparable to that of the literature, they are not directly quantitatively comparable due to the different samples used and the structure of the data. Much of the prior literature uses the post-1984 waves of the PSID or the 1983-1989 SCF panel. Papers in this literature seek to measure permanent income and past savings using multiple survey waves covering the same individuals. Our data consists of repeated cross-sections and tends to pool many more years of data than prior studies.

	Pre-	-1983	Post-1983		
	Black coefficients	White coefficients	Black coefficients	White coefficients	
Black characteristics	36951	45681	112652	154363	
White characteristics	83864	233863	347246	656323	
Adjusted wealth gap (W-B)	46913	188182	234594	501961	
Unadjusted wealth gap (W-B)	196912	196912	543671	543671	
Adjusted/Unadjusted (%)	24	97	43	93	

Table E.1Regression decomposition of racial gap in wealth, 1950-2020

Notes: The wealth models are separately estimated by race (Black model/white model), where each model is a linear function of wealth with the following control variables: total family income, education, age of household head (and its square), household size, marital status, gender of household head, employment status of household head, and working in the industry category "professional." The model includes a constant and time fixed effects. Row 1 presents the estimated average Black wealth for the pre-1983 and post-1983 period (column 2-3 and 4-5, respectively), where Black characteristics are applied to the Black wealth model (column 1 and 3) or to the white model (column 2 and 4). The same is applied for white in row 2. Row 3 presents then the white-to-Black difference in the estimated wealth levels coming from the same wealth model, while row 4 presents the unadjusted difference between white and Black wealth (estimated with their own wealth model). All values are presented in 2019 USD. Finally, row 5 presents the ratio between the adjusted and unadjusted difference in wealth (row3/row4). Data sources: SCF+.

pre-1983 period including this observation is also 24%.

Appendix F Historical violence, institutions, and the racial wealth gap

In Section IV.B., we discuss reasons for slow convergence in the early 20th century, including historical institutions and the violent destruction of Black wealth by white supremacist groups. Perhaps the most salient example comes from the Tulsa Race Massacre of 1921 whose impacts on Black patenting and homeownership were studied by Cook (2014) and Albright et al. (2021), respectively. Similar events of this nature, involving the burning of Black homes and businesses, lynchings and killings of Black residents, targeting of Black politicians, and expelling of all Black residents from entire towns occurred throughout the country, and particularly in the post-Reconstruction South (Logan, 2019; Loewen, 2005).

Existing research has focused on the persistent negative effects of slavery and, more recently, Jim Crow on economic outcomes such as poverty, education, occupational attainment, income, intergenerational mobility, and housing wealth (Althoff and Reichardt, 2022; Albright et al., 2021; Aneja and Xu, 2021; Craemer et al., 2020; O'Connell, 2012; Reuf and Fletcher, 2003). To the best of our knowledge, however, no work has studied the effects of these institutions on total Black wealth or the racial wealth gap due to a lack of data.

While it is beyond the scope of the present paper to exhaustively analyze these events and their impacts on racial wealth dynamics. However, here we provide direct, if suggestive, evidence of the impact of historical institutions and racial violence on Black wealth accumulation and the racial wealth gap. A key advantage of our newly digitized data is its high frequency nature, which allows us to examine the immediate aftermath of specific laws or episodes of racial violence.

First, we investigate the consequence of slavery on Black wealth accumulation by correlating a state's number of years as a free state with the level of per capita Black wealth in that state by 1870. Second, we investigate the relationship between the severity of southern states' racial regimes (using a composite measure from Baker (2022)) and the racial wealth gap. Finally, we compare the evolution of wealth in Wilmington, North Carolina to the rest of the state before and after the 1898 white supremacist coup that ushered in a Jim Crow government. All three exercises point to the negative relationship between racial regimes and violence on racial wealth inequality.

F.1 Years as a free state and racial wealth inequality

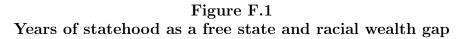
To explore the impact of slavery on Black wealth accumulation, we exploit variation in each state's history with the institution of slavery. With the exception of Vermont, which banned slavery in its founding constitution, states admitted before the Missouri Compromise typically passed legislation to abolish slavery during the late 18th and early 19th centuries.⁶⁰ However, many of these states enacted gradual abolition, such that the enslaved population did not drop to zero immediately after the law. For example, Michigan and Vermont spent zero years of statehood with an enslaved population while

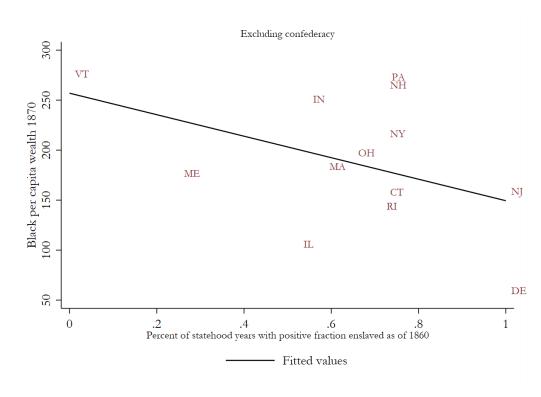
 $^{^{60}}$ As a rule, non-southern states admitted to the union after the Missouri Compromise of 1820 and the Kansas-Nebraska Act of 1854 were admitted as free states.

New Jersey had an enslaved population until the Civil War due to the gradual nature of the state's abolition law. Delaware had no abolition law and slavery only ended in the state with the passage of the 13th amendment.

We calculate the portion of statehood spent with a positive fraction of enslaved Black residents. Data on the state's number of enslaved Black residents and total Black population come from the U.S. Census's Black population report covering 1790 to 1915 (Cummings and Hill, 1918). We then relate this to per capita Black wealth levels in the state in 1870 as measured in the complete count census.

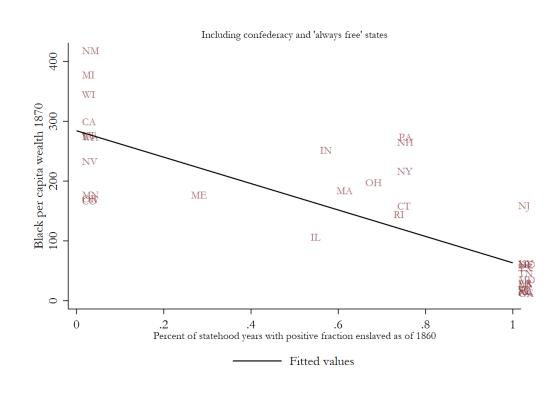
Focusing on non-confederate states admitted to the union before the Missouri Compromise, Figure F.1 plots the relationship between the fraction of statehood spent with an enslaved population and per capita Black wealth in 1870. The correlation between Black per capita wealth in these states and portion of statehood with slavery is -.39. Figure F.2 expands the analysis to include the confederacy as well as non-southern states that joined the union after 1820 ("always free states"). With the addition of the confederacy and always free states, the correlation between these two variables rises to -.80.





Notes: Relationship between share of statehood years with an enslaved population and per capita Black wealth in 1870. Sample includes all non-confederate states admitted to the union by 1860. Data sources: 1870 wealth data from Ruggles et al. (2021). Years of statehood as free state calculated by authors using data on enslaved population at the state level from Cummings and Hill (1918).

Figure F.2 Years of statehood as a free state and racial wealth gap (including confederacy)



Notes: Relationship between share of statehood years with an enslaved population and per capita Black wealth in 1870. Sample includes all states admitted to the union by 1870. Data sources: 1870 wealth data from Ruggles et al., 2021. Years of statehood as free state calculated by authors using data on enslaved population at the state level from Cummings and Hill (1918).

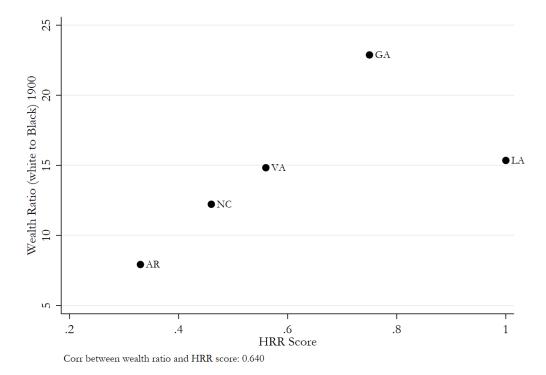
F.2 Historical racial regime and the racial wealth gap

To examine the relationship between Jim Crow and racial wealth inequality, we combine our statelevel Black and white wealth data from southern state auditor reports with each state's historical racial regime ("HRR") score developed by Baker (2022). The score combines information on each state's share enslaved in 1860, Black sharecroppers in 1930, number of Jim Crow laws, and the share of a state's congressional delegates who signed the Southern Manifesto in protest of the Supreme Court ruling in *Brown v. Board of Education* desegregating public education.

Figure F.3 and F.4 show the correlation between the HRR score and white-to-Black per capita wealth ratios across Arkansas, Georgia, Kentucky, Louisiana, North Carolina, and Virginia. In 1900, the correlation is .64 while in 1910 the correlation rises to .92. Although there are just six states for which we have data on Black and white wealth, they are sufficiently differentiated in their racial regimes and their racial regimes sufficiently correlated with wealth inequality that a clear pattern emerges.

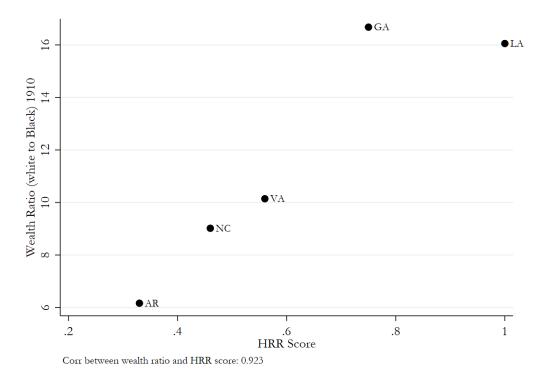
Though beyond the scope of this paper, future analysis could exploit the timing of specific Jim Crow laws and Black wealth accumulation in those states.

Figure F.3 Historical racial regime and racial wealth inequality in 1900



Notes: White-to-Black wealth ratios against historical racial regime score in 1900. Data sources: Data sources: Southern state auditor reports (see Appendix Section A.1); population data from Manson et al. (2017); data on state historical racial regime scores from Baker (2022).

Figure F.4 Historical racial regime and racial wealth inequality in 1910



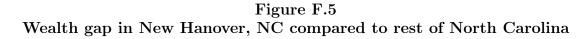
Notes: White-to-Black wealth ratios against historical racial regime score in 1910. Data sources: Data sources: Southern state auditor reports (see Appendix Section A.1); population data from Manson et al. (2017); data on state historical racial regime scores from Baker (2022).

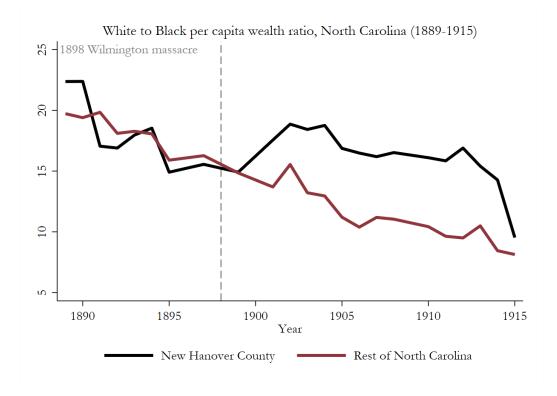
F.3 Wilmington, NC in 1898

Wilmington, North Carolina in the 1890s was notable for its fusion government of Populists and Republicans, high rates of Black literacy and representation in professional occupations, and lower segregation. In the midterm election year of 1898, a white supremacist coup overthrew the government and installed Democrats in power. During the coup, white supremacists burned Black businesses, directly or indirectly expelled hundreds of Black residents, and killed an unknown number of Black individuals. The coup ushered in a Jim Crow government in Wilmington and eventually at the state level in North Carolina, with ramifications throughout the South (Edmonds, 1951; Zucchino, 2020).

Historical accounts of the violence in Wilmington suggest major destruction of local Black wealth through homes and businesses destroyed and through the fleeing of the town's more educated and prosperous Black residents (Zucchino, 2020). Tracing the real-time impacts of the coup is difficult to do with decennial census data. Our annual county-level wealth data allows us to examine the impact of the coup on racial inequality. Figure F.5 plots the evolution of the white-to-Black per capita wealth ratio in New Hanover County, the county containing Wilmington, in black and the remaining North Carolina counties in red. As can be seen in the figure, prior to the coup, the racial wealth gap in Wilmington was similar in levels and trends to the rest of the state. Both fall from around 20 to 1 to 15 to 1 on the eve of the 1898 coup. After 1900, however, the racial wealth gap in New Hanover County increases back to its level in the early 1890s, and the gap with the rest of North Carolina widens and persists until the 1910s.

These differential trends in wealth convergence before and after the coup provide some direct evidence of the link between racial violence in the South at the time and the evolution of racial wealth inequality. We reserve the further exploration of this link, based on Wilmington and numerous other violent episodes in the South at the time, for future work.





Notes: White-to-Black wealth ratio in New Hanover county and the rest of North Carolina before and after the 1898 coup. Data sources: Auditor reports digitized by the authors (Auditor of the State of North Carolina (1891) through State Tax Commission (1915)); Population data from Manson et al. (2017).

Appendix G Black-to-white wealth ratios and Black Americans' share of national wealth, 1860-2020

This section presents two alternative views of the racial wealth gap: the inverse wealth ratio (the ratio of Black-to-white per capita wealth) and Black Americans' share of national wealth.

Black-to-white wealth ratio Figure G.1 plots the inverse of our baseline wealth gap measure. Rather than depict the white-to-Black per capita wealth ratio, here we plot the Black-to-white per capita ratio. This view of the wealth gap allows for a more nuanced view of the dynamics of the gap during periods with very low levels of Black wealth, such as the late 19th century. We find that the Black-to-white wealth ratio has increased almost linearly from about 0.02 to around 0.17 today. This alternative view of the wealth gap also highlights slow convergence during the height of the Jim Crow era as well as post-1980. Black wealth as a share of white wealth has fluctuated around 17% over the last four decades, with a sharp drop during the Great Recession.

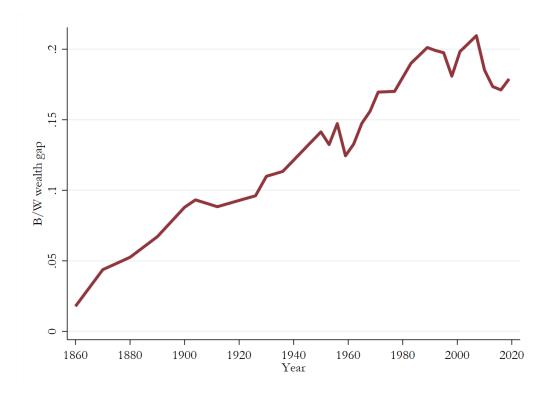


Figure G.1 Black-to-white wealth ratio: 1860-2020

Notes: Authors' series of the Black-to-white per capita wealth ratio from 1860 to 2020. The Black-to-white wealth ratio is the inverse of our baseline series shown in Figure I. Data sources: Authors' series of the white-to-Black per capita wealth ratios from 1860 to 2020.

Black share of national wealth We also construct the time series of Black Americans' share of national wealth from 1860 to the present. Figure G.2 reports the results. In Appendix Figure G.1, we

find that per capita Black wealth has represented a growing share of per capita white wealth over time. Figure G.2 instead depicts total Black wealth as a fraction of total national wealth. This measure is affected by per capita Black wealth holding but also by changes in Black Americans' share of the total population. We report the Black population share in Figure G.3.

In 1870, five years after the end of the Civil War, the Black population in the U.S. held just 0.5% of the nation's wealth despite representing 14% of the population. The Black share of wealth increased steadily over the late 19th century but saw little change from 1900 to 1940. The share then increased dramatically from 1950 to 1980. The reason behind the different evolution of the per capita wealth ratio and the wealth share stem from the time series variation in the Black population share over time (Figure G.3). From 1860 to 1940, a period which encompasses the era of mass European migration to the United States (approximately 1880 to 1920), the Black population share of of the U.S. population fell from around 14% to less than 10%. Between 1950 and 1980 the Black population share climbed back up to just under 12%. In the early 20th century, the forces of rapid Black per capita wealth growth and declining Black population share counteracted each other, producing a flat trend in the Black share of national wealth. From 1950 to 1980, continued Black per capita wealth growth and a rebound in the Black share of the population combined to produce a large increase in the Black share of national wealth. Still, by 2020, the Black share of national wealth is low relative to the population share today is still about five times Black Americans' share of over 12%. The Black population share today is still about five times Black Americans' share of national wealth.

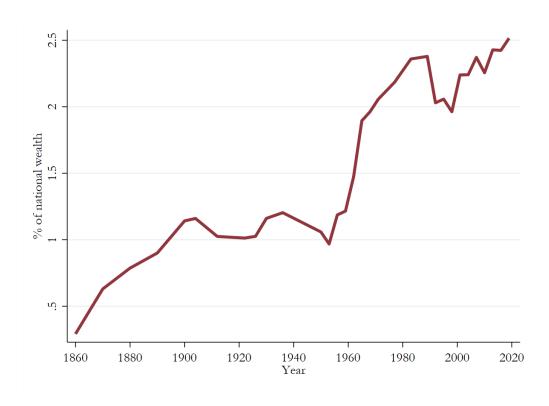


Figure G.2 Black share of national wealth: 1860-2020

Notes: Authors' series of the Black share of national wealth from 1860 to 2020. Black share computed as total Black wealth as share of national wealth over time. Data sources: Authors' series of aggregate Black wealth and national wealth. Sources are described in Appendix A.

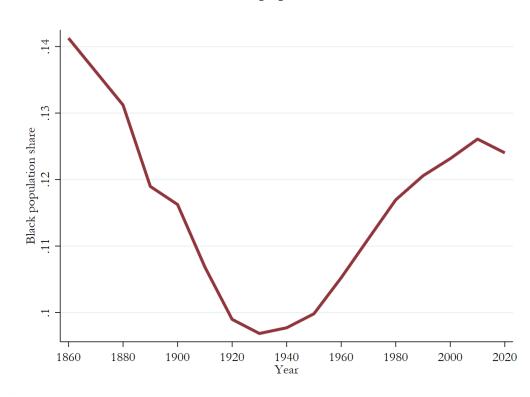


Figure G.3 Black share of U.S. population: 1860-2020

Notes: Share of Black population in the United States from 1860 to 2020. Data sources: Census publications and reports (Gibson and Jung, 2002; Rastogi et al., 2011; United States Census Bureau, 2021).

Appendix H Homeownership and housing wealth gaps, 1860-2020

We construct a time series of Black and white homeownership rates from census data, which can be compared to the series published by Collins and Margo (2011). First, we extract all housing value and homeownership information from the complete-count census data for 1860, 1870, 1900, 1910, 1920, 1930, and 1940. We then add data from the American Community Survey (ACS) for 1960 through 2019. To construct a homeownership indicator in 1860 and 1870, we consider all households reporting positive real estate wealth to be homeowners, following Collins and Margo (2011). For 1860, we add the enslaved population and assume that a counterfactual household size for enslaved Black persons is equivalent to the household size of free Black persons in 1860, or about five individuals. The resulting share of 20% of counterfactual household heads among the enslaved population corresponds to the share in the free Black population (19.2%). We replace all missing housing values with zeros.

We construct time series for housing values and homeownership rates by collapsing data for homeownership and housing values by year for Black and non-Black heads of households.⁶¹ Thus, unlike our measures of the wealth gap, the housing gap and homeownership gap are per household and not per capita. Home values in the census data are only available from 1930 onwards. From 1960 onwards, we use the ACS. Housing values in these data are top-coded with time varying top-coding levels (see Table H.1).

We currently do not adjust the housing wealth series from the ACS for top-coding but provide a comparison to data from the SCF+ for 1950 onwards, which does not have top-coding of housing values. We also replace values coded as missing with zeros. We collapse the data annually using censusprovided person weights.⁶² To construct housing values and homeownership rates in the SCF+, we take the value of housing assets and consider a household as owning their home if the household reports positive housing assets. We collapse data by SCF+ survey year, using survey weights.

Figure H.1 shows white and Black homeownership rates from census, ACS, and the SCF+, with linear interpolations for years when no data are available.⁶³ Results are highly consistent with Collins and Margo (2011). Homeownership rates for white households decline slightly between 1860 and 1940 and show a strong increase between 1940 and 1960. After this, white homeownership rates follow a modest upward trend after 1960 followed by a small decrease after the financial crisis of 2008. For Black households, there is a large increase in homeownership rates between 1870 and 1900. Between 1900 and 1940, Black homeownership rates remain flat at just over 20 percent. Homeownership rates for Black households increased strongly between 1940 and 1960 from just over 20 percent to almost 40 percent. There is a slightly increasing trend between 1960 and 2007 and a larger drop compared to white households after the financial crisis. Today, homeownership rates of Black and white households are again at the levels they were in 1970 and a larger racial homeownership gap persists.

The post-1950 data allow a comparison between SCF+ and census data. To improve estimates of the time series trends, we construct moving averages across three survey waves in the SCF+. Whereas the time series of homeownership rates for non-Black households can by accurately estimated using single

⁶¹Note, we do not make age or gender restrictions on household heads as in Collins and Margo (2011).

⁶²These weights are equal to 1 in the complete-count censuses.

⁶³Notably, the 1950 census microdata do not contain homeownership information.

survey waves, the moving average improves the estimated time series for Black households. Figure H.1 shows the estimated time series relative to the estimates from census data and show that the two estimates align closely, partly due to the fact that the SCF+ data has been stratified to the national homeownership rate.⁶⁴ The flatter slope of the increase in homeownership rates between 1950 and 1960 for both groups suggests a slightly more rapid increase during World War II.

In the next step, we compare the home values of Black and white households. We construct a housing value gap similar to our wealth gap series with the key difference that our housing gap is a per household gap, not a per capita gap. The gap that represents the ratio of the average home value of white households to Black households. We do not condition on homeownership so that the average home value also includes households with zero housing wealth. We also do not subtract debt to get home equity but consider the gross value of housing. In the SCF+ data, we again use three-wave moving averages as discussed above in the construction of homeownership rates. We offer two estimates based on SCF+ data. One estimate uses the reported housing value from the survey and the second one that we refer to as "top-coded" does not report values above the top-coding limit of the census from the nearest census wave (See Table H.1 for census top-coding values over time).

Figure H.2 shows the resulting home value gap series. Home value gaps in census align with those in the SCF+ data starting in 1960. In 1960, the ratio of average white households' housing assets to average Black households' housing assets was 3 and declined between 1960 and 1970 to around 2.5 where it still stands today. The gap moved downwards during the 1990s and 2000s, but increased substantially again after the financial crisis of 2008. The SCF+ shows a higher home value gap after 1960 at around 2.7, but the trend is similar to the gap estimated using census data. When we impose top-coding from the nearest census survey year to the SCF+ data, the housing gap is only modestly reduced. Before 1950, the census data show a much higher home value gap of 6 in 1940 and 6.5 in 1930. This gap falls by 50% between 1940 and 1960. As with the homeownership series, SCF+ estimates of the home value gap in 1950 fall below the linear interpolation of census home values for that year. This may be due to convergence occurring primarily between 1940 and 1950 and stabilizing thereafter.

Overall, between 1940 and 1960, Black households saw a large increase in homeownership rates than white households. Black homeownership rates increased by about 15 pp from 25% to 40% for the Black population and by 20 pp for the white population (from 45% to 65%). Expressed as a growth rate, the homeownership rate for the Black population grew by about 60% (from 25% to 40%) and by 44% for the white population (from 45% to 65%). In growth terms, this increase for Black households exceeded that of white households and likely contributed to racial convergence in housing wealth during this period.

 $^{^{64}\}mathrm{The~SCF+}$ also match trends in and levels of homeownership rates by age.

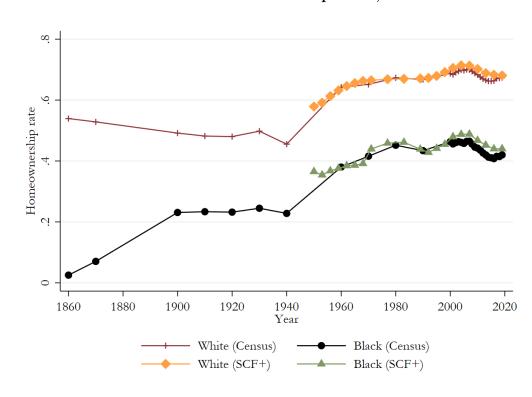
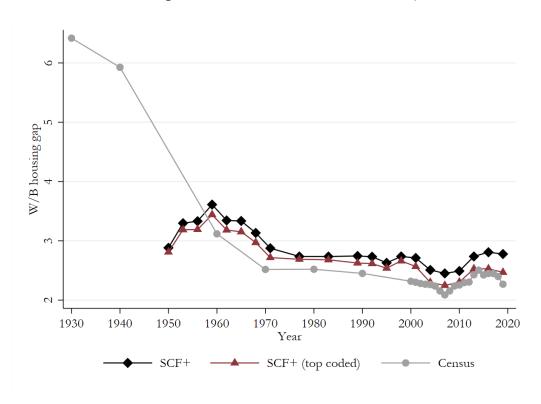


Figure H.1 White and Black homeownership rates, 1860-2020

Notes: The line with cross marks plots white homeownership rates from the census, and the line with dots shows Black homeownership rates from the census. The squares and triangles show white and Black homeownership rates, respectively, estimated from the SCF+ microdata. Data sources: Census (Ruggles et al., 2021), ACS, and SCF+.

Figure H.2 White-to-Black per household home value ratio, 1930-2020



Notes: White-to-Black ratio of housing values per household over time. The dots show census and ACS data. The diamonds show SCF+ data, and the triangles show SCF+ data with the top-coding from census and ACS data applied (Table H.1). Data sources: Census (Ruggles et al., 2021), ACS, and SCF+.

Census	Top Code
1960	\$35,000
1970	\$50,000
1980	\$200,000
2000	\$1,000,000
ACS (2000-2007)	\$1,000,000

Table H.1 Top-coding of home values in Census and ACS

Notes: Top-coding boundary for housing values for different time periods in census data and the American Community Survey (ACS). All values are current U.S. dollars. Data sources: Census and ACS data (Ruggles et al., 2021).

Appendix I Racial gaps in q and s implied by fitting wealth accumulation model to the data

In section IV., we begin our simulation of racial wealth convergence based on our wealth accumulation model by assuming constant and equal wealth-accumulating conditions for Black and white Americans from 1870-2020. We do this to provide a benchmark for the path of convergence arising from initial gaps in wealth and income alone. The data show slower convergence relative to this benchmark, consistent with racial differences in capital gains rates (q) and saving rates (s). In this appendix, we quantify such differences by estimating the q^b and s^b that give us the best fit with our wealth gap series, assuming white households have capital gains and savings rates equal to the national averages, or $q^w = 1\%$ and $s^w = 5\%$.

We proceed as the following. Recall Equation 2, which is the law of motion of the per capita white-to-Black wealth gap:

$$WR_{t+1} \equiv \frac{W_{t+1}^w}{W_{t+1}^b} = WR_t \times \frac{1+q^w}{1+q^b} \times \frac{1+s^w \frac{Y_t^w}{W_t^w}}{1+s^b \frac{Y_t^b}{W_t^b}}.$$
(13)

The predetermined variables are the initial per capita wealth and income levels of Black and white Americans in 1870. We then simulate Y_t^w and W_t^w for t > 1870 using race-specific income growth rates (g^w, g^b) and the wealth-accumulating conditions of white Americans $(q^w = 1\% \text{ and } s^w = 5\%)$. Afterwards, we estimate the parameters of interest $\theta = [q^b, s^b]$ that minimizes the sum of residuals between the fitted wealth gap \hat{WR}_{t+1} and our actual wealth gap series WR_{t+1} .⁶⁵ By doing so, we impose that wealth-accumulating conditions have been worse for Black Americans, or $q^b < q^w = 1\%$ and $s^b < s^w = 5\%$. Our least squares method implies a savings rate of 3.9% and capital gains rate of 0.8% for Black Americans (see Figure I.1).

We examine whether racial differences in savings-induced wealth accumulation (s) or capital gainsinduced wealth accumulation (q) have played the more dominant role in influencing racial wealth convergence over the past 150 years. To shed light on this question, we compare two counterfactual wealth gaps, one where we only allow for our estimated difference in saving rates ($s^w = 5\%$ and $s^b = 3.9\%$) while keeping capital gains equal across the two groups ($q^w = q^b = 1\%$) and the second where we only allow our estimated difference in capital gains ($q^w = 1\%$ and $q^b = 0.8\%$), keeping savings rates equal ($s^w = s^b = 5\%$). The results are presented in Figure I.1. The thick dashed line represents the scenario with different saving rates and thin dashed grey line represents the scenario with

$$Z_t = g(X_t; \theta_0) + \varepsilon_t$$
$$\hat{\theta}_{NLS} = \underset{\theta \in \Theta}{\operatorname{arg\,min}} \sum_{t=1}^T (Z_t - g(X_t; \theta))^2$$

⁶⁵Our approach can be formally described with the following equation:

where the dependent variable Z_t is a non-linear function of observables (X_t) , along with the parameters of interest θ_0 that lie in the parameter set Θ . Non-linear least squares methods estimate $\hat{\theta}_{NLS}$ that gives us the best fit to the data.

different capital gains. This exercise points to a larger role for savings-induced wealth accumulation over the full 150-year period: the counterfactual wealth gap with only differences in saving rates yields a white-to-Black wealth ratio of 4.3 in 2019, while the counterfactual gap with just differences in capital gains rates is 3.5. However, as we note in Section IV.D., recent developments in the racial wealth gap suggest a growing role for racial differences in capital gains rates compared to savings-induced wealth accumulation.

Finally, as a robustness check on our non-linear least squares estimation approach, we also estimate q^b and s^b using Ordinary Least Squares (OLS) and our log-linearized version of Equation 2:

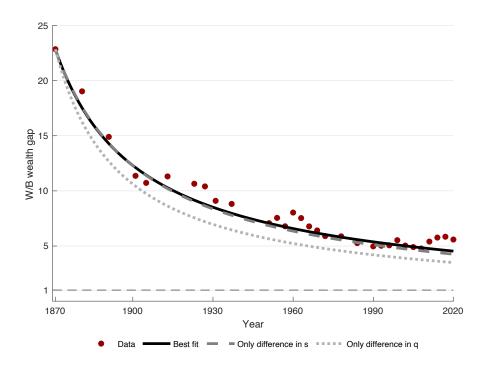
$$\underbrace{\log\left(\frac{WR_{t+1}}{WR_t}\right) - s^w \frac{Y_t^w}{W_t^w}}_{\equiv Y_t} = (q^w - q^b) - s^b \underbrace{\frac{Y_t^b}{W_t^b}}_{\equiv X_t}$$
(14)

$$Y_t = \alpha + \beta X_t. \tag{15}$$

In order to estimate the parameters of interest ($\alpha = (q^w - q^b)$, $\beta = -s^b$), we need continuous values of Black and white income and wealth. Therefore, we simulate income over time using initial per capita income levels of Black and white multiplied by their annual income growth rates from 1870 to 2020. For wealth, we interpolate our per capita Black and white wealth data for periods when we do not have data. The results of the OLS regression is provided in Table I.1.

Using OLS, our point estimate of the saving rate for Black Americans is by 5.6%, which is slightly than our saving rate estimated with non-linear least squares (3.9%). Our OLS estimates imply that Black Americans had slightly higher capital gains, with a rate of 1.2% (as opposed to 1% for white Americans); however, our estimated gap $q^w - q^b$ is only significant at the 1% level. These results underscore that racial differences in capital gains rates are unlikely to be the main factor driving the evolution of the racial wealth gap over the full historical period. Rather, racial differences in savingsinduced capital gains have strongly contributed to the overall shape of the long-run wealth convergence. Once we neglect the constant in the OLS estimation, the saving rates of Black Americans decrease to a level of 3.5%, which is very similar to our saving rate measure with non-linear least squares.

Figure I.1 Simulation with estimated q^b and s^b



Notes: The grey dashed line is the simulation of Section IV., where we assume equal wealth-accumulating conditions throughout the whole simulation period 1870-2020 ($q^w = q^b$, $s^w = s^b$). The black solid line is the simulation result with q^b and s^b that gives us the best fit to the data. The red dots are our estimated wealth gap series. Data sources: Various, described in Section III. and Appendix A.

	Coefficients	Lower Bound	Upper Bound
$q^w - q^b = \hat{\alpha}$	0.012	-0.0003	0.0245
$s^b = -\hat{\beta}$	0.056	0.033	0.078
$s^b = -\hat{\beta}$ (without constant)	0.035	0.029	0.041

Notes: Results from OLS regression. The first column presents the estimated coefficients. The last two columns show their lower and upper bounds using 95% confidence intervals. Data sources: Various, described in Section III. and Appendix A.

Appendix J Estimating racial differences in q and s using the SCF+

J.1 Racial differences in capital gains rates

We estimate racial inequality in capital gains following the approach of Xavier (2020), Wolff (2017), Wolff (2018), and Wolff (2022), where we assume that households experience the same capital gains within each asset class. Thus, the only differences in capital gains rates we allow for are those stemming from differences in wealth portfolio composition.

We define the total capital gains of Black and white households $(q^j, j = \{b, w\})$ as the weighted sum of the capital gains on different asset classes based on their shares of total net wealth:

$$q_t^j = \sum_A \omega_{t,A}^j q_{t,A},\tag{16}$$

where $q_{t,A}$ denotes the capital gains on asset class A and $\omega_{t,A}$ its weight as a share of total net wealth at time t. Net wealth in our framework comprises marketable net wealth, which is the current value of all marketable assets net of the current value of debts. Assets include housing assets (main dwelling and/or other real estate), other non-financial assets (gold, silver, metals, jewelry, and vehicle), fixed-income and liquid assets (certificate deposits, checking and savings account, call and money market accounts, and bonds), stocks, business assets, 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.

For $q_{t,A}$, we take estimates of real capital gains rates on equity, housing, business, and fixed income assets from Saez and Zucman (2016), while we assume zero capital gains on other non-financial assets such as vehicles.⁶⁶ Note that we unveil defined contribution retirement accounts into fixed-income assets and stocks. We calculate the wealth portfolio shares $\omega_{t,A}$ using the SCF+. In Table J.1, we present the portfolio shares of Black and white households and in Table J.2 we present the average annual capital gains on housing, equity, businesses, and fixed income assets, together with the average capital gains on total wealth portfolios by race.

Overall, we observe that Black households have experienced lower capital gains than their white counterparts throughout the whole 1950-2020 period, a difference of 0.21 percentage points on average. During 1950-1980, the white-to-Black difference was rather small (0.1 p.p.), while after 1980, this difference increased by more than three times. Post-1980, both the equity and housing market experienced a boom. Nevertheless, equity experienced a much stronger increase in value compared to housing assets. Since Black households hold only a small share of their total wealth in equity, this divergence between the equity and housing markets led to an overall divergence in Black and white capital gains.

The above approach to estimating racial gaps in capital gains ignores the role of potential racial

⁶⁶For housing, we take the capital gains on gross housing in column E of sheet "TSD1" in *SaezZucmanAggregates2020.xlsx* in our replication file. Business capital gains are in column L of the same sheet. For stocks, we take the capital gains on equities held by US households that include price increases caused by retained earnings, see sheet "TS4" column S in *SaezZucmanAggregates2020.xlsx* in our replication file. For fixed-income assets, Saez and Zucman (2016) provide only capital gains net of personal debt. Therefore, we calculate gross capital gains on fixed-income assets, which is provided in $cg_fixed_inc.xlsx$ in our replication file.

	1950-1980		1980-2020	
	White	Black	White	Black
Housing	0.37	0.75	0.45	0.81
Equity	0.25	0.10	0.19	0.09
Business	0.33	0.28	0.23	0.12
Fixed income	0.11	0.08	0.18	0.18
Other non-financial assets	0.03	0.09	0.05	0.12

Table J.1Portfolio shares (% of net wealth): 1950-2020

Notes: Estimated portfolio shares (% of net wealth) of Black and white households during 1950-2020. Data sources: SCF+.

Table J.2Real capital gains: 1950-2020

	Housing	Equity	Business	Fixed income	cg^w	cg^b	$cg^w - cg^b$
1950-1980	0.35%	2.13%	1.45%	-4.86%	0.61%	0.51%	0.1 p.p.
1980-2020	1.00%	8.54%	-1.15%	-2.44%	1.34%	1.02%	0.32 p.p.
Whole sample period	0.71%	5.75%	-0.05%	-3.48%	0.97%	0.76%	0.21 p.p.

Notes: Estimated capital gains rates and capital gains rate differences between Black and white households. See Appendix J for details on estimation. Data sources: SCF+ and Saez and Zucman (2016).

differences in returns within an asset class. Recent evidence suggests such differences exist. Kermani and Wong (2021) document differences in housing returns stemming from Black homeowners' greater likelihood of foreclosure and short sales. Black homeowners also face higher effective property taxes compared to white households, due to systematic differences in assessed-to-market value ratios by race (Avenancio-León and Howard, 2022). Finally, Kroeger and Wright (2021) show that Black businesses are shorter lived than white-owned businesses, and leading to greater incidence of business closure translates and its associated costs on Black business owners. Still, we show in Section IV.D. that racial differences in portfolio composition alone are more than enough to explain the increase in the racial wealth gap post-1980.

Finally, we also provide more details into the dynamics of Black and white capital gains during 1980-2020. The post-1980 period is characterized through major events in capital markets, such as the equity market boom, the Dotcom crisis in early 2000s, as well as the housing market boom afterwards. Also, the Global Financial Crisis (GFC) hit in the year 2008, when both the housing and equity market experienced a severe crash. In Table J.3, we present total capital gains on Black and white wealth portfolios for four sub-periods: (i) 1980-2000: Stock market boom before the Dotcom crisis, (ii) 2001-2007: Housing market boom, (iii) 2007-2010: GFC, and (iv) 2010-2020: Post-GFC period.

	Ĩ	8		
	1980-2000	2000-2007	2007-2010	2010-2020
White	1.27%	3.72%	-8.60%	2.33%
Black	0.84%	4.94%	-11.55%	2.38%
Difference W-B	0.43 p.p.	-1.22 p.p.	2.95 p.p.	-0.05 p.p.

Table J.3Real capital gains: 1980-2020

Notes: Estimated capital gains rates on Black and white wealth portfolios by asset class (housing, equity, business, and fixed income), together with capital gains rates on total Black and white wealth portfolios. See Appendix J for details on estimation. Data sources: SCF+ and Saez and Zucman (2016).

The results visualize very well how housing market booms benefit Black households more than white households, and vice versa in case of stock market booms. Starting from 1980 until the Dotcom bubble burst in 2000, the stock market boom led to higher capital gains for white than Black, as Black Americans barely hold stocks in their portfolios. Compared to this, during the housing market boom 2001-2007, Black Americans have 1.22 percentage points higher capital gains on their total wealth portfolios than white. This phenomenon is well documented in Wolff (2022), who shows that minorities borrowed heavily during this period to profit from the boom in housing prices, thus leading to much higher capital gains. However, this trend reversed immediately as the Global Financial Crisis hit (2007-2010), and Black households experienced severe losses in their wealth. Since then, Black and white households earn similar capital gains on their wealth portfolios, with Black capital gains being marginally higher.

J.2 Racial differences in savings rates

We estimate racial differences in savings rates using the synthetic saving rates approach of Saez and Zucman (2016), applied to Black and white households separately.⁶⁷ As a first step, we decompose the accumulation of personal wealth at the U.S. aggregate level using an asset-specific accumulation equation, which decomposes the growth of a given asset into a volume effect (saving) and a price effect (capital gains or losses). Each asset (and liability) type that enters wealth portfolios can be expressed as

$$A_{t+1} = (1 + q_{t+1,A}) \cdot (A_t + S_{t,A}), \tag{17}$$

where A_{t+1} and A_t are the real value of an asset from households' wealth at time t + 1 and t, and $S_{t,A}$ is the net-of-depreciation saving flow of the respective asset type A in time t. $q_{t+1,A}$ is then the real rate of capital gain (or loss) from asset type A between t and t + 1. The same applies for liabilities (housing debt and personal debt) at time t (L_{t+1}), where we here assume that the change in liabilities are solely coming from savings (or dissavings) of the previous period ($S_{t,L}$):

$$L_{t+1} = L_t + S_{t,L}.$$
 (18)

Since A_{t+1} , A_t , and $S_{t,A}$ can be observed in the National Accounts, $q_{t+1,A}$ is estimated as the residual of equation (2).

As a next step, we turn to the SCF+ and estimate the synthetic savings of all asset (and liability) classes for Black and white households separately. Again, for a given asset type A, a white (or Black) household accumulates wealth following the following transition equation:

$$A_{t+1}^{j} = (1 + q_{t+1,A}) \cdot (A_{t}^{j} + S_{t,A}^{j}),$$
(19)

with $j = \{b, w\}$ representing the two racial groups. Since we have estimates of the capital gains (or losses) for each asset class and A_t^j is observable from the SCF+, this time $S_{t,A}^j$ is estimated as residuals of the accumulation equation (Equation 19) and is denoted the "synthetic savings" for group j.⁶⁸ Total savings of households is then the sum of all savings in each asset class included in their wealth portfolio. We then divide total savings by total income to calculate savings rates by racial group.

J.2.1 Drivers of the savings-induced convergence channel

Recall Equation 3, which shows how the racial wealth gap convergence emerges from two distinct channels: savings-induced and capital-gains induced convergence:

⁶⁷For similar approaches, see Wolff (2017), Bauluz and Meyer (2021), and Bauluz, Novokmet, and Schularick (2022).

 $^{^{68}}$ In order to obtain an adequate measure of savings, it is crucial to harmonize the asset class definitions of the SCF+ with the national accounts to match the accumulation equations 17 and 19. We follow the wealth definitions of Bauluz and Meyer (2021).

$$\log\left(\frac{WR_{t+1}}{WR_t}\right) \approx \underbrace{\left(q^w - q^b\right)}_{\text{Differences in capital gains rates}} + \underbrace{\left[s^w \frac{Y_t^w}{W_t^w} - s^b \frac{Y_t^b}{W_t^b}\right]}_{\text{Differences in savings}}$$

The above equation shows that wealth gap convergence will occur through the savings channel only if

$$s^{w} \frac{Y_{t}^{w}}{W_{t}^{w}} - s^{b} \frac{Y_{t}^{b}}{W_{t}^{b}} < 0$$
⁽²⁰⁾

$$\Leftrightarrow \frac{W_t^b}{Y_t^b} / \frac{W_t^w}{Y_t^w} < \frac{s^b}{s^w}.$$
(21)

Equation 21 presents nicely how the wealth-to-income ratio differences of Black and white Americans influence the savings-induced convergence channel: If wealth-to-income ratios of Black Americans grow today proportionately more than white, then Black Americans need higher saving rates than the previous period to experience wealth convergence.

In Table J.4, we present estimates of $\frac{W_t^b}{Y_t^b} / \frac{W_t^w}{Y_t^w}$, as well as the Black-to-white ratio of saving rates $\frac{s^b}{s^w}$. In addition, we also provide the white-to-Black differences in income growth rates $g^w - g^b$, which has important implications on the dynamics of wealth-to-income ratios. As we have data on Black and white wealth and income levels throughout the whole 1870-2020 period, we provide estimates of $\frac{W_t^b}{Y_t^b} / \frac{W_t^w}{Y_t^w}$ and $g^w - g^b$ for three sub-periods: 1870-1950, 1950-1980, and 1980-2020. The saving rates ratio is estimated with data of the SCF+, therefore starting from 1950 onwards.

Overall, our estimates provide a clear worsening trend in savings-induced wealth convergence during the last 150 years, where the post-1980 period stands out. We first concentrate on the dynamics of white and Black wealth-to-income ratios. In the aftermath of Emancipation, Black wealth-to-income ratios were very low (only 22% of white wealth-to-income ratios). This, however, implied that Black Americans only needed saving rates slightly higher than 22% of white saving rates in order to experience convergence. This mechanism explains the rapid convergence rates during the decades after 1870. As Black Americans accumulated wealth over time, the differences in wealth-to-income ratios declined, reaching a level of 0.36 in the post-1980 period. Interestingly, since the 1980s, we also observe a worsening in the racial income gap (with white income growth rates being slightly higher than those of Black). This implies that, given wealth levels remain constant, wealth-to-income ratios of Black Americans will increase faster than white, thus leading to a higher threshold $\frac{W^b}{Yb} / \frac{W^w}{Y^w}$ to achieve convergence.

At the same time, Black-to-white differences in savings rates increased after 1980 as well: During 1950-1980, Black Americans had in fact similar savings rates as white (almost 85%), while during the post-1980 period, Black Americans' savings rates are only around half of those of white. This, in combination with larger $\frac{W^b}{Yb} / \frac{W^w}{Y^w}$, the savings-induced wealth convergence have weakened substantially starting from 1980.

	$\frac{W^b_t}{Y^b_t} \big/ \frac{W^w_t}{Y^w_t}$	$rac{s^b}{s^w}$	$g^w - g^b$
1870-1950	0.22		-0.60 p.p.
1950-1980	0.32	0.83	-0.51 p.p.
1980-2020	0.36	0.44	0.07 p.p.

Table J.4Savings-induced convergence: Key parameters

Notes: Differences between Black-to-white ratios of wealth-to-income ratios $\left(\frac{W_t^b}{Y_t^b}/\frac{W_t^w}{Y_t^w}\right)$, Black-to-white saving rates ratio $\left(\frac{s^b}{s^w}\right)$, and absolute differences in Black income growth $(g^w - g^b)$ Data sources: Various, described in Section III. and Appendix A.

J.2.2 Active saving rates: PSID

One concern with the synthetic savings method applied to the SCF+ is that the data are a repeated cross-section, not a panel of individuals. Therefore, it is not possible to track changes in assets held by a certain individual from time t to t + 1. This is particularly problematic in cases of estimating saving rates of different groups separately, where individuals can migrate across groups (Mian, Straub, and Sufi, 2020; Smith, Zidar, and Zwick, 2021). Given the stability of racial identity in the U.S., we do not believe this concern applies in our context. Nevertheless, we conduct an additional robustness check on our estimate of Black and white savings rates differentials using panel household survey data from the Panel Study of Income Dynamics (PSID). Following Dynan, Skinner, and Zeldes (2004) and Juster et al. (2006), we estimate Black and white households' "active" savings rates during 1984-2019 $(s_t^j, \text{ where } j = \{b, w\})$, which is the total net amount of assets A that households newly purchased $(\sum_A NP_{t,A}^j)$, relative to their total income Y_t^j :

$$s_t^j = \frac{\sum_A N P_{t,A}^j}{Y_t^j}.$$
(22)

The PSID provides information on the net purchase amount of the following asset categories: real estate other than main dwelling, farm or businesses, corporate equity, and IRAs. With respect to other asset classes, such as other financial assets and main dwelling, we proceed in the following manner. For savings in main dwelling, we assume that the active savings of families living in the same house between two consecutive waves equals the change in their mortgage principal and investments in home improvement. For households moving between two consecutive waves, we define active savings as the change in their home equity.

With respect to other financial assets, we assume that households do not earn any capital gains, such that the change in value between two consecutive waves reflect their net purchase amount. Finally, we also control for amounts of wealth transferred into a household due to a new household member moving in, as well as wealth transferred out due to a current household member moving out. We further exclude increases in assets coming from inheritances. For income, we calculate the average total income of households during two consecutive waves and multiply this with the number of years between these waves.

Note that the PSID only provides wealth data starting from 1984, such that we are only able to derive the active saving rates for the post-1980 period. In Table J.5 we compare our post-1980 white-Black gap in savings rates using the SCF+ and PSID. The saving rates ratio is slightly larger with the PSID than SCF+, however, lower than the savings ratio pre-1980 (which was 0.83).⁶⁹

Table J.5Black-to-white ratio in saving rates post-1980: SCF+ vs. PSID

	SCF+	PSID
$\frac{s^b}{s^w}$	0.44	0.62

Notes: The ratio between Black and white saving rates $\left(\frac{s^b}{s^w}\right)$ in the SCF+ versus the PSID. For our estimates from the SCF+, we apply synthetic savings methods, and for our estimates using the PSID, we estimate active saving rates using data of the PSID. Both approaches are described in detail in Appendix J. Data sources: SCF+ and PSID.

⁶⁹Racial differences in savings rates can arise from differences in socioeconomic characteristics. Dal Borgo (2019), for example, analyzes saving rate differentials of 50-65 year old household heads by race in the U.S. and provides evidence that the differences in white-Black active savings can be solely explained by their socio-demographic characteristics, such as income.

Appendix K The racial wealth gap along the distribution

Our analysis thus far has focused on mean wealth holdings and the average wealth gap, primarily due to a lack of microdata on Black and white wealth in the historical period. However, prior work has shown that the U.S. wealth distribution is highly skewed with a large difference between median and mean wealth holding (Kuhn and Ríos-Rull, 2016). In this Appendix section, we provide descriptive evidence on racial wealth gaps along the distribution using the SCF+, which provides microdata on wealth. This analysis sheds light on how the racial wealth gap varies along the distribution and what forces drive the gap at different points in the distribution compared to the mean.

Figure K.1 shows the evolution of the white-to-Black wealth gap at the mean, median, and 90th percentile of the household wealth distribution as well as growth rates in median wealth by racial group for the period 1950 to 2020.⁷⁰ Throughout the entire period, the wealth gap at the median (Figure K.1a) has been substantially larger than the wealth gap at the mean or 90th percentile. The wealth gap at the median in 1950 was nearly 25 to 1. By 1970 this number has fallen substantially, reaching a level of 10 to 1, however the gap has remained at this level for the last 5 decades. In contrast to the wealth gap at the median, the gap at the mean and 90th percentile have changed very little over the last 70 years, ranging from just under 5 to around 7 to 1. What can explain the sharp drop in the median wealth gap, particularly between 1960 and 1970? In Figure K.1b, we show the growth rates in median wealth by racial group for each decade between 1950 and 2020. Black wealth at the median grew dramatically between 1960 and 1970, precisely when the wealth gap at the median fell by more than half. This stark increase in median Black wealth during this decade suggests that civil rights era policies and improvements in labor standards that disproportionately benefited Black workers, may have also translated into absolute and relative improvements in the wealth position of median Black households.

Table K.1 sheds light on which asset classes account for the improved wealth position of the median Black household. We show the mean gross values of different assets, mean net wealth, and average total debt for households in the bottom 50%, 50-90%, and top 10% of each racial group's wealth distribution over time. Between 1950 and 1980, Black households in the bottom half of the Black wealth distribution saw large increases in housing wealth, liquid assets, and other non-financial assets. By contrast, bonds and equity wealth did not increase for the bottom 50%. Between 1980 and 2010, the median wealth gap is quite stable. Nevertheless, these decades saw large increases in equity and bond wealth for Black households in the bottom 50%. Increases in housing wealth were more modest. Overall, however, these improvements have been counteracted by large increases in debt-holding for this group, and net wealth for the bottom half of the Black wealth distribution actually fell in real terms between 1980 and 2010. In contrast to this, white households in the bottom 50% of the white wealth distribution have seen average wealth increase in all asset classes from 1950 to 1980 and from 1980 to 2010. Furthermore, although debt also increased for this group, net wealth still grew.

 $^{^{70}}$ We focus on the household-level gap in this section in keeping with the sampling frame in the SCF+, which is a household-level survey. As shown in panel (a) of Figure D.6, the household-level and per capita wealth gap do not differ substantially from each other. Nevertheless, as a robustness, we also calculated per capita wealth gaps at the median and 90th percentile by using the average household size of the 45th-55th percentile and 85th-95th percentile, respectively. Results remain robust.

Detailed information on household asset portfolios in the SCF+ allows us to examine asset-specific wealth distributions by racial group. We summarize this information in Table K.2. The table shows the mean, median, and 90th percentile of wealth in that asset for Black and white Americans in 1950, 1980, and 2010, in \$2019. A number of striking facts emerge from this analysis. First, as can be seen in the first panel of Table K.2, median holdings were zero within any asset class for Black households in 1950, indicating sizeable inequality in the distribution of assets. Even today, only the median of non-financial assets and liquid financial assets are positive for Black households. By contrast, the median holdings of housing and stocks – the two asset classes that experienced the greatest price gains over the last four decades – are typically zero for Black households. Hence, the median asset position for Black households resembles a situation of a household with a bank account and a car, but no notable savings that can yield high financial returns or capital gains. As a consequence, any capital gains in stocks or housing over the last decades bypassed the majority of the Black population whereas the median white household has always been a homeowner. Although the median white household did not benefit from rising stock prices, they still gained from rising house prices.

Moving further up the Black and white wealth distribution, we find that differences in asset positions across the two groups close to some extent. At the 90th percentile, Black households have positive holdings of all asset classes over time, yet equity holdings only turn positive during the 2010 decade. Differences in equity are large throughout these seven decades. In 1950, the 90th percentile of equity holdings of white households was more than double the wealth at the 90th percentile of the Black household wealth distribution. The 90th percentile of the Black wealth distribution increased in value between 1950 and 1980, but by 2010 this progress had reversed again. Hence, equity holdings at the top of the white equity wealth distribution grew more than the 90th percentile of overall Black wealth. Thus, while the overall wealth gap at the 90th percentile declined slightly over time, the gap remained at about 4.5 during the 2010 decade.

K.1 Racial wealth rank gap

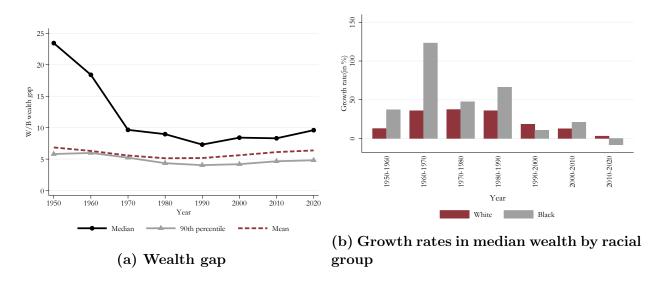
The above discussion motivates examining an alternative measure of racial wealth inequality along the distribution. At each percentile of their respective wealth distributions, Black households have held lower levels of wealth than their white counterparts. Another way to represent this inequality is to measure the wealth rank gap: the difference between a Black household's percentile in the Black wealth distribution and the position that household would hold in the white wealth distribution. This method was pioneered by Bayer and Charles (2018) who examine the evolution of racial income gaps since 1940. Applying this technique to racial wealth in equality, we present the racial wealth rank gap at the median and the 90th percentile in Figure K.2.

As might be expected given the evidence presented above, Black households' position in the white wealth distribution has always been lower than their position in the Black wealth distribution. On average over the 1950-2020 period, Black households at the median have been 24 percentiles behind median white households. Black households at the 90th percentile of the Black distribution have been 28 percentiles behind 90th percentile white households. Figure K.2 also highlights dynamics in the rank gap. The median Black household saw a slow but steady closing of the rank gap between them and

median white households, starting from a gap of 30 in 1950 and falling to a gap of 20 by 2010.⁷¹ The rank gap at the 90th percentile has been more stable over time. Nevertheless, from 1970 to 1990, the 90th percentile Black households strongly improved their relative position, rising from the 55th to 65th percentile of the white wealth distribution. However, after 1990, the rank gap at the 90th percentile has remained roughly constant.

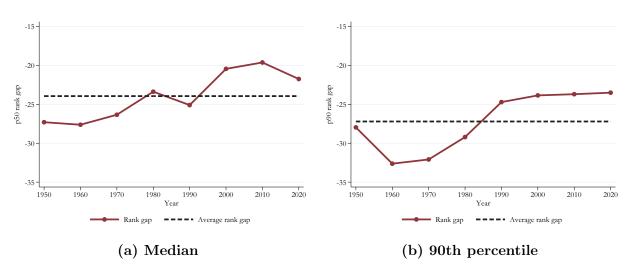
 $^{^{71}}$ In 2020, we observe a slight deterioration of their position to 28th percentile, likely due to the differential effects of the Great Recession.

Figure K.1 The racial wealth along the distribution



Notes: Panel (a) presents the household-level white-to-Black wealth gaps at the mean, median, and 90th percentile. Panel (b) presents growth rates in Black and white wealth at the median for each decade from 1950 to 2020. Data sources: SCF+.

Figure K.2 Racial rank gaps for net wealth at the median and 90th percentile



Notes: The racial rank gap is the difference in percentage points between the rank that the wealth level of the median and 90th percentile takes in the wealth distribution of white households and the rank of the median white household. Dashed line shows the long-run average of the racial wealth rank gap. Data sources: SCF+.

	White			Black			
	Bottom 50%	50%-90%	Top 10%	Bottom 50%	50%-90%	Top 10%	
	1950						
Housing	11,578	81,475	211,709	8,777	74,490	150,962	
Other non-financial assets	$3,\!982$	6,324	$7,\!891$	1,332	4,911	8,064	
Bonds	1,095	6,721	42,723	210	1,045	4,285	
Equity	444	$18,\!158$	960, 158	58	$23,\!391$	$794,\!589$	
Liquid financial assets	2,829	14,003	60,868	919	4,783	14,310	
Net wealth	10,846	112,411	1,262,223	5,881	91,899	952,045	
Total debt	9,083	$14,\!271$	$21,\!125$	$5,\!415$	16,720	20,164	
			19	980			
Housing	30,581	174,121	596,327	23,693	138,157	614,169	
Other non-financial assets	$7,\!116$	14,938	$33,\!630$	$5,\!629$	14,728	98,476	
Bonds	622	3,198	$76,\!490$	185	951	5,565.39	
Equity	1,103	18,149	$972,\!893$	167	$14,\!059$	$388,\!680.73$	
Liquid financial assets	6,304	$34,\!567$	$121,\!649$	3,896	21,682	35,044	
Net wealth	25,721	217,928	1,865,101	18,893	171,903	1,131,058	
Total debt	21,872	$40,\!581$	$65,\!030$	$15,\!839$	31,039	41,085	
			20	010			
Housing	$67,\!117$	282,972	1,392,797	37,734	260,536	1,233,594	
Other non-financial assets	14,666	29,925	96,117	9,166	$23,\!669$	85,040	
Bonds	3,476	41,952	$392,\!895$	2,345	$34,\!520$	159,914	
Equity	5,344	79,321	2,022,536	2,772	44,783	1,067,539	
Liquid financial assets	4,571	35,546	286,162	2,546	24,530	97,225	
Net wealth	$23,\!587$	395,380	4,641,114	13,114	308,490	2,584,225	
Total debt	73,935	$109,\!596$	$227,\!501$	43,079	$103,\!164$	236,915	

Table K.1	
Portfolio composition along the wealth distribution, 1950-202	20

Notes: The table shows mean asset positions, net wealth, and debt for Black and white households from different parts of their respective wealth distributions in 1950, 1980, and 2010. All values are in 2019 dollars. Housing includes other real estate. Equity includes business wealth. Also, bonds and equity include indirect holdings in form of mutual funds and DC pensions. Data sources: SCF+.

	White			Black			
	Mean	Median	90th	Mean	Median	90th	
			195	0			
Housing	62,911	34,645	148,989	$20,\!678$	0	61,553	
Other non-financial assets	5,400	2,596	14,712	1,953	0	7,497	
Bonds	$7,\!985$	0	$16,\!499$	403	0	185	
Equity	$111,\!692$	0	$142,\!293$	11,101	0	0	
Liquid financial assets	$13,\!850$	2,382	$36,\!053$	$1,\!687$	0	3,622	
Net wealth	189,248	46,999	340,631	$28,\!548$	1,956	59,803	
Total debt	$12,\!589$	634	43,923	7,275	660	21,026	
			198	60			
Housing	158,569	100,935	343,567	$55,\!287$	2,717	135,874	
Other non-financial assets	$13,\!592$	8,391	$28,\!876$	$8,\!959$	$3,\!242$	22,122	
Bonds	10,508	0	$4,\!637$	422	0	184	
Equity	$123,\!603$	0	$122,\!232$	9,708	0	0	
Liquid financial assets	31,961	$5,\!386$	81,148	7,725	648	19,250	
Net wealth	322,036	107,966	595,354	66,877	$17,\!197$	140,867	
Total debt	35,022	6,438	102,876	19,085	2,531	64,010	
	2010						
Housing	331,872	164,726	686,356	111,295	0	306,345	
Other non-financial assets	$31,\!836$	18,120	$58,\!912$	13,923	$7,\!358$	$33,\!580$	
Bonds	$69,\!993$	88	$137,\!363$	12,727	0	28,476	
Equity	347,705	$5,\!491$	474,769	32,433	0	38,436	
Liquid financial assets	54,082	6,398	98,835	9,427	988	17,282	
Net wealth	773,925	164,616	1,366,768	126,579	16,802	301,459	
Total debt	$109,\!422$	35,141	294,562	60,836	11,052	191,334	

Table K.2Black and white wealth distributions by asset class, 1950-2020

Notes: The table shows mean, median, and 90th percentile asset positions, net wealth, and income for Black and white households from the full sample period of the SCF+. All values are in 2019 dollars. Housing includes other real estate. Equity includes business wealth. Also, bonds and equity include indirect holdings in form of mutual funds and DC pensions. Data sources: SCF+.

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