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ABSTRACT

The nullification of slave-based wealth after the US Civil War (1861-65) was one of the largest episodes of wealth compression in history. We document that white southern households with more slave assets lost substantially more wealth by 1870 relative to households with otherwise similar pre-War wealth levels. Yet, the sons of these slaveholders recovered in income and wealth proxies by 1880, in part by shifting into white collar positions and marrying into higher status families. Their pattern of recovery is most consistent with the importance of social networks in facilitating employment opportunities and access to credit.

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I. Introduction

Before the Civil War (1861-65), the US South was a dramatically unequal society. In 1860, a household at the 90th percentile of the white southern wealth distribution owned 14 times more than a household at the median.[1] Nearly 50 percent of the aggregate wealth in the South before the War was held in slaves (Wright 2006, p. 60). The Confederacy's defeat in the Civil War and the formal abolition of slavery in 1865 led to one of the largest compressions of wealth inequality in human history. As one Georgia planter bemoaned in 1866, "by our defeat, we have lost […] millions in the emancipation of our slaves, we have virtually lost [everything]" (Bryant, 1996, p. 113). Although few southerners had their lands confiscated, land holdings also substantially declined in value, particularly in cotton-growing areas that had been dependent on slave agriculture. Taken together, the wealth held by white southerners fell by 38 percent at the median and by 75 percent at the 95th percentile from 1860 to 1870, leading the 90-50 ratio for white southerners to fall from 14-1 to 10-1 by 1870.[2]

This paper studies the short- and long-term effects of these unprecedented wealth losses for white southern households and their children. We document that white southern households that held a larger share of their assets in the form of slaves lost more wealth by 1870 than comparable white southern households with similar pre-Civil War wealth levels. Yet, this wealth shock was not transmitted to the next generation. Instead, sons that grew up in slaveholding households quickly surpassed the economic status of sons from comparable households.

We estimate the transmission of the wealth shock using two contrasts between white southern households that held more/less of their wealth in slaves before the Civil War. First, we compare households that were in the same percentile of the national wealth distribution in 1860, but whose surnames were, on average, associated with high/low slaveholdings. For example, consider two households in the 80th percentile of the wealth distribution, one of whose surname (for example, Barksdale) was associated with above median slaveholding, while the other's surname (for example, Bentley) was associated with below median slaveholding. This approach

[1] Adding the enslaved black population to the 1860 wealth distribution and assuming that all slaves held zero wealth would raise the 90-50 ratio to an astronomically high level of around 350-1.

[2] For comparison, the 90-50 ratio in the US was roughly 7-1 from 1950-2000 and stands at 12-1 today (Kuhn, Schularick and Steins, 2017). Median household net worth fell by 35 percent during the recent housing market crash (Gottschalck, Vornovytskyy, and Smith, 2011; Pfeffer, Danzinger and Schoeni, 2013).

utilizes a "pseudo-link" between a household and the slave schedule of the 1860 Census by surname and county, along the lines of Olivetti and Paserman (2015). Our second approach instead directly links as many households as possible to the slave schedule of the 1860 Census and compares known slaveholders in the same percentile of the 1860 wealth distribution who held more/fewer slaves. In each case, we control for area fixed effects (county or state) to account for localized differences in agricultural productivity.

We find that households with greater actual or likely slaveholdings in 1860 retained 10 to 15 percent less wealth by 1870 than similar households that had been equally wealthy before the Civil War. This pattern contrasts with the pre-War decade (1850-60), during which the wealth of likely slaveholders surpassed that of households that had been similarly wealthy in 1850. Yet, despite the large wealth losses for likely/known slaveholders, their sons had occupation-based wealth and earnings on par with or greater than sons of similarly-wealthy households by 1880. By 1900, the sons of all slaveholders had surpassed their counterparts. The recovery of slaveholders' sons despite the substantial loss of material resources suggests a remarkable *persistence* of other attributes associated with pre-Civil war wealth (such as ability, specific skills, and social networks) among the southern elite.

A simple model of intergenerational wealth transmission (e.g., Becker and Tomes, 1986) would suggest that a loss of financial resources should dampen investment in children, especially in an economy with poorly functioning credit markets like the postbellum South – yet, this is not what we find. Although we cannot isolate the mechanism enabling the sons of slaveholders to rebound after the war, the evidence is most consistent with the role of social networks in facilitating employment opportunities and access to credit. The sons of slaveholders were more likely to shift into white collar work, a process that the social history attributes to family connections (Billings, 1982; Bryant, 1996). In addition, these sons attracted spouses from households that had been wealthier before the Civil War; the availability of capital or social ties from fathers-in-law may have allowed these sons to recover faster. We think that inherited ability or entrepreneurial skills are unlikely to explain the recovery of slaveholders' sons because we compare households with the same wealth levels in 1860 and because we find similar recovery in urban areas, where comparison households were equally likely to be entrepreneurs. Another possibility is that former slaveholders had a comparative advantage in adapting to the sharecropping system that emerged after slavery, perhaps through the use of paternalism to provide amenities like housing and

protection from violence (Alston and Ferrie, 1999). Only the largest slaveholders would have been able to provide these in-kind benefits, but we see recovery for the sons of both small and large slaveholders, as well as in counties that specialized in non-plantation crops.

If the loss of slave wealth was not sufficient to dislodge the southern elite, would proposed land confiscation have been enough to suppress the recovery of elite sons? Although land redistribution was never tried on a grand scale, we focus on two regions in which landholders either lost their land temporarily or had their land and structures destroyed: the counties affected by Sherman's March to the Sea and the coastal counties covered by Sherman's Special Field Order No. 15. By 1870, we find large wealth losses for well-to-do household heads in these areas relative to similarly-wealthy households in adjacent counties (up to 40 percent). Yet, even in this extreme case, we find that elite sons completely caught up with or even surpassed the sons of comparably wealthy families in neighboring counties. This pattern is also present for the subset of sons that we can follow in the Georgia tax records circa 1880, a source that allows us to examine individual wealth data for sons.

Our results suggest that the wealth shock associated with emancipation was not transmitted to the next generation. Yet, it is well known that the southern economy lagged behind the North for more than 100 years after the Civil War. The final part of the empirical analysis compares wealthy southerners to northerners who had been in the same percentile of the national wealth distribution in 1860; this comparison combines the wartime wealth shock isolated in the previous analysis with regional productivity shocks, including the take-off of northern manufacturing and a slowdown in southern agricultural productivity. We find that, by 1870, southerners held at least 50 percent less wealth than similarly-wealthy northerners, with the size of the wealth loss increasing at higher wealth percentiles. Unlike the within-South analysis, we see here that a sizeable portion of the fathers' wealth loss was transmitted to southern sons (30 to 50 percent in 1880; falling to 20 percent by 1900). We conclude that the persistence of the *total* southern wealth loss was likely driven by differential productivity shocks in agriculture and manufacturing, not by the transfer of slave wealth from slaveholders to former slaves.

Our analysis is based on newly-digitized complete-count Census samples, which allow us to follow household heads and their sons over time. We exploit unique Census questions that record dollars of wealth in real estate and in personal property for the full population in 1860, combined with the slave schedules of the 1860 Census that enumerated all slaveholders and tallied

their slaves. We use individual wealth data from the 1870 Census to measure post-war outcomes for household heads. For sons, we instead need to create a proxy for 1880 wealth, which we do by assigning median wealth holdings to sons by occupation and county from the 1870 Census (Collins and Zimran, 2018).[3] We validate this measure for fathers in 1870, for whom we have both individual and occupation-based wealth and supplement our analysis with individual level wealth data for Georgia in 1880. Using standard Census linking techniques, we can track more than 200,000 household heads or 350,000 sons over two Censuses (1860 to 1870 for fathers, and 1860 to 1880 or 1900 for sons).

Our results suggest that the families of southern slaveholders regained their economic status within a generation despite significant wealth losses. This finding undermines the classic mid-century view that the Civil War was a major rupture to the southern elite (Woodward, 1951; Wright, 1986), and instead provides new and comprehensive evidence of elite resilience in support of the revisionist social history of the 1970s and 1980s (Wiener, 1975, 1978; Billings, 1982; Bryant, 1996).[4] The rapid recovery of the southern slaveholding families is surprising in light of the fact that slave collateral formed the basis for nearly all southern credit relations and was completely wiped out after emancipation (Kilbourne, Jr., 1995; Martin, 2010; Gonzalez, Marshall and Naidu, 2017).[5] Yet, this pattern of elite recovery is consistent with the theoretical framework of Acemoglu and Robinson (2008), whereby elites invest in alternate mechanisms including social networks and new legal systems to maintain control after losing *de jure* political power.[6]

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3 The three decennial Censuses between 1850 and 1870 are unique in containing questions about individual wealth. Enumerators collected information on real estate wealth for all three censuses, whereas personal wealth was only recorded in 1860 and 1870.

[4] We emphasize that our results contribute to our understanding of the "economic reconstruction" of the post-War South, not to the historiography on political reconstruction (Woodman, 1977). See Foner (1982, p. 84) and Ransom (2005, p. 364-65) on the shift from the classic view that political reconstruction was northern "vengeance against a 'prostrate' South" to the mid-century revision that Reconstruction was a "bold [and welcome] effort to create an integrated society" to the post-revisionists who "questioned whether much of importance happened at all."

[5] Martin (2010) collected more than 8,000 mortgages in Louisiana, South Carolina and Virginia before the Civil War. 41 percent of these mortgages included slave collateral, and these raised 63 percent of capital.

[6] In the case of the post-bellum South, some of these mechanisms include crop lien laws prioritizing landowners' claims on tenants' debts, as well as anti-enticement and vagrancy laws designed to reduce labor costs by restricting the mobility of freed slaves (Wiener, 1975; Naidu, 2010). Ager (2013) shows that the southern elite used their *de facto* power (as proxied by pre-war relative wealth) to maintain their economic and political status after the Civil War.

Beyond this important historical finding, our paper is related to a growing literature on the effect of parental wealth on children's life trajectories.[7] Contemporary studies show that children's own wealth, income, and education are positively correlated with parental wealth. One of the challenges in this literature is identifying differences in parental wealth that are not correlated with other parental attributes. Our setting instead allows us to examine a large shock to wealth holdings from an unanticipated confiscation of one asset class (slave-based wealth). The closest to our approach using modern data is Lovenheim (2011)'s work on the effect of housing price shocks, who finds no effect of parental wealth shocks on children's college enrollment for families with above-median income. Our results are also consistent with Bleakley and Ferrie (2016), who find no effect of father's wealth acquired in the 1832 Georgia land lottery on sons' wealth by 1870.[8]

II. Historical background

Before the Civil War, the southern economy was largely agricultural. The region's most fertile soil was dedicated to the cash crops of cotton, tobacco, sugar, and rice, often grown on large plantations, while the upcountry was home to many small subsistence farmers. Slaveholding was reserved for the top echelon of white households, with an even smaller minority owning a large plantation. In 1860, 21 percent of white southern households owned at least one slave and 0.5 percent owned 50 or more slaves (Soltow, 1975; Table 5.3). Larger plantations took advantage of economies of scale to achieve efficient production. Fogel and Engerman (1974, p. 203) describe the slave workforce on large plantations as "rigidly organized as in a factory," with teams separated by task and following an "assembly line" structure from plowing to planting (Metzer, 1975; Fogel and Engerman, 1977; Toman, 2005). Slave wealth also served as an easily collateralized asset, facilitating the opening of new businesses in urban settings (Gonzalez, Marshall and Naidu, 2017).

Slave prices increased steadily from 1850 to 1860, betraying no signs that market participants anticipated the coming emancipation. They peaked in the summer of 1860, falling first

[7] Recent work on inter-generational wealth elasticities include Adermon, Lindahl and Waldenstrom, 2015; Boserup, Kopczuk and Kreiner, 2014; Black et al., 2015; Fagereng, Mogstad and Ronning, 2015; Pfeffer and Killewald, 2015. Bowles and Gintis (2002) and Black and Devereaux (2011) review the broader literature on the effect of family resources (often income) on children.

[8] In related work, Martins, Cilliers, and Fourie (2019) find that the sons of slaveholders in the British Cape Colony (present day South Africa) that received less compensation for the loss of their slave wealth had shorter life spans.

with the nomination of Abraham Lincoln as a presidential candidate and then with the outbreak of war activities in April 1861. Calomiris and Pritchett (2016) argue that the decline in slave prices through early 1861 reflected concerns about wartime disruption and taxation, rather than fears about the expropriation of slave property.[9] In general, some traders believed that the country would not resort to violence; others that the South would easily win the war; or that a northern victory would be followed by compensated emancipation (as happened for British slaveholders and for slaveholders in the North).[10]

Enslaved people throughout the South were freed over the course of the Civil War and outside of the District of Columbia, southerners were not compensated for the forfeiture of their slave wealth.[11] Public debate contained a series of proposals to confiscate and redistribute the land of former Confederates, such as the famous "40 acres and a mule" proposal, but these ideas never came to pass. Instead, most southerners retained their land after the war (Oubre, 1978; Miller, 2015). Radical Republicans, like Charles Sumner, advocated that "great plantations […] must be broken up, and the freedmen must have the pieces" (Wiener, 1978, p. 6). Even Andrew Johnson, whose presidency was later known for its "amazing leniency" toward former rebels, initially talked of "confiscating the large estates" (Foner, pp. 183, 190). But, by 1866, the window of opportunity for land reform had closed.

However, a series of isolated wartime events and experiments did mimic the type of asset destruction or land redistribution that Radical Republicans had in mind. The most prominent of these events stemmed from the actions of General Sherman. After capturing Atlanta in late 1864, General Sherman vowed to "enforce devastation" by marching through Georgia, destroying "mills,

[9] Calomiris and Pritchett (2016) find no differential price decline during this period for slave children, who would only have become profitable if owned for many years.

[10] The Slavery Abolition Act of 1833 in the UK raised 20 million pounds to compensate slaveholders in the British Empire. In the northern states, gradual emancipation plans freed children born into slavery after 25-30 years, far past the age where slave children had compensated their masters for the cost of their upbringing (Goldin, 1973; Fogel and Engerman, 1974).

[11] The cost of national emancipation through compensation, rather than through war, would have been very high; the estimated value of all slave wealth was $2.7 billion in 1860, more than 50 percent of the annual GDP (Goldin, 1973). Despite these high costs, moderate abolitionists proposed the idea of compensated emancipation many times before the Civil War, only to be rebuffed (Fladeland, 1976). Southerners may have been playing a war of attrition game, holding out for a more attractive deal. Goldin (1973) argues that the North likely chose war over a negotiated settlement because they underestimated the financial and human cost of combat.

houses, cotton-gins, &c.," as well as railroads and other infrastructure (Sherman, Special Field Orders No. 120, 1864). Feigenbaum, Lee and Mezzanotti (2018) find that farm values declined by 20 percent in the counties on Sherman's path and then rebounded, a pattern very similar to our individual level analysis.[12] Sherman's Army reached Savannah, Georgia at the end of 1864. A few weeks later, Sherman issued Special Field Order No. 15, declaring a 30 mile strip of land along the coast from Charleston, SC to northern Florida to be Union property, subdividing the large plantations and resettling 40,000 freed people on small plots. The counties affected by Sherman's March or by Field Order No. 15 are shaded in dark gray in Appendix Figures 1a and 1b. Sherman's Field Order No. 15 was eventually reversed by President Johnson, but not before wealthy slaveholders had been displaced from their lands for more than a year.

The fate of the Field Order region was far from typical. Instead, most former slaveholders maintained ownership of their land. However, land values in many parts of the South declined considerably after the war. Appendix Figure 2a illustrates that land prices fell by 60 percent in the Deep South during the war decade and by 15 percent in the rest of the South.[13] Falling land prices reflected lower agricultural productivity: total agricultural output per capita fell by nearly 40 percent in the South from 1860 to 1870 (Engerman, 1966; Engerman, 2000, pp. 356-361).[14] Stagnation in southern agricultural productivity was due in large part to the shift from the supervised gang labor under slavery to tenant farming (Reid, 1973; Ransom and Sutch, 1975; Higgs, 1977).[15]

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[12] Sherman's March appears to have had a persistent effect on some outcomes, even if farm values rebounded. These include a long-term decline in the acres used for agricultural activity and a long-term rise in inequality in farm sizes in affected counties. Neither of these outcomes are inconsistent with a rebounding of individual income and wealth of the sons of affected household heads.

[13] We define the Deep South to be the five major cotton producing states of Alabama, Georgia, Louisiana, Mississippi, and South Carolina.

[14] Cotton production was around 20 percent below pre-war levels circa 1870 (Appendix Figure 2b). As a result, the world price of cotton was high in 1870 (Wright, 1974, 1978). Responding to this price incentive, the share of acres planted in cotton expanded over the 1870s. By the mid-1870s, the total cotton harvest had completely recovered and began expanding (Olmstead and Rhode, 2006). Cotton yields per acre remained unchanged until the 1930s; instead, the growth in cotton production was entirely driven by extensive margin increases in acreage (Appendix Figure 2c).

[15] The institution of sharecropping was the outcome of a protracted negotiation during the late 1860s between freedmen, who wanted to cultivate and own their land, and planters, who "sought to preserve the plantation as a centralized productive unit, worked by laborers in gangs" (Wiener, 1978, p. 35). On their side, freedmen held out by refusing to sign contracts, withholding their labor

In the aggregate, the Civil War and its aftermath led to a major compression of the wealth distribution in the South. Table 1 presents descriptive statistics for different points in the wealth distribution of white household heads in 1860 and 1870 by region. Before the war, white households in the South were wealthier than the North at every point in the distribution. Wealth holdings were 25 percent higher at the median and more than 100 percent higher at the 90th percentile. Wealth in the South fell at every percentile from 1860 to 1870, while rising in the North, so that, by 1870, the southern wealth advantage had become a wealth penalty. Wealth declines in the South were largest for the rich, leading to a major compression of the wealth distribution. The 90-50 ratio of wealth holdings fell from 14-to-1 in 1860 to 10-to-1 in 1870, while the 90-50 ratio in the North remained unchanged at around 9-to-1.

Although the South as a whole experienced substantial wealth compression after the war, the effect of the Civil War on the southern planter elite remains an active debate. Did war and emancipation lead formerly wealthy planters to lose their prominent place at the top of the wealth distribution? And, even if planters retained their *relative* position, was the shock to their absolute wealth holdings large enough to erase the economic advantages of their offspring in future generations?

The classic view of the postwar South is that emancipation was a major rupture to the region's wealthy elite. C. Vann Woodward, the major mid-century voice on the postwar South, argued that "no ruling class of our history ever found itself so completely stripped of its economic foundations as did that of the South in this period…[including] the leading financial, commercial, and industrial families of the region" (Woodward, 1951, p. 29). As evidence, Woodward (1951, p. 152) cites Mitchell's (1921) study of 254 southern industrialists in the late nineteenth century, which concludes that "about eighty per cent [of new wealth in the South] came of non-slave-

and organizing politically (see Logan, 2017 on the efficacy of black politicians during Reconstruction). On the other side, planters lobbied for the passage of laws to restrict black mobility and bargaining power (the "Black Codes"), and also enlisted the Ku Klux Klan and other vigilante groups to terrorize black workers (see Naidu, 2010 on vagrancy and anti-enticement laws). Wiener (1978, p. 66) concludes that the abandonment of gang labor in favor of sharecropping "was a major concession to the freedmen." In the five major cotton states, the percent of land in plantation-sized farms (500+ acres) fell from one-third to just 11 percent from 1860 to 1870 (Ransom and Sutch, 1977, p. 71).

owning parentage."[16] In related recent work, Dupont and Rosenbloom (2018) link wealthy households in the 1870 Census back to 1860. They find substantially more turnover at the top of the wealth distribution in the South than in the North over the war decade.

More recent historical studies argue instead that, in many cases, slaveholding families recovered quickly, often by joining the industrial and merchant elite. Our broad analysis of white households throughout the US South complements these small-scale studies of specific locations. Wiener (1975, 1978) follows more than 200 wealthy planters in western Alabama across Census waves. He finds no difference in the probability that a family remained in the local elite in the decades before and after the war and concludes that "what occurred… was not the 'downfall' or 'destruction' of the old planter class, but rather its persistence and metamorphosis" into planter-merchants who subdivided their land and extended credit to tenant farmers. Bryant's detailed study of Greene County, Georgia concurs that the "new men' who rose to prominence after the war "were new only in their occupations and generation, for most came from established leading families" (Bryant, 1996, p. 172). One such person, Edward A. Copelan, was a typical example. Copelan, the scion of a prosperous plantation family that "lost their slaves and much of their wealth," decided to leave farming, taking a position as a clerk, and eventually achieving "great success in the mercantile business" (Bryant, 1996, pp. 172-173). Billings (1982) documents that, in North Carolina, more than 60 percent of mill owners in the growing textile industry were from prominent planter or agrarian families. The transition from agriculture to industry occurred through social networks: Billings (1982, p. S59) argues that "these were not isolated individuals but members of a social class bound together by common interests in plantation agriculture and by an extensive web of social relationships. Landed families were interconnected by marriage and united by business interests."

III. Creating matched samples and defining slaveholding

Our dataset consists of household heads and sons who are linked between the 1860 Census, taken on the eve of the Civil War, and either the 1870 Census (household heads) or the 1880 or

[16] Later historians suggested that Woodward meant that planters did not survive the war *as a class*, rather than as *individual families*. Wright (1986), for example, emphasizes that southern planters transformed "from laborlords into landlords," a transition that required major shifts in their class interests even if the same families were participating in the post-War economy. Yet, Woodward himself seems to have meant quite literally that large slaveholding families lost their prominent place after the War.

1900 Censuses (sons, observed at around age 30 or age 50). For a subset of our sample, we can observe slaveholding directly via matches to the 1860 slave schedule. More broadly, we measure likely slaveholder status by associating individuals with average slaveholding by surname and county. We define comparison groups based on a household's exact percentile in the 1860 national wealth distribution. We then estimate the effect of exposure to the Civil War wealth shock on the 1870 wealth of a household head and on a proxy for the 1880 wealth levels of sons.

A. Census linking: Fathers in 1860-1870 and Sons in 1860-1880-1900

Our linked samples are created by matching the complete-count digitized Census of 1860 to the Censuses of 1870, 1880, and 1900. The main results are based on the iterative matching procedure pioneered by Ferrie (1996) and fully automated by Abramitzky, Boustan, and Eriksson (2012, 2014) but we also consider robustness to alternative algorithms.

We start with the complete Census of 1860, which includes around 976,000 white southern household heads and 1.75 million white southern sons. Matches are conducted by first name, last name, age and state of birth; we exclude cases with only a first initial. We match around 200,000 household heads forward to the 1870 Census and 350,000 sons to the 1880 Census, a 20 percent match rate.[17] We can follow a similar number of sons from 1860 to the 1900 Census to observe labor market and wealth outcomes circa age 50.

One concern with Census linking is that individuals may be matched to the wrong person with similar attributes. We present results using a more conservative matching strategy that requires individuals to be unique by name and state of birth within a five-year age band. This conservative procedure reduces such "false positive" matches by around 50 percent, and is roughly as successful at reducing false positive links as a series of more computationally-intensive matching approaches (Bailey et al., 2017; Abramitzky et al., 2019).

Another concern with Census linking is that unique matches are more likely to be made between two Census points for men who have an uncommon name or who were numerate and were thus able to report an accurate age on the Census form. Men with these characteristics may

[17] Our match rates are somewhat lower than linked samples from the early twentieth century (Abramitzky, et al., 2018). One reason that match rates are lower in the nineteenth century is because a larger share of Census records list only a first initial, rather than a complete first name (30 percent in 1860 versus 5 percent in 1900). Another is that handwriting is harder for modern coders to decipher and so transcription error is higher.

have higher socio-economic status than the general population. Appendix Table 1 compares men in our matched sample to white southern household heads in the 1860 Census who cannot be matched forward. Men in the linked sample were 5 percentage points (10 percent) more likely to be farmers in 1860 and 6 percentile ranks higher in the 1860 wealth distribution. To improve external validity to the full population, our main results are reweighted by baseline characteristics. Column 3 in Appendix Table 1 demonstrates that the reweighting procedure substantially balances the matched sample with the unmatched segment of the population.[18]

A concern specific in this context is that all matched individuals must have survived the Civil War. Most soldiers were between the ages of 18 and 39, but it has been reported that children as young as 12 participated in the war. The typical father in the data was 40 years old in 1860 and the typical son was 13 years old by 1865, suggesting that most fathers were too old to have served in the war and most sons were too young.[19] Results are robust to excluding the youngest fathers and oldest sons who are most likely to have served.

B. Measuring slaveholder status

We classify a household's slaveholding status in two ways. Our first measure is an indicator of "likely slaveholding" that can be calculated for the full linked sample and our second measure requires matching individual household heads to the 1860 slave schedules directly.

To identify likely slaveholders, we start by defining surnames that, on average, were associated with slave ownership. A "slaveholder surname" is a surname j whose average slaveholding was above the median value for their county of residence c in 1860 (N_{jc} > median). Average slave ownership by surname and county is derived from two components: (a) n_{jc} is the mean number of slaves for surname j in county c, conditional on being a slaveholder, which we calculate directly from the slaveholder schedule, and (b) p_{jc} is the probability of being a slaveholder, which is defined as the ratio of households with surname j in county c in the slave

[18] Coefficients in column 2 are weighted by the propensity of being matched $P_i(M_i = 1|X_i)$, which is calculated from a probit of match status on the covariates (e.g., age, farm status). Observations are reweighted by $(1 - P_i(M_i = 1|X_i))/P_i(M_i = 1|X_i) \times q/(1 - q)$, where q is the proportion of records linked.

[19] Hall, Huff, and Kuriwaki (2017) find that men who owned slaves in 1850 were more likely to have sons that served in the Civil War, which they speculate is due to greater identification with the Confederate cause.

schedule and the population census. The distribution of average slaveholding by surname and county throughout the South is presented in Appendix Figure 3. By this measure, the median surname-county pair was associated with ownership of less than one slave. There is a long right tail above the median, reflecting the skewed distribution of slaveholding.

We validate our surname-based measure of slaveholding in Figure 1, which documents the probability of individual matches to the slave schedule (our proxy for being a known slaveholder) by percentile of the 1860 wealth distribution. The probability of matching to the slave schedule for any household is very low until the 60th percentile of the 1860 wealth distribution, after which it accelerates, increasing at an increasing rate. At each percentile of the distribution, households with slaveholder surnames are more likely to match to the slave schedule, relative to households that do not have slaveholder surnames. The gap in the probability of matching to the slave schedule by surname is maximized at 20 percentage points between the 85th and 95th percentile of the wealth distribution. The first column of Appendix Table 2 reproduces these results in regression format (see equation 1 below). High-wealth households with a slaveholder surname (above the 80th percentile) are around 20 percentage points more likely to match to the slave schedule than are similarly-wealthy households without a slaveholder surname.

Our second measure of slaveholding is based on direct links of households in our sample to the 1860 slave schedule. We start by linking the complete digitized 1860 slave schedule (430,000 slaveholders) to the full 1860 population census by first name, last name, and county of residence in 1860.[20] Despite the fact that the population and slave schedules were collected at the same time (and often by the same enumerator), we are only able to match 32 percent of the full slave schedule to the population census, primarily because of common names and the use of first initials, rather than full first name.[21] Furthermore, the slave schedule does not contain other

[20] In particular, we block on county and first letter of each name and calculate Jaro Winkler string distances between the population and slave schedules for each possible match. To find an actual match, we exclude any possibilities with a Jaro Winkler score below 0.8. We also exclude as implausible any matches in which personal wealth in the Census of Population is less than $400 x the number of slaves in the slave schedule. If we are then left with a unique match, we consider the observation to be linked.

[21] We are able to match 47 percent of slaveholders who have a full first name, rather than just a first initial, to the population schedule. For comparison, note that Abramitzky et al. (2018) can match only 50 percent of individuals when using the same matching variables to link two versions of the 1940 Census that were transcribed separately. True matches are known in this case because individual records are on the same line number and manuscript page.

personal characteristics about individuals (e.g., ages, other household members) that could be used to confirm matches. We find 140,000 slaveholders in the full 1860 population census; of these, around 20,000 are in our 1860 to 1870 linked dataset and around 30,000 of their children are in our linked 1860 to 1880/1900 datasets.[22] We supplement these automated links with a hand-constructed dataset of the richest slaveholders linked to the 1860 slave schedule compiled by Ager (2013) to address the fact that the largest slaveholders often held slaves in multiple counties.[23]

It is reassuring to see that both of our measures of slaveholding are closely related to the share of 1860 wealth held in personal property. Personal property includes the value of slaves, but also agricultural implements, shop inventory, financial assets, jewelry and furniture, etc. Appendix Table 2 shows that households with a slaveholder surname who were at or above the 80th percentile of the wealth distribution allocated 9 to 11 percent more of their total wealth portfolio to personal property, rather than real estate, relative to similarly-wealthy households without a slaveholder surname. Known slaveholders with three or more slaves (above the median for the 1860 slaveholding distribution) held 12 to 23 percent more of their total wealth portfolio in personal property, relative to similarly-wealthy households with only one or two slaves.

C. Outcome variables for fathers and sons

Our main outcome variables are 1870 household wealth (for fathers) and 1880 or 1900 occupation-based wealth (for sons). We also create a measure of occupation-based income for sons in 1880 and a proxy for the pre-War wealth of sons' fathers-in-law to explore patterns of assortative mating. Summary statistics for these outcome measures are presented in Appendix Table 3.

Because the 1870 Census reported real estate and personal wealth, we can directly measure post-War wealth for fathers. One concern with the 1870 wealth data is the extent of non-reporting and the fact that blanks cannot be distinguished from true zeroes (Steckel, 1994). Appendix Figure 4 shows that, as expected, the probability of reporting blank/zero wealth in 1870 declines linearly

[22] There are two reasons for a failure to match to the slave schedule: (1) the household may not have owned any slaves or (2) the household may have owned slaves but cannot be found in the slave schedule due to transcription errors. Therefore, we cannot treat non-matches as non-slaveholders, and so this analysis will be entirely on the "intensive margin" (comparing slaveholders that owned more versus fewer slaves).

[23] Results are robust to excluding these cases from our linked samples (less than 1 percent of our sample).

with 1860 wealth until to the 60th percentile. However, beyond the 60th percentile, the probability of reporting blank/zero wealth remains flat at 10 percent for all higher percentiles. We read this pattern as suggesting that most blank fields are non-reports above a certain threshold, otherwise surely the probability of reporting true "zero" wealth would be falling with 1860 wealth levels. Because our focus is on likely slaveholders above the 60th percentile and because the log specification is particularly sensitive to zeros (or small imputed values), we drop all observations with blank wealth fields from the analysis (18.8 percent of the data). Patterns are entirely robust to including zeros, with the exception of our estimate of father's wealth losses in the top 5 percent of the 1860 wealth distribution. When including zeroes, these appear to be 40 percent smaller and substantially noisier (coeff. = -0.090 [st. err = 0.104] relative to -0.152 [0.064]).[24]

The last Census to ask about individual wealth was 1870. Occupation is thus the best economic outcome for sons in the 1880 and 1900 Censuses. Following Collins and Zimran (2018), we match occupations to median 1870 wealth by occupation-county cell for agricultural occupations and occupation-state cell for non-agricultural occupations. To validate this measure, we compare results for our father sample in 1870, for which we have both individual wealth data and this occupation-based wealth proxy. One benefit of occupation-based wealth is that it is a reasonable proxy for average lifetime wealth, rather than wealth in a single year. This feature is particularly useful for the sons in our sample, who were 28 years old on average in 1880 and thus may have been at a low point on their individual wealth trajectories.

Because economic fortunes may have shifted by occupation and location between 1870 and 1880, we also calculate a more standard occupation-based income score based on three sources: (1) for manufacturing and service occupations, we use the wages of high- or low-skilled workers by state from the 1880 Census of Manufactures, multiplied by likely days of work[25] (2) for farm laborers, we use information on wages by state from the Holmes Report (1912); and (3) for farmers, we calculate farm income from county-level measures of farm revenues and

[24] Results are similar when using inverse hyperbolic sine instead of a logarithm transformation.
[25] We assign the average wage for a skilled mechanic (skilled wage) to all son's reporting a craftsmen occupation (IPUMS occupation classification "occ1950" 500-593) and the average unskilled wage for ordinary laborer to son's reporting a low skilled manufacturing occupation ("occ1950" 594, 600-690, and 910-970).

expenditures from the 1880 Census of Agriculture.[26] All of these measures are then adjusted to 2017 dollars.[27]

Finally, we construct a measure of assortative mating based on the likely family background of a son's spouse (for those who are married by 1880). Our reasoning is that sons with lower economic position will not be able to attract wives from well-to-do backgrounds. We are also interested in using the social position of sons' spouses to learn about the importance of social networks in recovery from the emancipation wealth shock. Following Olivetti and Paserman (2015), we calculate the likely wealth of a son's father-in-law by matching their wives to a set of possible fathers in the 1860 Census. In particular, we calculate the median wealth of fathers in 1860 who had daughters of a given first name, state of birth, and cohort of birth (in five-year bands) living in their household, and then assign this wealth level to wives with the same attributes in the 1880 data.[28]

IV. Transmission of the Civil War wealth shock

This section estimates the effect of the Civil War wealth shock on the subsequent socio-economic status of white southern households across two generations. We consider two measures of exposure to the Civil War wealth shock, comparing: (1) wealthy southerners with surnames that were associated with slaveholding to a greater/lesser degree; and (2) known slaveholders who owned more/fewer slaves. In all cases, we compare households in the same percentile of the 1860 wealth distribution and control for 1860 county (or state) of residence.

A. Likely slaveholders

Our first approach to document the Civil War wealth shock and its transmission is to compare the post-War wealth of white southerners with surnames that were more/less associated with slaveholding, controlling for a full set of 1860 wealth percentile indicators. In particular, we estimate:

[26] Details on how to calculate farm income using the Census of Agriculture are presented in the Web Appendix to Abramitzky, Boustan, and Eriksson (2010).
[27] See https://www.measuringworth.com/ for the conversion to 2017 dollars.
[28] Olivetti and Paserman validate their method by comparing inter-generational correlations between fathers and sons using standard one-to-one linking with this more aggregate approach. Estimated correlations are remarkably similar across the methods.

$$Y_{ijcp} = \alpha_c + \delta_j + \eta_p + [\text{I(slaveholder surname}_\text{j}) \times W1860_\text{i}]\ \Gamma + \text{X}_\text{i}\ \Theta + \varepsilon_{ijcp.} \quad (1),$$

where Y_{ijcp} is the logarithm of 1870 fathers' wealth for household *i* with surname *j* living in county *c* in 1860 with wealth in percentile *p* of the 1860 national distribution. We estimate the equivalent regression for sons using the logarithm of our 1880 wealth proxy as the dependent variable *Y*. In each case, we control for the exact percentile in the 1860 wealth distribution by including a set of dummy variables η_p.

Our right-hand side variables of interest are then the interactions between having a slaveholder surname, *I(slaveholder surname)*, and a vector of dummy variables equal to one if the household is in a given ventile of the 1860 wealth distribution (or, in some specifications, larger percentile ranges), denoted by *W1860*. The vector of coefficients Γ indicates the gap in post-War wealth for households with and without slaveholder surnames at different ventiles (or larger ranges) of the 1860 wealth distribution. Guided by Figure 1, we assume that slaveholding is very unlikely below the 80th percentile of the wealth distribution, regardless of surname, and so we often refer to households with slaveholder surnames that were above the 80th percentile as "likely slaveholders."

Slaveholding was more common in the Deep South and particularly in areas that had land suitable for growing cotton. To address local differences in post-War agricultural productivity, we control for county of residence in 1860 (α_c). We also add a full set of surname fixed effects (δ_j), which captures other socio-economic differences between surnames beyond slaveholding (e.g., because some last names are associated with immigration from particular regions or specific family dynasties; see, for example, Clark (2014)). Other controls X_i include only a quadratic in age for fathers and quadratics in own age and father's age in 1860 for sons. Standard errors are clustered by State Economic Area (SEA), which are combinations of counties with similar economic characteristics within the same state.

Before presenting our estimates of equation (1), we start with a series of graphs illustrating the underlying variation. These figures compare end-of-decade wealth levels of households with and without slaveholder surnames who had been at the same percentile of the beginning-of-decade wealth distribution. Figure 2 displays wealth patterns for 1850 to 1860, the decade *before* the Civil

War.[29] Both for households with and without slaveholder surnames, there is a strong wealth persistence over time, as illustrated by the upward sloping lines. By 1860, households with slaveholder surnames were wealthier than their non-slaveholder counterparts by 60-90 log points at every percentile of the 1850 wealth distribution, reflecting the sharp increase in slave prices during this decade.

Figure 3 conducts a similar exercise for the decade of the Civil War and, here, the patterns are reversed. Households with slaveholder surnames are no better off than non-slaveholders up to the 80th percentile. Beyond the 80th percentile, households with slaveholder surnames report *lower* wealth in 1870 than households without slaveholder surnames at the same initial rank, which is consistent with the large gap in slaveholding by surname at higher percentiles (see Figure 1). Yet despite fathers' large wealth losses, sons with slaveholder surnames converged to the sons of likely non-slaveholders by 1880. Figure 4 shows that sons growing up in households with surnames associated with high slaveholding did not exhibit lower occupation-based wealth levels in 1880; any sign of their father's wealth loss has disappeared.

Figures 5 and 6 plot coefficients from estimates of equation (1) in which we interact having a slaveholder surname with the ventiles dummy variables of the 1860 wealth distribution; the underlying regression also controls for county, surname and 1860 wealth percentile rank fixed effects and a quadratic in age. For father's wealth in 1870, reported in Figure 5, households with slaveholder surnames held identical wealth as non-slaveholders in 1870 from the 40th to the 70th percentile. Around the 70th percentile, the 1870 wealth of households with slaveholder surnames began to fall behind their similarly-wealthy counterparts; the wealth disparity by surname is maximized in the 90th percentile at 15 percent. Appendix Table 2 documents that, in upper percentiles, having a slaveholder surname is associated with a 20 percentage point increase in the likelihood of matching to the slave schedule. Our estimate based on likely slaveholding implies that *known slaveholders* would have held 75 percent less wealth than similar non-slaveholders by 1870 (= 15 percent x [100/20]), which matches the North-South results presented below. Despite these large differences in fathers' post-war wealth, we do not detect any difference between sons

[29] Note that this figure is based on a separate 1850-to-1860 linked sample constructed using the methods outlined in Section III.A. Furthermore, in 1850, the Census only asked about real estate wealth and so the wealth percentiles are based on these values. Because 40 percent of households in the population do not hold any real estate, the X-axis runs from 40 to 100.

with slaveholder and non-slaveholder surnames by 1880 (see Figure 6). If anything, sons with slaveholder surnames appear to hold slightly more wealth by 1880 at nearly every initial ventile, with one significant and large positive gap (20 percent) for sons raised in households at the 95th percentile of the 1860 wealth distribution.

Table 2 reports estimates of a simplified specification of equation (1) that interacts slaveholder surname with broader ranges of initial wealth percentiles. Column 1 confirms that, before the Civil War, households with slaveholder surnames held at least 60 log points more wealth relative to comparable households, even after controlling for the initial wealth percentile in 1850. After the Civil War, this relationship reversed for households who had been at or above the 80th percentile of the 1860 wealth distribution, the range of the wealth distribution most likely associated with slaveholding. For these wealthy households, having a slaveholder surname is associated with holding 11 to 17 percent fewer wealth in 1870 (column 2). This pattern is also apparent to the same degree in column 3 when using the occupation-based proxy for father's wealth in 1870.

Yet the Civil War wealth shock was not transmitted to sons with slaveholder surnames. For sons raised in households between the 80th and 94th percentile, the point estimate suggests 1.2 percent lower wealth holdings in 1880 but the value is not statistically different from zero. Even taken at face value, this point estimate would imply an elasticity of son wealth with respect to father wealth of 0.09 (= -0.012/-0.131), which is substantially below historical and modern estimates that range from 0.27 to 0.37 (e.g., Kearl and Pope, 1986; Charles and Hurst, 2003; Boserup, Kopczuk and Kreiner, 2013). In contrast, the sons of the wealthiest slaveholders completely recovered and surpassed the wealth levels of sons from similar households, with wealth levels that were 19 percent higher by 1880.[30] We find a similar pattern when using sons' occupation-based income in column 5, although the income gains at the very top are muted (2

[30] One explanation for the slower recovery of the sons of upper middleclass households is that these households were less likely to own their slaves outright but instead purchased slaves on credit. Kilbourne, Jr. (1995, p. 11) reports that "in the 1850s it was the middle-tier planters who mortgaged their slaves and plantations." After the war, these households may then have been responsible for substantial debt obligations. However, the damage to the southern financial system was so severe that Kilbourne, Jr. (1995, p. 9) writes "those who had purchased slaves before the war on credit were no longer liable for payment to their vendors." We think it is more likely that the sons of more middling slaveholders had weaker connections to the social networks that facilitated recovery (see Section V).

percent). By 1900, the sons of all likely slaveholders above the 80th percentile had surpassed their counterparts, with sons growing up at the 80th to 94th percentile holding 6 percent more wealth and sons growing up at or above the 95th percentile holding 15 percent more wealth (see column 7). Furthermore, it seems that the sons of all likely slaveholders were are able to marry the daughters of household heads who had larger wealth holdings in the antebellum period. Estimates of father-in-law wealth in column 6 suggest that, by 1880, sons with slaveholder surnames were married to wives whose father's wealth was 4 to 5 percent higher before the War.

Appendix Tables 4 through 7 present a number of sensitivity checks of these results. Overall, patterns are remarkably similar across specifications. Appendix Table 4 uses a more conservative linked sample, which requires all matched individuals to be unique by name and place of birth within a five-year age band. This sample is 40 percent smaller but less likely to suffer from false positive matches. Appendix Table 5 presents unweighted results of the original sample. Appendix Table 6 drops from the sample any fathers who are young enough (age $\leq$ 40 in 1860) or sons who are old enough (age $\geq$ 13 in 1860) to have been likely to have served in the Civil War. Appendix Table 7 removes surname fixed effects. The direction and magnitude of the results are all very similar: we find that fathers with slaveholder surnames held 10-19 percent less wealth by 1870; that the wealth shock was not transmitted to sons in the upper middle class (80th to 94th percentile in the 1860 wealth distribution); but that the sons from households at the top of the wealth distribution entirely recovered and surpassed sons from comparable households.

Appendix Table 8 replaces the wealth outcomes denominated in logarithmic units with the percentile rank in the wealth distribution. This specification flattens out the observed wealth shock because many of the large percent changes in wealth at the top of the distribution do not result in large changes in percentile rank. That being said, we see that fathers with slaveholder surnames in the 80th to 94th percentile dropped 1.5 percentile ranks in the 1870 distribution relative to comparable households but that the richest fathers did not drop out of the top 1 percent. This is the only specification that suggests some transmission of the Civil War wealth shock to sons. Sons of upper-middle class households with slaveholder surnames fell by -0.4 rank points relative to sons of comparable households, implying a father-son rank-rank slope of 0.27 (= -0.4/-1.5), which is

similar to the modern estimates (albeit our point estimate is not statistically significant at conventional levels).[31] As before, the wealth shock dissipates for sons above the 95th percentile.

B. Known slaveholders

Our second approach to assess the transmission of the Civil War wealth shock is limited to households that can be matched to the 1860 slave schedule. For these known slaveholders, we estimate:

$$Y_{isp} = \alpha_s + \eta_p + \beta_1 \text{ I}(50^{th}\text{-}75^{th} \text{ p-tile}_i) + \beta_2 \text{ I}(75^{th}\text{-}90^{th} \text{ p-tile}_i) + \beta_3 \text{ I}(90^{th}\text{+ p-tile}_i) + X_i \ \Theta + \varepsilon_{isp} \quad (2),$$

where Y_{isp} is the logarithm of 1870 wealth for fathers or the logarithm of our 1880/1900 wealth proxy for sons in household i living in state s in 1860 in wealth percentile p. The median slaveholder owned 2 slaves, and so the explanatory variables of interest are three indicators reflecting the 50th to 75th percentile of the slaveholding distribution (3-7 slaves), the 75th to 90th percentile (8-16 slaves), and above the 90th percentile (17+ slaves). Given that the sample of known slaveholders is only 1/10 the size of the full sample, we replace county fixed effects with state fixed effects (α_s). As before, we include a full set of 1860 wealth percentile dummies, η_p, and our vector of controls, X_i, includes a quadratic in age for fathers and quadratics in own age and father's age in 1860 for sons.

In this sample of known slaveholders, we can observe what happens to households that were in the same percentile of the 1860 wealth distribution but held different numbers of slaves. As above, we find that households with larger slaveholdings lost more wealth by 1870 than similarly-wealthy households with smaller slaveholdings, yet their sons entirely recovered, particularly at the top of the distribution. Table 3 shows that fathers with three or more slaves held 10-16 percent less wealth by 1870 than similarly wealthy fathers with only one or two slaves (column 1). Yet, sons appear to have entirely recovered in occupation-based wealth holdings, occupation-based income and spousal pre-war wealth (column 2-5). Sons raised in households with larger slaveholdings held 3-5 percent higher occupation-based wealth or income by 1880

[31] Boserup, Kopczuk, and Kreiner (2017) find a wealth rank-rank slope of 0.27 and a wealth elasticity of 0.24 in the Danish administrative data.

(although the wealth coefficients are not statistically different from zero) and married wives from households that had been substantially better-off before the war.

Table 4 examines the sources of recovery for sons of larger slaveholders, relative to sons of households with only one or two slaves. Compared to sons of small slaveholders, sons of medium slaveholders (3-16 slaves) were more likely to shift into white collar positions. This pattern is consistent with Bryant's (1996) description on elite recovery by using family connections to shift into clerk and merchant positions at growing industrial and retail or wholesale businesses. Yet, sons of the largest slaveholders (17+ slaves) appear to be more likely to hold agricultural occupations (farmer or planter) and were substantially less likely to live in a city by 1880, suggesting that they recovered in place by converting slave plantations into tenant estates.[32] Appendix Table 10 reproduces these results while controlling for father's occupation (=1 if farmer) in 1860. The shift of the sons of medium slaveholders into white collar occupations holds even after controlling for father's occupation and strengthens for the sons of the largest slaveholders. Yet after controlling for father's 1860 occupation, the sons of the largest slaveholders are no more likely than others to stay in agriculture.

V. Mechanisms for recovery

A. Did larger wealth shocks persist? The case of Sherman's March

Thus far, we have found that the Civil War wealth shock associated with the loss of slave wealth was not transmitted to the sons of slaveholders. One possible explanation is that the loss of slave wealth was just not large enough to dislodge slaveholder families from the southern elite. After all, these families still retained their landholdings, even if land temporarily declined in value and agriculture became less productive. Wealth levels were around 10-15 percent lower in slaveholder families after the war, which corresponds to a shortfall of around $50,000 in 2017 dollars at the 90th percentile of the 1860 southern wealth distribution (equivalent to $1,700 in 1860; or the value of two slaves at average prices). This dollar value seems large on its own, but is small

[32] For completeness, we report a similar set of outcomes for the sons of likely slaveholders and non-slaveholders in Appendix Table 9.

relative to the 75 percent wealth loss of around $300,000 in 2017 dollars for white southern families at the 90th percentile (around $10,000 in 1860 dollars).[33]

What would have happened to the southern elite if, in addition to losing their slave wealth, they also lost their land? We approximate this historical counterfactual by exploiting the events surrounding Sherman's March from Atlanta to the Sea and his subsequent Special Field Orders No. 15 to expropriate plantations along the coast. In particular, we focus on counties in Georgia, North and South Carolina, and Florida that were in the path of Sherman's March to the Sea or affected by Sherman's Field Order (see details in Section II). For comparison, we consider only counties that are adjacent to this set of "treated" areas. Overall, we analyze 16,497 households, 34 percent of which were either affected by Sherman's March or Sherman's Field Order (or both).

For this analysis, we do not differentiate between likely slaveholders and non-slaveholders. Instead, our interest is in comparing wealthy households who were or were not living in the path of Sherman's March or Field Order. We estimate the following equation:

$$Y_{icp} = \alpha_c + \eta_p + \beta(\text{March}_c \times W1860\_75_i) + \gamma(\text{Order}_c \times W1860\_75_i) + X_i \cdot \Theta + \varepsilon_{icp.} \quad (3).$$

The variables $March_c$ and $Order_c$ are indicators for being in a county affected by Sherman's March or Field Order, respectively, which we interact with an indicator for being at or above the 75th percentile in the 1860 wealth distribution. The direct effect of living in a special county is absorbed by the county fixed effects (α_c). As before, we also control for initial percentile in the national wealth distribution (η_p). Wealthy households in the path of Sherman's March or Field Orders were more likely to have their land or capital expropriated or destroyed. The coefficients β and γ compare two households in the top quartile of the 1860 wealth distribution that likely faced/did not face destruction or land expropriation enacted by General Sherman.

Table 5 shows that wealthy households in the path of Sherman's March or Field Order lost 12 to 32 percent more wealth than their counterparts in neighboring areas (column 1), whereas

[33] The dollar losses reported above assume a household that is one standard deviation above mean wealth levels in 1870 ($729,000; see Appendix Table 3). Relative to this benchmark, a slaveholding household that was 10-15 percent less wealthy would have $634,000 in 1870, a gap of around $100,000. Yet, assuming a 75 percent wealth loss from 1860 to 1870 (the average decline for the 90th percentile), these households would have had close to $3 million in 1860.

their sons entirely recovered and surpassed comparison households using our occupation-based wealth proxy in 1880 (18-28 percent higher wealth, column 2).

One advantage of considering a historical event that occurred primarily in Georgia is that we can incorporate individual wealth records for a subset of sons who still lived in Georgia circa 1880. The state of Georgia collected individual wealth records in order to levy a wealth tax. Incorporating individual wealth data helps to address one of the weaknesses of the historical data. Because we need to enter the tax records by hand, we looked up a 50 percent random subset of sons in our matched sample who lived with their family in a Sherman or adjacent counties in 1860, lived in Georgia in 1880 and reported being a household head (Georgia tax records were only collected for household heads). We were able to locate around 75 percent of these sons in the state tax records. This procedure left us with a sample of 4,565 sons matched to the Georgia tax records.[34]

We report estimates using sons' total reported wealth from the Georgia tax records in columns 3 and 4 of Table 5 (column 4 excludes outliers in the top 1 percent of the sample). For this analysis, we replace county fixed effects with SEA fixed effects for reasons of sample size. Again, we find complete recovery for the sons of households in Sherman's path. Sons from affected households report total wealth that was 6 to 9 percent above their unaffected counterparts; these positive coefficients are sometimes statistically different from zero but we can always rule out large transmission rates. Results suggest that even destroying the capital stock or temporarily expropriating the land of wealthy households would not have been enough to prevent their sons from experiencing full recovery in a generation. From these historical experiments, we conclude that even substantial actions taken against southern landholders would not have been enough to unseat the elite, although we cannot speculate about the potential effects of complete land redistribution.

[34] To link sons from the 1880 Population Census to the tax records, we search Ancestry.com by name and require the son to be found in the exact county of residence. We were able to link men who were unique within the county of residence and for whom Ancestry.com gave only one likely match. About 75 percent of the missed matches were because no one was able to be found, while 25 percent had more than one possible match.

B. Possible explanations for son recovery

The southern financial system was decimated by the war, which "virtually wiped out [southern] credit markets" (Ransom, 2005, p. 371). In an economy with limited credit, standard models of intergenerational transmission suggest that a son's economic outcomes should be closely tied to his father's resources. Yet, we find that the sons of slaveholders were able to readily recover by 1880, suggesting that slaveholding families were able to transmit other useful advantages beyond financial resources. Although we cannot pinpoint the relevant factors with certainty, we discuss patterns of evidence here.

First, we find it unlikely that slaveholding fathers were simply endowed with higher ability or talent than the comparison group because we are comparing households within percentile bins of the 1860 wealth distribution. A second possibility is that household heads that accumulated more slave wealth were more entrepreneurial and passed along their commercial acumen. In urban areas non-slave assets included industrial or merchant capital, which were also associated with entrepreneurship. Table 6 reports separate results for urban and rural areas, returning to the main specification in equation (1) that compares likely slaveholders and non-slaveholders on the basis of surname. Following Census definitions, we classify rural counties as those in which none of the population lived in a town of 2,500 residents or more in 1860; these areas comprise 86.5 percent of the sample. We find that likely slaveholders in urban areas experienced the largest wage losses by 1870 relative to the comparison group (26-36 percent). Yet, the sons of upper middle-class slaveholders completely caught up by 1880, and the sons of the richest slaveholders recovered by 1900, despite the fact that comparison households were also likely to be headed by entrepreneurs.

A third explanation for son recovery is that former slave owners developed skills of labor coercion and management that were transferrable, if imperfectly, to the system of sharecropping that emerged after the War. Although we cannot rule out this possibility, we think it is unlikely for three reasons. First, it is not clear that large slaveholders had an advantage in designing and implementing sharecropping contracts relative to other landholders. As historians explain, "former masters… lacked the experience and knowledge necessary to deal with free labor" and had to "learn to be employers" (Woodman, 1977, p. 550). Former slaves did not necessarily continue to work in large numbers on the land of their previous owners; rather, newly freed black workers

moved readily to search for better tenancy contracts (Higgs, 1973; Wright, 1986, p. 65).[35] Second, to the extent that former owners would be able to use non-wage compensation like housing or protection from violence to attract croppers on good terms, these advantages would belong to the largest slaveholders with larger plantations. Yet, we find that the sons of slaveholders further down the wealth distribution (between 80th and 94th percentile) recover as well. Third, we show in Appendix Table 11 that the sons of slaveholders recovered in rural counties that planted either plantation *or* non-plantation crops, where plantation counties are defined as those with above median share of land planted in cash crops (cotton, sugar, rice and tobacco).

A fourth possibility is that comparison households that did not lose as much wealth during the War responded by having additional children, thereby spreading their higher wealth levels across larger families. Appendix Table 12 demonstrates that this explanation is unlikely. Slaveholder households had no fewer children in the war decade (1861-1870) than comparison households. Point estimates suggest that slaveholder households had around 0.02-0.03 more children during the war (1861-65) and -0.01 fewer children after the war (1866-1870) but these point estimates are not statistically significant and are economically small on a basis of around 5 children per family by 1870.

After casting doubt on these alternative explanations, we think the most likely explanation for the rapid recovery of slaveholders' sons is that slaveholding families were embedded in social networks that facilitated adjustments to wartime losses. Historians like Billings (1982) and Bryant (1996) document how slaveholder families used connections to set up their children in the industrial or mercantile sectors, or as purveyors of credit in the slowly recovering southern financial system (see Section II). Furthermore, our results in Section IV show that the sons of slaveholders were more likely to marry wives from families that were well-to-do before the War, suggesting that extended family connections could provide direct capital or additional valuable social ties.

[35] Despite anti-enticement and vagrancy laws intended to reduce black mobility, Cohen (1991, p. 4) argues that "planters were rarely able to use their legal instruments effectively enough to interdict seriously black movement from one state to another. Throughout the period up to World War I, blacks in most parts of the South appear to have moved with relatively little interference when jobs were available."

C. Wealth versus productivity shocks: Comparing North to South

Historians like Woodward who describe the downfall of the southern elite are not referring to the loss of slave wealth alone, but also to the loss of southern agricultural productivity. Although the emancipation wealth shock itself does not appear to have been transmitted to the next generation, it is also of interest to know whether southern productivity declines dampened sons' economic outcomes. To do so, we cannot compare households within the South, but instead must compare the sons of equally wealthy households in the South relative to the North after the Civil War. Southern (agricultural) productivity losses will be reflected in land prices, and thus will be measured (alongside the losses from emancipation) by comparing fathers' wealth levels after the war. Were wealthy sons in the South able to recover from this combined wealth and productivity shock?

We quantify the total wealth losses of rich southerners by combining our main linked sample with a comparison sample of northern households and estimating:

$$Y_{ip} = \eta_p + (South_i \times W1860_i)\,\Psi + X_i\,\Delta + \varepsilon_{ip} \quad (4)$$

As before, η_p controls for a household's initial position in the national wealth distribution by percentile. We then interact an indicator for living in the South in 1860 with a set of dummy variables for initial percentile range (*W1860*), revealing the additional wealth losses experienced by wealthy southerners relative to their northern counterparts.

Table 8 compares the wealth of southerners and northerners and their sons after the Civil War. As expected, we find that, southern household heads held substantially less wealth by 1870 relative to northerners who had been equally wealthy before the war, and these wealth losses were larger at the top of the wealth distribution, with southern wealth penalties ranging from 57 to 118 log points (column 1). These wealth losses combine the total erasure of slave wealth and the large declines in the price of southern land, reflecting drops in southern agricultural productivity. Southern sons had made up some ground by 1880 but still retained 30 to 50 percent of their father's combined wealth and productivity shock. By 1900, southern sons made up even more ground, but still were 20 percent less wealthy than their northern counterparts. Overall, we find that the loss of slave wealth alone was not powerful enough to disadvantage the sons of slaveholders after the Civil War. However, the productivity losses in southern agriculture did persist into the next generation, leading the southern elite to fall behind the North.

VI. Conclusions

The aftermath of the American Civil War led to one of the largest wealth compressions in history. Following the abolition of slavery, former slave owners lost all wealth that had been held in the form of slaves, and civil and political rights were reassigned to the former enslaved population. In addition, southern land holdings declined substantially in value, especially in areas that had relied heavily on slave labor.

Yet despite these large wealth losses for white southern households, we find that pre-Civil War wealth and social status persisted, particularly among the elite. Our evidence is based on newly-digitized complete-count Census samples linked to the 1860 slave schedules and over time. In particular, we find that despite the fact that likely/known slaveholders experienced substantial wealth losses, their sons had completely recovered relative to similarly-wealthy southern households fifteen years after the war. Even the capital destruction in the path of Sherman's March to the Sea or the (short-lived) expropriation of land in counties subjected to General Sherman's Special Field Order No. 15, while associated with temporary wealth declines, did not lead to permanent wealth losses for the southern elite. The combination of wealth losses and productivity declines in southern agriculture was strong enough to disadvantage the sons of the southern elite relative to their northern counterparts, but even this gap had substantially dissipated by 1900 when the sons were around 50 years of age.

Our results speak to the interpretation of intergenerational wealth correlations between father and son. Resources themselves may matter in some contexts but, in the postbellum US South, we see that the loss of family wealth did not ultimately affect sons' wealth or income. Sons of wealthy fathers were able to bounce back through the transmission of other advantages, which may have been access to social and marital networks. Our finding of elite recovery is in line with models that predict elite persistence despite fundamental changes in economic relations and political institutions (Acemoglu and Robinson, 2008). Although every historical episode is specific, the loss of wealth of southern slaveholders rivaled the losses of wealthy households in Germany after World War I, in the United States, the United Kingdom and France during the Great Depression, and even Chinese and Russian elites after the Communist revolutions. We find that, in the case of the US South, such large wealth losses at the very top can be temporary, resulting in recovery in a single generation.

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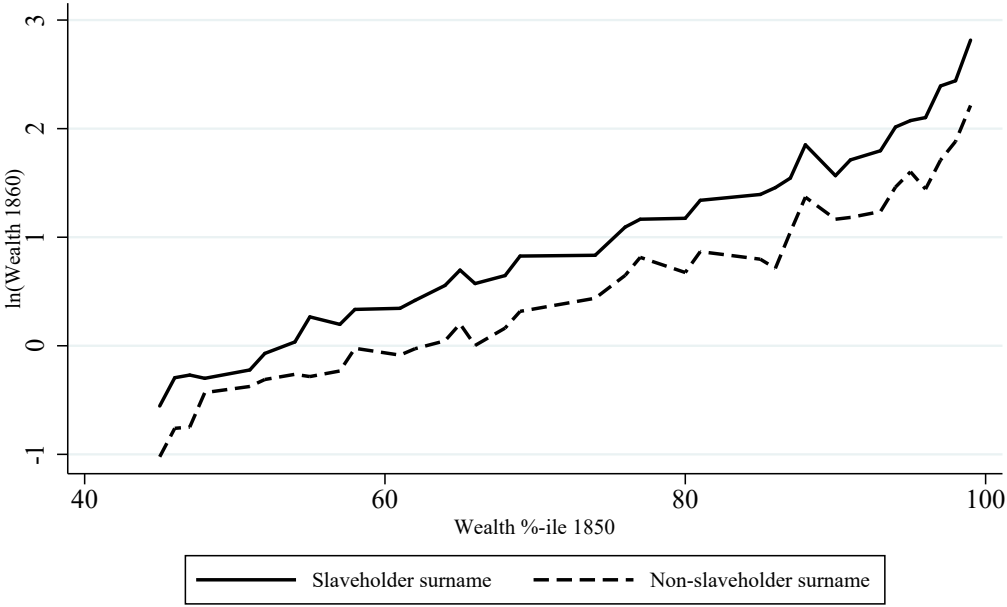
Figure 1: Probability of individual matches to the 1860 slave schedule by slaveholder surname

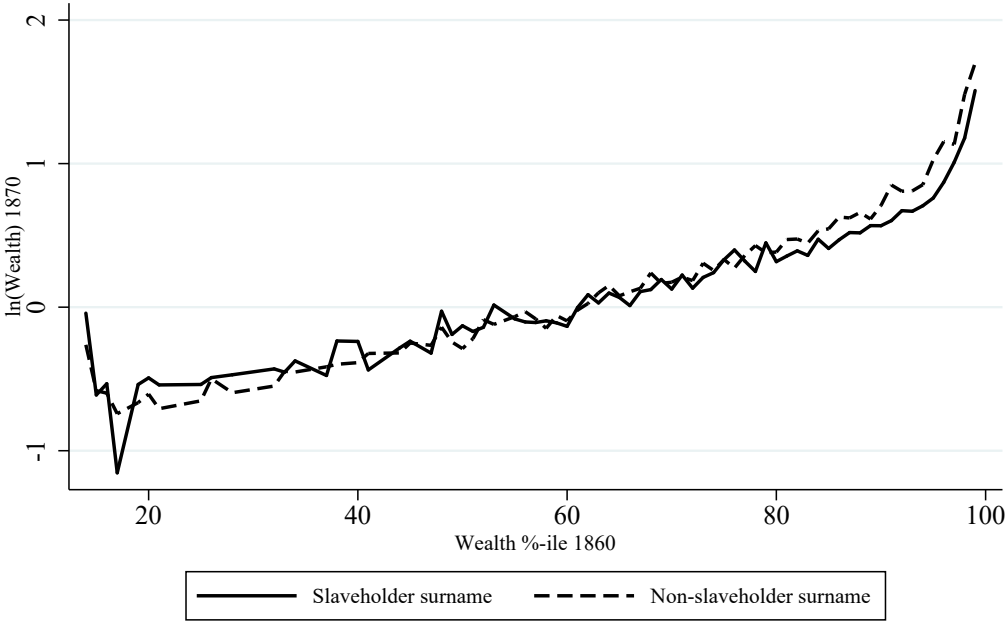
Notes: This figure reports the probability that a white southern household head in our linked 1860-1870 sample matches to the 1860 slave schedule. Slaveholder surnames are defined as names that are associated with above median slaveholding within their county of residence.

Figure 2: Relationship between household wealth in 1850 and 1860 by slaveholder surname in 1850



Notes: This figure reports the logarithm of total household wealth in 1860 by percentile in the 1850 wealth distribution for white male households heads living in the US South in 1850. Note that the 1850 Census asked only about real estate wealth, while the 1860 Census includes both real estate wealth and personal property. Slaveholder surnames are defined as names that are associated with above median slaveholding within their county of residence.

Figure 3: Relationship between household wealth in 1860 and 1870 by slaveholder surname in 1860

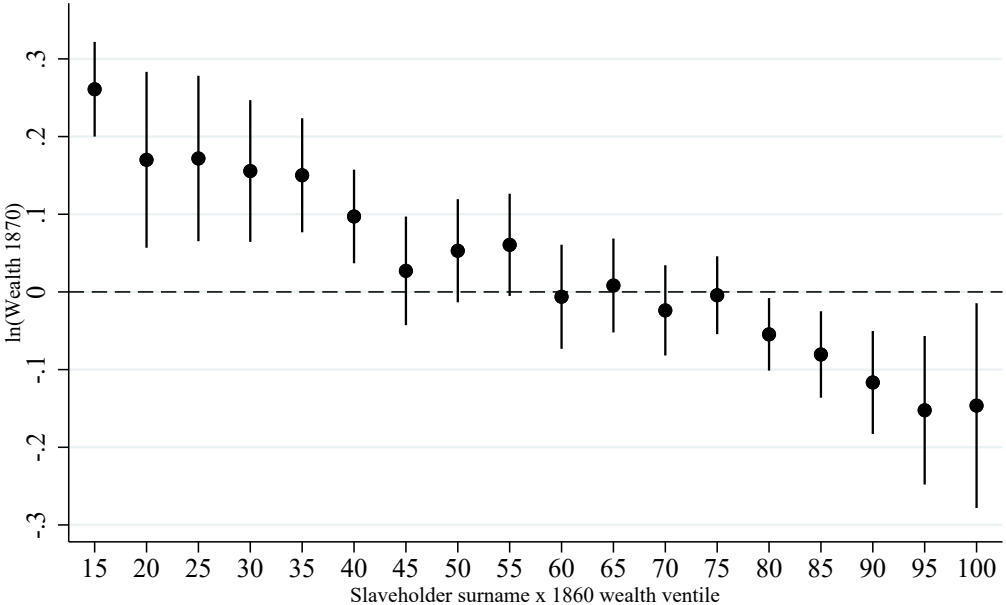


Notes: This figure reports the logarithm of total household wealth in 1870 by percentile in the 1860 wealth distribution for white male households heads living in the US South in 1860. Slaveholder surnames are defined as names that are associated with above median slaveholding within their county of residence.

Figure 4: Relationship between father's wealth in 1860 and son's occupation-based wealth in 1880

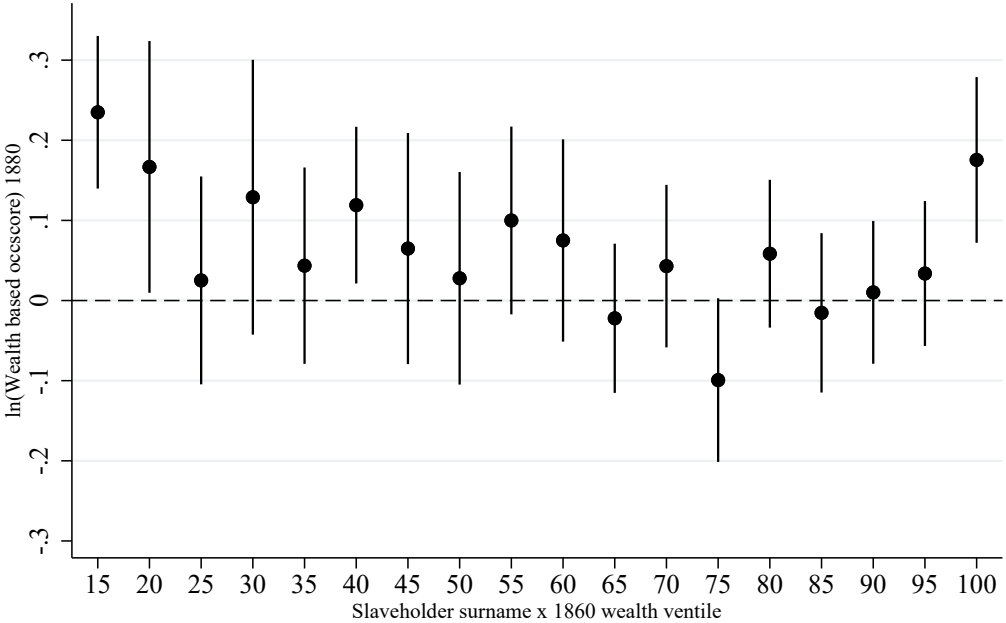
Notes: This figure reports the logarithm of son's occupation-based wealth in 1880 by father's percentile in the 1860 wealth distribution for sons of white male household heads residing in the US South in 1860. Our proxy for son's wealth assigns to sons the median wealth by occupation and county from the 1870 Census. Slaveholder surnames are defined as names that are associated with above median slaveholding within their county of residence.

Figure 5: The effect of slaveholder surname on 1870 household wealth by the 1860 wealth distribution



Notes: This figure reports coefficients from equation (1). The outcome variable is household wealth in 1870. The displayed coefficients and their corresponding confidence intervals are for the interaction between slaveholder surname and ventile of the 1860 wealth distribution. The differential probability of being a slaveholder between slaveholder and non-slaveholder surnames appears at around the 60th percentile and increases at the 80th percentile (see Figure 1).

Figure 6: The effect of slaveholder surname on 1880 household wealth by the 1860 wealth distribution



Notes: This figure reports coefficients from equation (1). The outcome variable is son's occupation-based wealth in 1880. The displayed coefficients and their corresponding confidence intervals are for the interaction between slaveholder surname and ventile of the 1860 wealth distribution.

Table 1: Wealth Distribution of White Male Household Heads by Region, 1860 and 1870

VARIABLES	N	p10	p25	p50	p75	p90	p99	90-50 Ratio
Northern States in 1860	33,285	0	3,040	21,280	76,000	180,880	760,000	8,5
Southern States in 1860	13,052	0	4,560	26,767	106,400	378,328	2,354,024	14,1
Northern States in 1870	42,968	0	1,940	19,400	69,840	170,720	795,400	8,8
Southern States in 1870	15,711	0	1,940	10,282	37,908	100,880	562600	9,8

Notes: This table reports wealth levels (in 2017 USD) at various percentiles of the wealth distributions for white male household heads by region and decade (1860 and 1870). Data from IPUMS samples.

Table 2: The effect of likely slaveholding on wealth in 1860/1870 (father) and 1880/1900 (son)

VARIABLES	(1) *Placebo* Ln(Wealth 1860)	(2) *First Generation* Ln(Wealth 1870)	(3) *First Generation* Ln(Occ Wealth 1870)	(4) *Second Generation* Ln(Occ Wealth 1880)	(5) *Second Generation* Ln(Occ Mfg 1880)	(6) *Second Generation* Ln(Wealth Wife 1880)	(7) *Second Generation* Ln(Occ Wealth 1900)
Likely Slaveholder							
Slaveholder Surname x 95+ wealth %-ile 1860	0.898***	-0.152**	-0.197***	0.193***	0.023**	0.043*	0.152***
	(0.101)	(0.064)	(0.068)	(0.047)	(0.011)	(0.025)	(0.050)
Slaveholder Surname x 80-94th wealth %-ile 1860	0.710***	-0.109***	-0.131**	-0.012	-0.018**	0.048***	0.057**
	(0.064)	(0.026)	(0.057)	(0.030)	(0.008)	(0.013)	(0.027)
Slaveholder surname but not likely slaveholder							
Slaveholder Surname x 60-79th wealth %-ile 1860	0.607***	-0.015	0.011	-0.004	0.002	0.023	0.056**
	(0.040)	(0.016)	(0.031)	(0.024)	(0.007)	(0.014)	(0.025)
Slaveholder Surname x 1-59th wealth %-ile 1860	0.626***	0.138***	0.052**	0.118***	0.012**	0.017	0.100***
	(0.036)	(0.014)	(0.024)	(0.022)	(0.006)	(0.011)	(0.020)
Wealth %-ile fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Surname fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	172,827	149,699	143,619	310,709	299,674	153,632	285,236

Notes: This table reports estimates of equation (1) which regresses household wealth on the interaction between having a slave surname and percentile ranges of an initial wealth distribution, along with fixed effects for surname, percentile in the initial wealth distribution and initial county of residence. We also control for a quadratic in age of the household head and for age of the son in columns 4-7. Column 1 considers household wealth in 1860 on the eve of the Civil War, using 1850 for initial wealth percentiles. We label this column the "placebo" because it reflects patterns from before the emancipation wealth shock. The remaining columns use percentiles in 1860 for the initial wealth measures. Columns 2 and 3 considers household wealth in 1870, either directly from the Census (column 2) or using our proxy for occupation-based wealth (column 3). Columns 4-6 instead look at outcomes for the sons of household heads in 1880. Column 4 uses our occupation-based wealth proxy, column 5 instead uses an occupation-based income measure and column 6 reports the likely 1860 wealth of the son's father-in-law. Column 7 looks at our ouccupation-based wealth proxy for sons of household heads in 1900. See the text for details on how each outcome variable is constructed. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Table 3: The effect of known slaveholding on wealth in 1870 (father) and 1880/1900 (son)

VARIABLES	(1) *First Generation* Ln(Wealth 1870)	(2) *Second Generation* Ln(Occ Wealth 1880)	(3) *Second Generation* Ln(Occ Mfg 1880)	(4) *Second Generation* Ln(Wealth Wife 1880)	(5) *Second Generation* Ln(Occ Wealth 1900)
90+ percentile (No. Slaves 17+)	-0.155***	0.032	0.038	0.104**	0.079
	(0.052)	(0.090)	(0.026)	(0.042)	(0.075)
75-89th percentile (No. Slaves 8-16)	-0.095***	0.045	0.039**	0.080**	-0.045
	(0.036)	(0.057)	(0.018)	(0.033)	(0.052)
50-74th percentile (No. Slaves 3-7)	-0.108***	0.033	0.047***	0.059***	0.024
	(0.022)	(0.042)	(0.013)	(0.020)	(0.040)
Wealth %-ile fixed effects	Yes	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	19,243	31,052	30,558	15,387	28,322

Notes: This table reports estimates of equation (2) which regresses household wealth on indicators for the number of slaves owned by the household in 1860, along with fixed effects for percentile in the 1860 wealth distribution and initial state of residence. We also control for a quadratic in age of the household head in columns 1-5 and for age of the son in columns 2-5. Column 1 considers household wealth in 1870 directly from the Census. Columns 2-4 instead look at outcomes for the sons of household heads in 1880. Column 3 uses our occupation-based wealth proxy, column 4 instead uses an occupation-based income measure and column 5 reports the likely 1860 wealth of the son's father-in-law. Column 5 presents results for the occupation-based income measure in 1900. See the text for details on how each outcome variable is constructed. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Table 4: The effect of father's slaveholding on son outcomes in 1880

	(1)	(2)	(3)	(4)
		Outcomes in 1880		
VARIABLES	==1 if Moved	== 1 if in City	==1 if Ag Occ	==1 if White Collar
90+ percentile (No. Slaves 17+)	-0.037***	-0.050***	0.025*	0.001
	(0.012)	(0.012)	(0.014)	(0.013)
75-89th percentile (No. Slaves 8-16)	-0.035***	-0.016**	0.005	0.015*
	(0.009)	(0.007)	(0.010)	(0.009)
50-74th percentile (No. Slaves 3-7)	-0.022***	-0.001	-0.015**	0.020***
	(0.007)	(0.004)	(0.007)	(0.006)
Wealth %-ile fixed effects	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes
Observations	33,184	33,184	33,184	31,357

Notes: This table reports estimates of equation (2) which regresses a series of son outcomes in 1880 on indicators for the number of slaves owned by his childhood household in 1860, along with fixed effects for percentile in the 1860 wealth distribution and initial state of residence. We also control for a quadratic in age of the household head and for age of the son. The dependent variables are defined as follows: an indicator equal to one if the son left his birth county (column 1); an indicator equal to one if the son lives in 1880 in an urban area; IPUMS classification "urban" = 2 (column 2); an indicator equal to one if the son works in an agricultural occupation; IPUMS occupation classification "occ1950" 100, 123, 810-840 (column 3); and an indicator equal to one if the son works in a white collar occupation; IPUMS occupation classification "occ1950" 1-490 excluding farm occupation 100 and 123 (column 4). Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Table 5: The effect of capital destruction or land confiscation on wealth in 1870 (father) and 1880 (son)

VARIABLES	(1) *First Generation* Ln(Wealth 1870)	(2) *Second Generation* Ln(Occ Wealth 1880)	(3) *Second Generation* Ln(Value Property)	(4) *Second Generation* Ln(Value Property)
75+ wealth %-ile 1860 x Sherman County	-0.116**	0.178*	0.086	0.090*
	(0.050)	(0.091)	(0.055)	(0.051)
75+ wealth %-ile 1860 x Field Order No.15 County	-0.320***	0.276*	-0.021	0.066
	(0.097)	(0.148)	(0.096)	(0.065)
Wealth %-ile fixed effects	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes
SEA fixed effects	No	No	Yes	Yes
Sample	Full	Full	50%-Random	50%-Random
Observations	16,946	33,067	4,611	4,565

Notes: This table reports estimates from equation (3) which regresses father's wealth in 1870 or son's (occupation-based) wealth in 1880 on the interaction between being in a county affected by Sherman's March or Sherman's Field Order and percentile ranges of the 1860 wealth distribution (60-94th percentile and 95th percentile or above). We also include fixed effects for percentile in the 1860 wealth distribution and 1860 county of residence (columns 1-2) which absorbs the main effect of being in a Sherman county. Columns 3-4 control for state economic area fixed effects and includes controls for the interaction between being in a county affected by Sherman's March or Sherman's Field Order and the 1-74th percentile ranges of the 1860 wealth distribution (not reported). We further control for quadratics in father's age (columns 1-4) and son's ages (columns 2-4). Columns 1 considers household wealth in 1870 directly from the Census. Column 2 instead uses our occupation-based wealth proxy for the sons of household heads in 1880. Columns 3-4 are based on the property tax digests from Georgia circa 1880. Column 4 removes the top 1 percent outliers. In column 3 and 4, sons must be living in GA in 1880, be reported in the Census as a household head, and be found in the GA tax records.Standard error in parentheses are clustered at the county level. *** p<0.01, ** p<0.05, * p<0.1.

Table 6: The effect of likely slaveholding on wealth in 1870, 1880 and 1900 -- urban and rural locations

	(1)	(2)	(3)	(4)	(5)	(6)
		Rural			***Urban***	
VARIABLES	*First Generation* Ln(Wealth 1870)	*Second Generation* Ln(Occ Wealth 1880)	*Second Generation* Ln(Occ Wealth 1900)	*First Generation* Ln(Wealth 1870)	*Second Generation* Ln(Occ Wealth 1880)	*Second Generation* Ln(Occ Wealth 1900)
Likely Slaveholder						
Slaveholder Surname x 95+ wealth %-ile 1860	-0.077	0.267***	0.201***	-0.363**	-0.113	0.061
	(0.055)	(0.045)	(0.044)	(0.145)	(0.086)	(0.101)
Slaveholder Surname x 80-94th wealth %-ile 1860	-0.080***	0.005	0.046	-0.265***	-0.020	0.136*
	(0.023)	(0.030)	(0.028)	(0.070)	(0.070)	(0.077)
Slaveholder surname but not likely slaveholder						
Slaveholder Surname x 60-79th wealth %-ile 1860	-0.005	-0.017	0.039	-0.114*	0.138	0.195**
	(0.016)	(0.025)	(0.025)	(0.067)	(0.088)	(0.096)
Slaveholder Surname x 1-59th wealth %-ile 1860	0.136***	0.134***	0.066***	0.126***	0.016	0.224***
	(0.015)	(0.023)	(0.022)	(0.041)	(0.055)	(0.058)
Wealth %-ile fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Surname fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	127,853	256,968	239,179	20,330	52,013	44,277

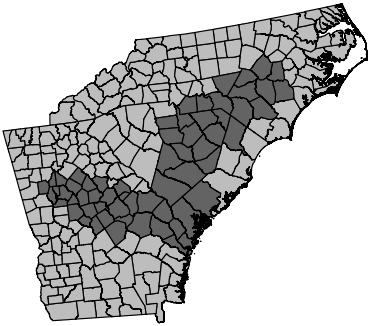
Notes: This table reports estimates of equation (1) separately for the rural (columns 1-3) and urban (columns 4-6) portions of the sample. See the notes to Table 2 for detail on the regression specification and dependent variables. Here, urban counties are defined as those with any population living in a town with 2,500 or more residents; the remainder of the sample is considered rural. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Table 7: North-South Comparison

VARIABLES	(1) *First Generation* Ln(Wealth 1870)	(2) *Second Generation* Ln(Occ Wealth 1880)	(3) *Second Generation* Ln(Occ Wealth 1900)
South 1860 x 95+ wealth %-ile 1860	-1.180***	-0.362**	-0.173
	(0.087)	(0.144)	(0.112)
South 1860 x 80-94th wealth %-ile 1860	-0.881***	-0.435***	-0.245**
	(0.060)	(0.142)	(0.097)
South 1860 x 60-79th wealth %-ile 1860	-0.637***	-0.234	-0.056
	(0.043)	(0.145)	(0.101)
South 1860 x 1-59th wealth %-ile 1860	-0.574***	-0.044	0.124
	(0.041)	(0.154)	(0.115)
Wealth %-ile indicators fixed effects	Yes	Yes	Yes
Observations	432,432	688,020	602,487

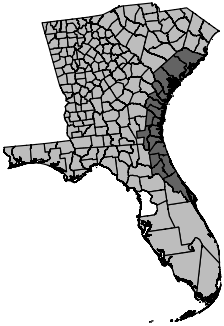
Notes: This table reports estimates of equation (4) which regresses father's wealth in 1870 or son's occupation-based wealth in 1880/1900 on the interaction between being in the South in 1860 and percentile ranges of the 1860 wealth distribution. We also include fixed effects for percentile in the 1860 wealth distribution and control for quadratics in father's ages (columns 1-3) and son's ages (columns 2-3). Column 1 considers household wealth in 1870 directly from the Census. Columns 2 and 3 instead use our occupation-based wealth proxy for the sons of household heads in 1880/1900. The sample is restricted to households with at least $400 wealth in 1860. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Figure 1a: Sherman's March to Sea counties



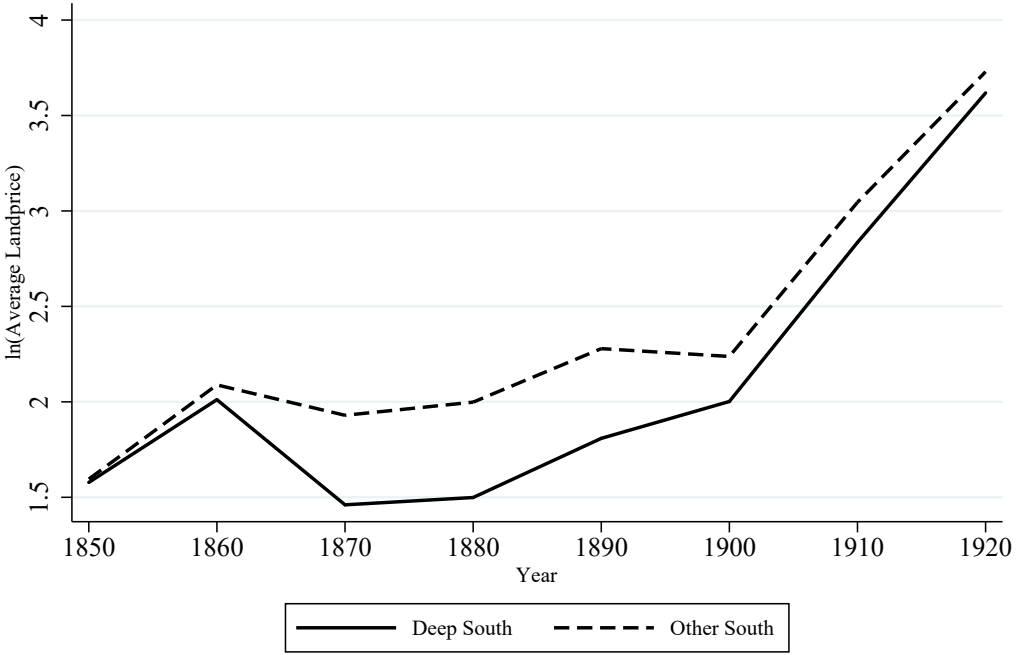
Notes: This figure displays the Sherman's March to the Sea counties (colored in dark grey).

Appendix Figure 1b: Special Field Orders No. 15 counties



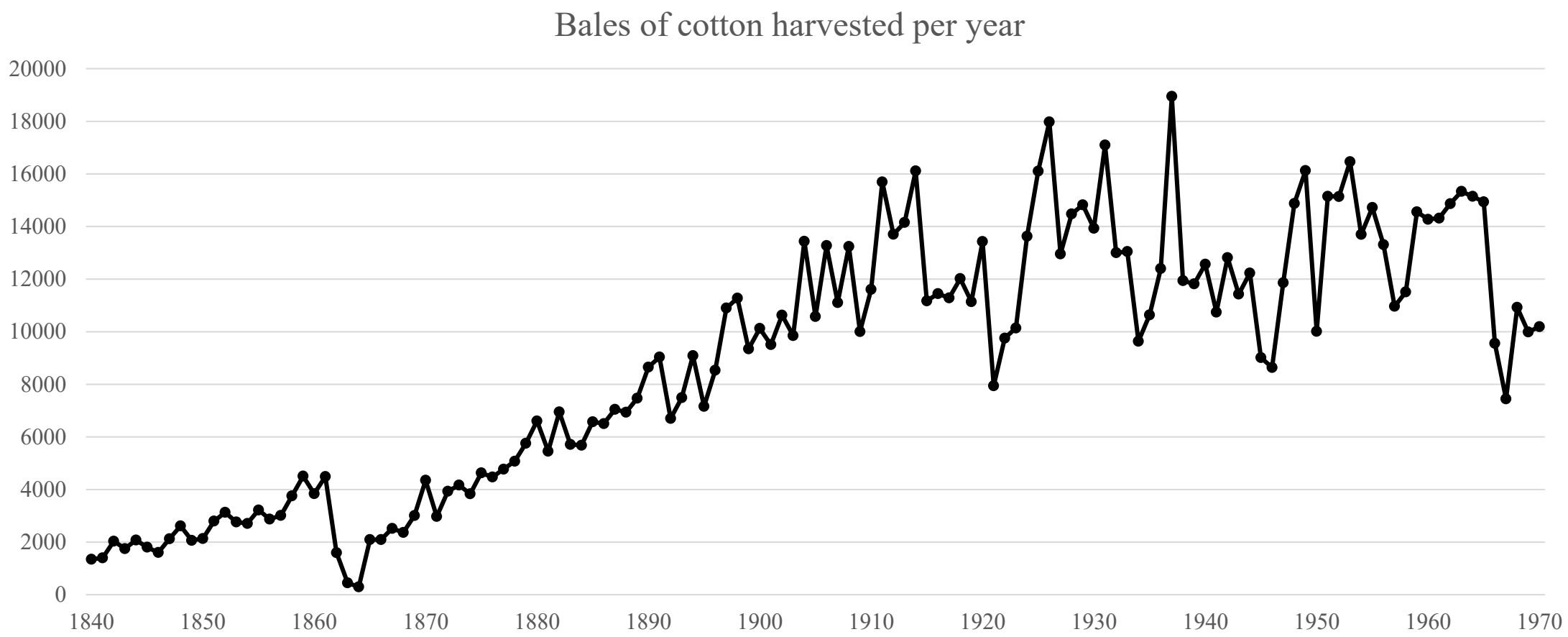
Notes: This figure displays the Special Field Order No. 15 counties (colored in dark grey).

Appendix Figure 2a: Land prices -- Deep South vs other South



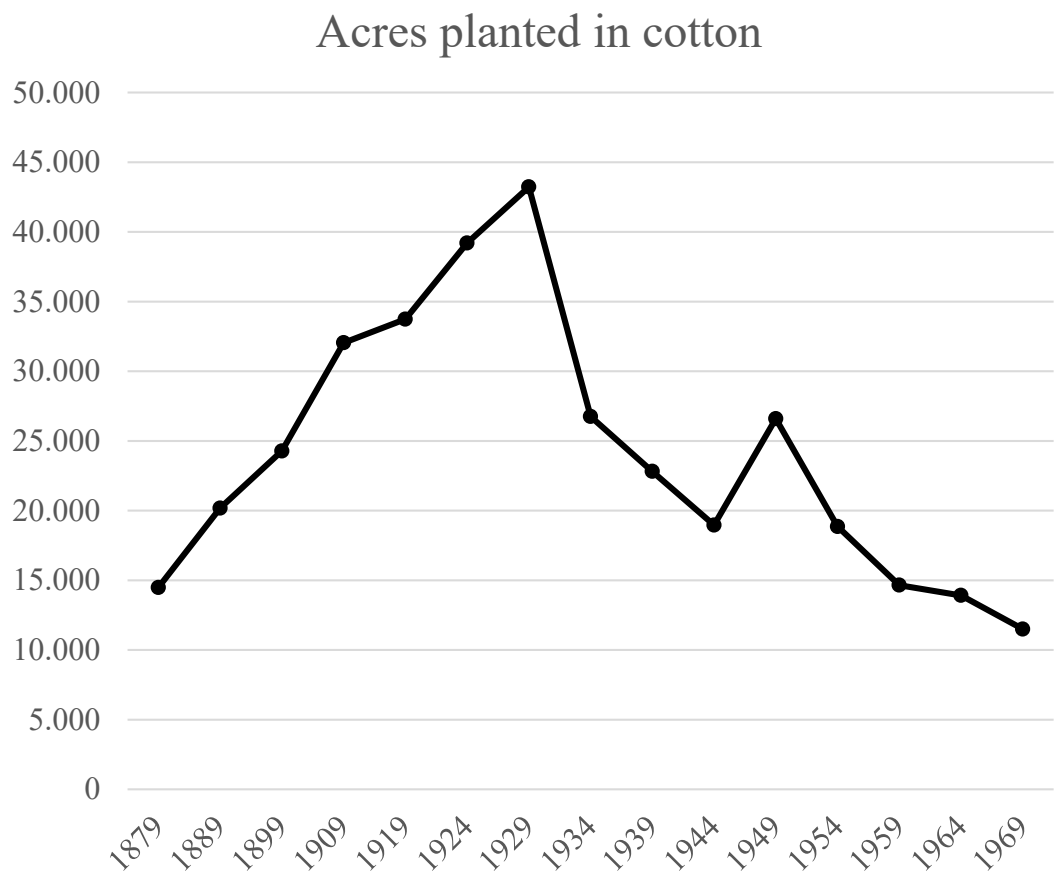
Notes: This figure plots the evolution of land prices by geographic region (Deep South, Other South).

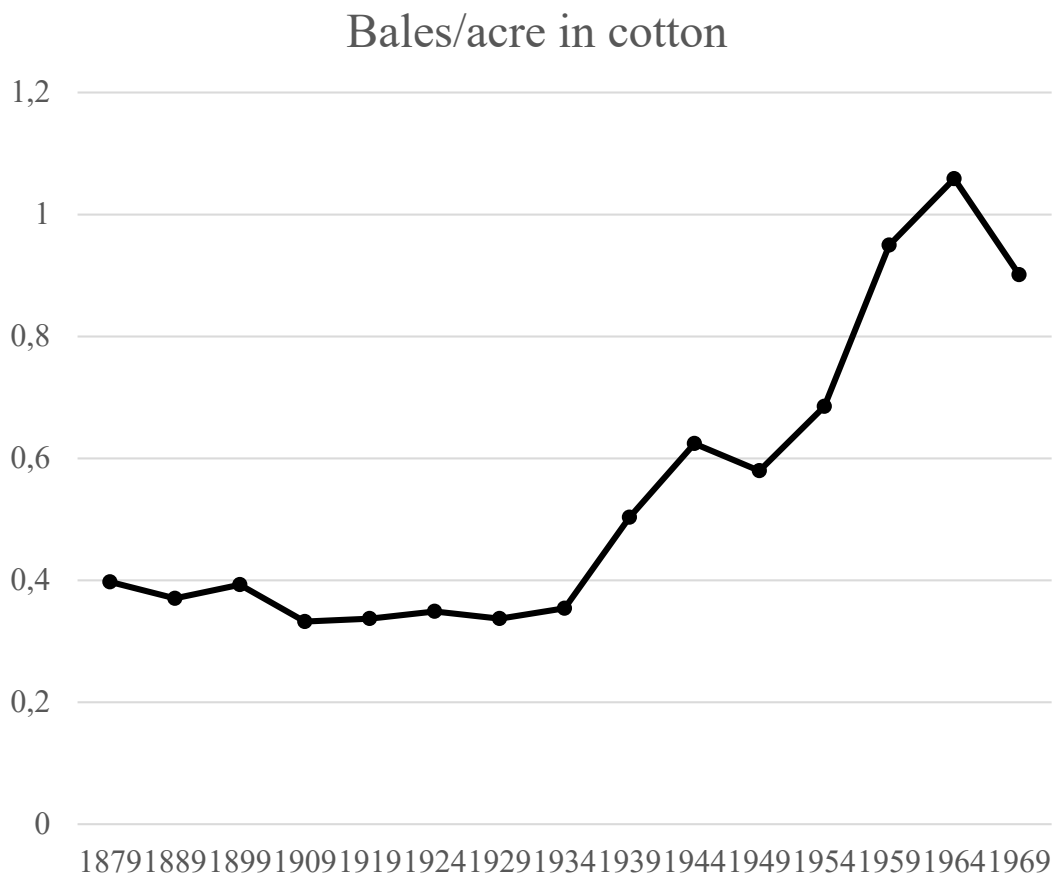
Appendix Figure 2b: Trends in cotton production



Olmstead and Rhode, Historical Statistics of the United States: Earliest Times to the Present, Millennial Edition (2006).

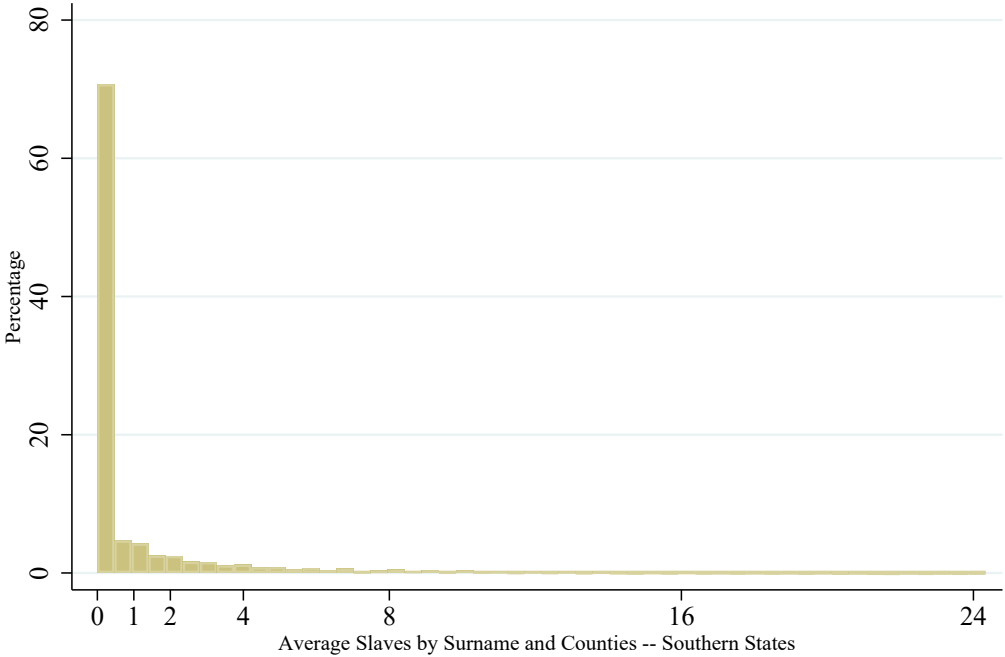
Appendix Figure 2c: Trends in cotton acreage and yields





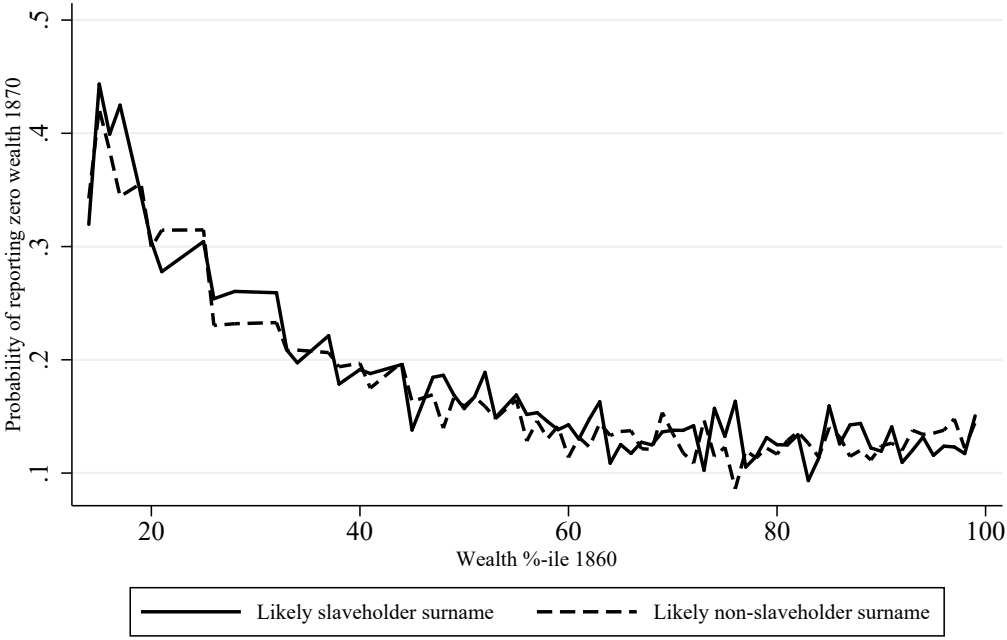
Olmstead and Rhode, Historical Statistics of the United States: Earliest Times to the Present, Millennial Edition (2006).

Appendix Figure 3: Distribution of average slaveholding by surname and county



Notes: This figure shows the distribution of average slaveholdings by surname in a county.

Appendix Figure 4: Probability of reporting zero wealth in 1870



Notes: This figure displays the probability of reporting zero wealth in 1870 by percentile in the 1860 wealth distribution and by slaveholder surname status.

Appendix Table 1: Comparing the matched sample to the unmatched population

	Coefficient on =1 if in matched sample		
Dependent variable	Mean for unmatched	Unweighted	Weighted
Farmer	0.532	0.060	0.003
		(0.001)	(0.001)
Age	39.82	0.027	-0.076
		(0.034)	(0.048)
Mean # slaves by last name/state	1.762	0.125	-0.002
		(0.008)	(0.008)
# sons	1.482	0.145	-0.007
		(0.003)	(0.004)
Percentile wealth distribution	49.37	6.047	0.009
		(0.070)	(0.074)
Zero wealth	0.164	-0.047	-0.001
		(0.001)	(0.001)
Above 50th %-ile wealth		0.095	0.0002
		(0.001)	(0.001)
Above 90th %-ile wealth		0.038	-0.001
		(0.001)	(0.001)
Observations		976,638	975,148

Notes: Sample includes all white male household heads in the South in 1860, including ~200,000 cases that match forward to 1870 and remainder that do not. Each row reports coefficients from a regression of an 1860 father characteristic on an indicator for being in the matched sample. Column 1 shows unweighted results and column 2 instead weights by the propensity of being matched $P_i(M_i = 1|X_i)$, which is calculated from a probit of match status on the covariates above (X_i). Observations are reweighted by $(1 - P_i(M_i = 1|X_i))/P_i (M_i = 1|X_i) \times q/(1 - q)$, where q is the proportion of records linked.

Appendix Table 2: Likely and known slaveholding and % of personal wealth in 1860

VARIABLES	(1) == 1 if Match	(2) % Personal Wealth 1860	(3)
Slaveholder Surname x 95+ wealth %-ile 1860	0.173*** (0.018)	0.085*** (0.016)	
Slaveholder Surname x 80-94th wealth %-ile 1860	0.192*** (0.009)	0.112*** (0.008)	
Slaveholder Surname x 60-79th wealth %-ile 1860	0.070*** (0.004)	0.056*** (0.005)	
Slaveholder Surname x 1-59th wealth %-ile 1860	-0.002 (0.002)	0.014*** (0.004)	
90+ percentile (No. Slaves +17)			0.223*** (0.011)
75-89th percentile (No. Slaves 8-16)			0.179*** (0.007)
50-74th percentile (No. Slaves 3-7)			0.124*** (0.005)
Wealth %-ile fixed effects	Yes	Yes	Yes
Surname fixed effects	Yes	Yes	No
County fixed effects	Yes	Yes	No
State fixed effects	No	No	Yes
Observations	149,739	135,895	19,238

Notes: This table reports estimates of equation (1) in columns (1) and (2) and of equation (2) in column (3). The dependent variable in column (1) is a dummy whether an individual is matched to the slave schedule. In columns (2)-(3) it is the share of personal wealth in 1860. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 3: Summary statistics

Summary Statistics Southern Farthers -- 1860-1870	N	mean	sd
Total Wealth 1870	152,081	86,103	643,223
Real Estate Wealth 1870	152,087	58,422	482,713
Personal Estate Wealth 1870	152,111	27,677	276,729
ln(Wealth Occupation Score 1870)	145,971	11.58	2.03
Total Wealth 1860	152,096	931,389	235,400,806
Real Estate Wealth 1860	152,103	254,125	81,214,559
Personal Estate Wealth 1860	152,115	677,227	220,327,292
Age	152,122	38.92	12.10
Summary Statistics Southern Sons -- 1860-1880	N	mean	sd
ln(Wealth Occupation Score 1880)	313,635	10.06	3.22
ln(Occupation Score Mfg)	302,546	8.76	0.77
Mover in 1880	333,870	0.62	0.49
Ag Occ 1880	333,870	0.63	0.48
White Collar 1880	316,987	0.12	0.32
Age	333,870	28.19	4.89
Total Wealth 1860	333,809	2,102,186	664,982,823
Real Estate Wealth 1860	333,828	1,114,733	512,930,964
Personal Estate Wealth 1860	333,850	987,318	249,230,391
Age Father in 1860	333,870	41.09	10.43
Summary Statistics Southern Sons -- 1860-1900	N	mean	sd
ln(Wealth Occupation Score 1900)	288,587	10.90	2.73

Notes: This table reports the summary statistics of our main variables of interest for southern fathers (1860-70) and sons (1860-1880/1900). Wealth levels are reported in 2017 USD.

Appendix Table 4: Conservative match

VARIABLES	(1) *First Generation* Ln(Wealth 1870)	(2) *Second Generation* Ln(Occ Wealth 1880)	(3) *Second Generation* Ln(Occ Mfg 1880)	(4) *Second Generation* Ln(Wealth Wife 1880)
Slaveholder Surname x 95+ wealth %-ile 1860	-0.111*	0.253***	0.035***	0.088***
	(0.067)	(0.054)	(0.013)	(0.033)
Slaveholder Surname x 80-94th wealth %-ile 1860	-0.100***	-0.013	-0.016	0.056***
	(0.029)	(0.041)	(0.010)	(0.018)
Slaveholder Surname x 60-79th wealth %-ile 1860	-0.007	0.043	0.005	0.014
	(0.018)	(0.038)	(0.009)	(0.018)
Slaveholder Surname x 1-59th wealth %-ile 1860	0.164***	0.148***	0.021**	0.003
	(0.017)	(0.031)	(0.008)	(0.014)
Wealth %-ile fixed effects	Yes	Yes	Yes	Yes
Surname fixed effects	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes
Observations	95,470	180,686	175,476	88,194

Notes: This table reports estimates of equation (1) which regresses household wealth on the interaction between having a slave surname and percentile ranges of an initial wealth distribution, along with fixed effects for surname, percentile in the initial wealth distribution and initial county of residence. We also control for a quadratic in age of the household head in colums 1-4 and for age of the son in columns 2-4. Column 1 considers household wealth in 1870 directly from the Census. Columns 2-4 instead look at outcomes for the sons of household heads in 1880. Column 2 uses our occupation-based wealth proxy, column 3 instead uses an occupation-based income measure and column 4 reports the likely 1860 wealth of the son's father-in-law. See the text for details on how each outcome variable is constructed. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 5: Unweighted results

VARIABLES	(1) *First Generation* Ln(Wealth 1870)	(2) *Second Generation* Ln(Occ Wealth 1880)	(3) *Second Generation* Ln(Occ Mfg 1880)	(4) *Second Generation* Ln(Wealth Wife 1880)
Slaveholder Surname x 95+ wealth %-ile 1860	-0.135**	0.197***	0.025**	0.045*
	(0.061)	(0.048)	(0.010)	(0.023)
Slaveholder Surname x 80-94th wealth %-ile 1860	-0.087***	-0.007	-0.017**	0.052***
	(0.023)	(0.029)	(0.008)	(0.013)
Slaveholder Surname x 60-79th wealth %-ile 1860	-0.002	-0.003	0.001	0.030**
	(0.015)	(0.024)	(0.007)	(0.013)
Slaveholder Surname x 1-59th wealth %-ile 1860	0.137***	0.119***	0.011*	0.019*
	(0.014)	(0.021)	(0.006)	(0.011)
Wealth %-ile fixed effect	Yes	Yes	Yes	Yes
Surname fixed effects	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes
Observations	149,699	310,709	299,674	153,632

Notes: This table reports estimates of equation (1) which regresses household wealth on the interaction between having a slave surname and percentile ranges of an initial wealth distribution, along with fixed effects for surname, percentile in the initial wealth distribution and initial county of residence. We also control for a quadratic in age of the household head in columns 1-4 and for age of the son in columns 2-4. Columns 1 considers household wealth in 1870 directly from the Census. Columns 2-4 instead look at outcomes for the sons of household heads in 1880. Column 2 uses our occupation-based wealth proxy, column 3 instead uses an occupation-based income measure and column 4 reports the likely 1860 wealth of the son's father-in-law. See the text for details on how each outcome variable is constructed. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 6: Without Fathers/Sons likely to have served in Civil War

VARIABLES	(1) *First Generation* Ln(Wealth 1870)	(2) *Second Generation* Ln(Occ Wealth 1880)	(3) *Second Generation* Ln(Occ Mfg 1880)	(4) *Second Generation* Ln(Wealth Wife 1870)
Slaveholder Surname x 95+ wealth %-ile 1860	-0.184***	0.247***	0.037***	0.059**
	(0.065)	(0.062)	(0.013)	(0.029)
Slaveholder Surname x 80-94th wealth %-ile 1860	-0.104***	-0.037	-0.023**	0.071***
	(0.029)	(0.036)	(0.009)	(0.018)
Slaveholder Surname x 60-79th wealth %-ile 1860	-0.016	-0.034	-0.000	0.048***
	(0.021)	(0.033)	(0.008)	(0.016)
Slaveholder Surname x 1-59th wealth %-ile 1860	0.152***	0.086***	0.010	0.011
	(0.023)	(0.025)	(0.007)	(0.013)
Wealth %-ile fixed effects	Yes	Yes	Yes	Yes
Surname fixed effects	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes
Observations	71,305	225,973	218,496	96,578

Notes: This table reports estimates of equation (1) which regresses household wealth on the interaction between having a slave surname and percentile ranges of an initial wealth distribution, along with fixed effects for surname, percentile in the initial wealth distribution and initial county of residence. We also control for a quadratic in age of the household head in columns 1-4 and for age of the son in columns 2-4. Column 1 considers household wealth in 1870 directly from the Census. Columns 2-4 instead look at outcomes for the sons of household heads in 1880. Column 2 uses our occupation-based wealth proxy, column 3 instead uses an occupation-based income measure and column 4 reports the likely 1860 wealth of the son's father-in-law. See the text for details on how each outcome variable is constructed. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 7: Results without surname fixed effects

VARIABLES	(1) *First Generation* Ln(Wealth 1870)	(2) *Second Generation* Ln(Occ Wealth 1880)	(3) *Second Generation* Ln(Occ Mfg 1880)	(4) *Second Generation* Ln(Wealth Wife 1880)
Slaveholder Surname x 95+ wealth %-ile 1860	-0.172**	0.187***	0.010	0.041*
	(0.068)	(0.049)	(0.012)	(0.023)
Slaveholder Surname x 80-94th wealth %-ile 1860	-0.109***	-0.033	-0.027***	0.038***
	(0.028)	(0.030)	(0.008)	(0.013)
Slaveholder Surname x 60-79th wealth %-ile 1860	-0.013	-0.009	-0.002	0.022*
	(0.016)	(0.021)	(0.007)	(0.013)
Slaveholder Surname x 1-59th wealth %-ile 1860	0.156***	0.115***	0.005	0.015
	(0.014)	(0.023)	(0.006)	(0.010)
Wealth %-ile fixed effects	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes
Observations	152,074	313,628	302,538	156,162

Notes: This table reports estimates of equation (1) which regresses household wealth on the interaction between having a slave surname and percentile ranges of an initial wealth distribution, along with fixed effects for percentile in the initial wealth distribution and initial county of residence. We also control for a quadratic in age of the household head in columns 1-4 and for age of the son in columns 2-4. Column 1 considers household wealth in 1870 directly from the Census. Columns 2-4 instead look at outcomes for the sons of household heads in 1880. Column 2 uses our occupation-based wealth proxy, column 3 instead uses an occupation-based income measure and column 4 reports the likely 1860 wealth of the son's father-in-law. See the text for details on how each outcome variable is constructed. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 8: Percentile ranks as dependent variable

VARIABLES	(1) *First Generation* %-ile Wealth 1870	(2) *Second Generation* %-ile Occ Wealth 1880
Slaveholder Surname x 95+ wealth %-ile 1860	-0.379	1.027**
	(0.623)	(0.444)
Slaveholder Surname x 80-94th wealth %-ile 1860	-1.531***	-0.410
	(0.384)	(0.270)
Slaveholder Surname x 60-79th wealth %-ile 1860	-0.342	0.305
	(0.269)	(0.233)
Slaveholder Surname x 1-59th wealth %-ile 1860	2.123***	1.290***
	(0.207)	(0.161)
Wealth %-ile fixed effects	Yes	Yes
Surname fixed effects	Yes	Yes
County fixed effects	Yes	Yes
Observations	149,739	330,937
R-squared	0.327	0.122

Notes: This table reports estimates of equation (1). Column 1 considers the percentile rank of household wealth in 1870 as outcome variable, while column 2 instead looks at our occupation-based wealth proxy for the sons of household heads in 1880. The independent variables are the interaction between having a slave surname and percentile ranges of an initial wealth distribution, along with fixed effects for surname, percentile in the initial wealth distribution and initial county of residence. We also control for a quadratic in age of the household head in columns 1-2 and for age of the son in column 2. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 9: Mechanisms for likely slaveholder sons in 1880

	(1)	(2)	(3)	(4)
		Outcomes in 1880		
VARIABLES	==1 if Moved	== 1 if in City	==1 if Ag Occ	==1 if White Collar
Slaveholder Surname x 95+ wealth %-ile 1860	-0.082***	-0.010	0.007	-0.001
	(0.007)	(0.006)	(0.007)	(0.006)
Slaveholder Surname x 80-94th wealth %-ile 1860	-0.049***	-0.009***	0.018***	-0.008*
	(0.005)	(0.003)	(0.005)	(0.004)
Slaveholder Surname x 60-79th wealth %-ile 1860	-0.043***	-0.011***	0.010**	0.003
	(0.005)	(0.003)	(0.004)	(0.003)
Slaveholder Surname x 1-59th wealth %-ile 1860	-0.056***	-0.011***	0.017***	0.010***
	(0.004)	(0.002)	(0.004)	(0.003)
Wealth %-ile fixed effects	Yes	Yes	Yes	Yes
Surname fixed effects	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes
Observations	330,937	330,937	330,937	314,057

Notes: This table reports estimates of equation (1) which regresses a series of son outcomes in 1880 on the interaction between having a slave surname and percentile ranges of an initial wealth distribution, along with fixed effects for surname, percentile in the initial wealth distribution and initial county of residence. We also control for a quadratic in age of the household head and for age of the son. The dependent variables are defined as follows: an indicator equal to one if the son left his birth county (column 1); an indicator equal to one if the son lives in 1880 in an urban area; IPUMS classification "urban" = 2 (column 2); an indicator equal to one if the son works in an agricultural occupation; IPUMS occupation classification "occ1950" 100, 123, 810-840 (column 3); and an indicator equal to one if the son works in a white collar occupation; IPUMS occupation classification "occ1950" 1-490 excluding farm occupation 100 and 123 (column 4). Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 10: Mechanisms for slaveholder sons in 1880 -- farmer control in 1860

	(1)	(2)	(3)	(4)
		Outcomes in 1880		
VARIABLES	==1 if Moved	== 1 if in City	==1 if Ag Occ	==1 if White Collar
90+ percentile (No. Slaves +17)	-0.032***	-0.036***	0.002	0.017
	(0.012)	(0.009)	(0.013)	(0.012)
75-89th percentile (No. Slaves 8-16)	-0.034***	-0.012*	-0.000	0.019**
	(0.009)	(0.006)	(0.009)	(0.008)
50-74th percentile (No. Slaves 3-7)	-0.023***	-0.003	-0.013**	0.018***
	(0.007)	(0.004)	(0.007)	(0.005)
Wealth %-ile fixed effects	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes
Observations	33,184	33,184	33,184	31,357

Notes: This table reports estimates of equation (2) which regresses a series of son outcomes in 1880 on indicators for the number of slaves owned by his childhood household in 1860, along with fixed effects for percentile in the 1860 wealth distribution and initial state of residence. We also control for a quadratic in age of the household head and for age of the son and whether the father is farmer in 1860. The dependent variables are defined as follows: an indicator equal to one if the son left his birth county (column 1); an indicator equal to one if the son lives in 1880 in an urban area; IPUMS classification "urban" = 2 (column 2); an indicator equal to one if the son works in an agricultural occupation; IPUMS occupation classification "occ1950" 100, 123, 810-840 (column 3); and an indicator equal to one if the son works in a white collar occupation; IPUMS occupation classification "occ1950" 1-490 excluding farm occupation 100 and 123 (column 4). Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 11: The effect of likely slaveholding on wealth in 1870, 1880 and 1900 -- plantation counties

	(1)	(2)	(3)	(4)	(5)	(6)
	Plantation Counties -- Rural			***No Plantation Counties Rural***		
VARIABLES	*First Generation* Ln(Wealth 1870)	*Second Generation* Ln(Occ Wealth 1880)	*Second Generation* Ln(Occ Wealth 1900)	*First Generation* Ln(Wealth 1870)	*Second Generation* Ln(Occ Wealth 1880)	*Second Generation* Ln(Occ Wealth 1900)
Slaveholder Surname x 95+ wealth %-ile 1860	-0.032	0.271***	0.193***	0.028	0.254***	0.221***
	(0.045)	(0.055)	(0.054)	(0.086)	(0.066)	(0.076)
Slaveholder Surname x 80-94th wealth %-ile 1860	-0.012	0.009	0.097**	-0.056**	0.052	0.051
	(0.024)	(0.045)	(0.039)	(0.027)	(0.040)	(0.039)
Slaveholder Surname x 60-79th wealth %-ile 1860	0.010	-0.043	-0.008	0.014	0.036	0.088***
	(0.022)	(0.045)	(0.036)	(0.021)	(0.041)	(0.033)
Slaveholder Surname x 1-59th wealth %-ile 1860	0.120***	0.087**	0.029	0.119***	0.173***	0.088**
	(0.019)	(0.034)	(0.028)	(0.023)	(0.032)	(0.036)
Wealth %-ile fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Surname fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	48,404	108,070	107,532	78,288	147,724	130,337

Notes: This table reports estimates of equation (1) separately for the plantation counties (columns 1-3) and non-plantation counties (columns 4-6) portions of the rural sample. See the notes to Table 2 for detail on the regression specification and dependent variables. Plantations counties are defined as those that are above the median share of southern agricultural output produced in cotton, rice, tobacco, and sugar in 1860. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 12: Fertility

VARIABLES	(1) #Children 1866-70	(2) #Children 1861-65	(3) #Children 1861-70
Slaveholder Surname x 95+ wealth %-ile 1860	-0.013	0.026	0.012
	(0.017)	(0.016)	(0.026)
Slaveholder Surname x 80-94th wealth %-ile 1860	-0.013	0.020*	0.007
	(0.013)	(0.012)	(0.020)
Slaveholder Surname x 60-79th wealth %-ile 1860	0.021*	0.024**	0.045**
	(0.011)	(0.012)	(0.019)
Slaveholder Surname x 1-59th wealth %-ile 1860	0.003	0.016*	0.019
	(0.009)	(0.008)	(0.013)
# Children 1860	Yes	Yes	Yes
Wealth %-ile fixed effects	Yes	Yes	Yes
Surname fixed effects	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes
Observations	137,128	137,128	137,128

Notes: This table reports estimates of equation (1). The outcome variables are the number of children age 0-5 in 1870 (column 1); the number of children age 6-10 in 1870 (column 2); and the number of children age 0-10 in 1870 (column 3). The independent variables are the interaction between having a likely slave surname and percentile ranges of an initial wealth distribution, along with fixed effects for surname, percentile in the initial wealth distribution and initial county of residence. We also control for a quadratic in age of the household head. Standard errors in parentheses are clustered at the State Economic Area. *** p<0.01, ** p<0.05, * p<0.1.