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# The economic origins of the postwar southern elite

## Abstract

The U.S. Civil War destroyed a substantial fraction of southern wealth and emancipation transferred human capital to the formerly enslaved. The prevailing view of most economic historians is that the southern planter elite was able to retain its relative status despite these shocks. Previous studies have been hampered, however, by limits on the ability to link individuals between census years, and scholars have been forced to focus on persistence within one or a few counties. Recent advances in electronic access to the Federal Census manuscripts now make it possible to link individuals without these constraints. In this paper, we exploit the ability to search the full manuscript census to construct a sample that links top wealth holders in 1870 to their 1860 census records. Although there was an entrenched southern planter elite that retained their economic status, we find evidence that the turmoil of the 1860s opened greater opportunities for mobility in the South than was the case in the North, resulting in much greater turnover among wealthy southerners than among comparably wealthy northerners.

## Keywords

Civil War, Wealth Inequality

## Disciplines

Economic History | Growth and Development | Inequality and Stratification | Labor Economics

## Comments

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# **The Economic Origins of the Postwar Southern Elite**

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The U.S. Civil War destroyed a substantial fraction of southern wealth and emancipation transferred human capital to the formerly enslaved. The prevailing view of most economic historians is that the southern planter elite was able to retain its relative status despite these shocks. Previous studies have been hampered, however, by limits on the ability to link individuals between census years, and scholars have been forced to focus on persistence within one or a few counties. Recent advances in electronic access to the Federal Census manuscripts now make it possible to link individuals without these constraints. In this paper, we exploit the ability to search the full manuscript census to construct a sample that links top wealth holders in 1870 to their 1860 census records. Although there was an entrenched southern planter elite that retained their economic status, we find evidence that the turmoil of the 1860s opened greater opportunities for mobility in the South than was the case in the North, resulting in much greater turnover among wealthy southerners than among comparably wealthy northerners.

Keywords: Civil War; Wealth Inequality

JEL Codes: N3, N31, N4

## 1. Introduction

The Civil War and emancipation represent major turning points in the history of the United States. For scholars seeking to understand the consequences of the war, a central question has been whether the southern economic elite was able to retain its status and economic influence after the war, or was displaced by wartime destruction and the end of slavery. This question is crucial for understanding the trajectory of postwar economic development in the south since a persistent group of high wealth individuals may have had sufficient political power to shape the contours of economic development in that region well into the 20<sup>th</sup> century. We know from a growing body of literature that significant wealth inequality can lead to slower economic growth largely because of the institutional arrangements that are controlled by those at the very top of the wealth distribution (Engerman and Sokoloff 1997, 2002; Acemoglu 2008). Before we can understand the extent to which this may have occurred in the postwar South, we must explore the dynamics of mobility during the 1860s.

Elite persistence is particularly relevant for the American south in light of Ager's (2013) finding that counties with the wealthiest planters before the Civil War performed significantly worse as late as the mid-twentieth century, mostly because the planter elite opposed investments in mass education in those counties.<sup>1</sup> Using land prices as a measure of agricultural profits, Ager examines whether the planter elite

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<sup>1</sup> The theoretical work of Galor and Zeira (1993) also shows how human capital investments can act as a channel by which wealth inequality translate into lower levels of economic development over the long run.

were able to defend their agricultural interests through the exercise of political power during Reconstruction. He finds that land prices after the war were in fact higher in counties with a wealthier class of planters. In his view, “the planter elite’s de facto power allowed them to capture local institutions for their own interest until the new constitutions restored some of their de jure power” (4). Wallenstein (1976) similarly found that wealthy planters in Georgia dominated public finance throughout the Reconstruction period with detrimental effects on economic development in that state. These results are broadly consistent with the political economy model of Alesina and Rodrik (1994), who argued that persistent inequality leads to the adoption of growth-retarding policies. They are also consistent with Engerman and Solkoff’s (2000, p. 221) claim that wealth inequality “contributed to the evolution of institutions that protected the privileges of the elites and restricted opportunities for the broad mass of the population to participate fully in the commercial economy even after the abolition of slavery” in the New World. If it is the case, as Acemoglu and Robinson (2006, p. 326) claimed, that “Southern elites still possessed considerable de factor power through their control over economic resources,” then focusing on the wealthiest households and the extent to which they maintained their position in the wealth distribution can shed light on the extent to which the long-term trajectory of the southern economy was determined by socioeconomic persistence within that group.

Some early scholarship concluded that since the plantation system disappeared after 1867, the war must have uprooted the Southern planter elite. This idea seems to have originated in an 1881 article by Henry W. Grady, which was later cited by Hammond (1897) in his well-known history of the cotton industry, and persisted well

into the twentieth century. Buck (1937, p. 145), for example, concludes that “The small, rich landowning aristocracy in whose interest so much of Southern energy had been expended was deprived of its privileged position.” By this time, however, other scholars had begun to challenge the view that the war had displaced the antebellum elite. Shugg (1937), for example, concluded from an examination of Louisiana tax records, that the plantation system was not destroyed by the war and that land ownership actually became more concentrated after the war.<sup>2</sup>

The most influential modern works on the subject are Jonathan Wiener’s (1976, 1979) studies using census data for five Alabama counties. Using the manuscript census to trace the fortunes of the planter elite, Wiener found that 43 percent of the 236 largest landholders in the Alabama black belt in 1860 remained among the planter elite in 1870. Noting that this rate of persistence rate was quite close to the 47 percent that prevailed from 1850 to 1860 period, Wiener concluded that the evidence supported Shugg’s view that the wealthy planter elite held a greater share of real estate value in those counties after the war than it had before. Ransom and Sutch (1977) concurred, arguing that landownership was quite stable even though the number of farms in the five cotton states increased by 52 percent between 1860 and 1870, and that the percent of improved land over 100 acres fell from 81 percent in 1860 to 60 percent in 1870.<sup>3</sup> In a parallel study using data from one Texas county,

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<sup>2</sup> Interestingly, Woodward (1951) cited Shugg’s observation that northern corporations purchased Louisiana sugar plantations in support of his argument that there was a revolution in land ownership after the war. However, as Wiener (1976) pointed out, Shugg also argued that there was no such change in ownership for the cotton plantations. According to Shugg (1968, p. 246), the available evidence on cotton plantations “argues against any sudden or sweeping overturn in ownership.”

<sup>3</sup> See Ransom and Sutch (1977), Table 4.5, p. 71.

Campbell (1982) analyzed population persistence over the 1850 to 1880 period and concluded that the rate of geographical persistence was fairly high among planters of all sizes: 43 percent of large planters persisted between 1860 and 1870, while poor whites were the least persistent (only a 22 percent persistence rate). He also found that while the planter elite suffered considerable economic losses during the Civil War decade, they actually improved their relative position between 1860 and 1880.

Ransom (1989, p. 234) similarly concluded that even though the large farms were broken up into smaller units, “land ownership in the South remained in the hands of those who had owned land and slaves before the war.”

While these earlier studies have been enlightening, they have also been limited by a restricted geographic scope. On the one hand, this has meant assuming that results for one or a few counties can be safely generalized to apply to the region as a whole. On the other hand, given high rates of geographic mobility in the nineteenth century, it has not been possible to establish whether individuals who moved out of the area under study moved up or down the wealth distribution, leaving open the possibility that any conclusions may reflect the vagaries of sample selection.<sup>4</sup> As Massey (2016, p. 5) explained, matching individuals within restricted geographic areas “poses a serious threat to the representativeness of the matched sample.”

Recent advances in electronic finding aids for historical censuses combined with online access to complete census manuscripts for the entire country, both available through the Ancestry.com website, allow us to improve on these earlier

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<sup>4</sup> According to Oakes (1982, p. 77), “nearly sixty percent of the 1850 slaveholders [in Jasper County, Georgia] were gone ten years later.” Schaefer (1985) found similarly high rates of geographic mobility among slave owners between 1850 and 1860.

studies by examining the wealth persistence across the 1860s for a nationwide sample of individuals linked between 1860 and 1870 despite potential geographic mobility. In this article, we analyze the origins of a sample of the wealthiest household heads in 1870 in both the South and the North.<sup>5</sup> We find that while over 40 percent of wealthy northerners (the top five percent of wealth holders) in 1870 were similarly located in the 1860 wealth distribution, this was true for less than 28 percent of southerners. While high levels of wealth provided a considerable cushion against the shocks of the Civil War decade, the 1860s were nonetheless characterized by a much higher degree of turnover among wealthy southerners than among comparably wealthy northerners. We find, for example, that 40 percent of southerners with moderate wealth in 1860 – between the 55<sup>th</sup> and 90<sup>th</sup> percentiles – moved to the top of the wealth distribution by 1870, while less than one quarter of the richest northerners did so. Conventional accounts are not wrong to emphasize the persistence of many wealthy southerners, but there is considerable evidence that the turmoil of the Civil War and emancipation opened greater opportunities for upward (and downward) mobility in the South than was the case in the North.

Before turning to a description and analysis of the linked data, we begin with a brief introduction to the wealth data available in the Censuses of 1860 and 1870 and use these data to characterize the effects of the Civil War and emancipation on regional wealth holding. Section 3 describes our procedure for creating a linked sample beginning with high wealth individuals in 1870 and locating them in the 1860 census,

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<sup>5</sup> Because of the small numbers of individuals in the Mountain and Pacific Census Divisions we exclude them from our analysis.



and section 4 describes what these linked data reveal. We conclude with some additional interpretation of these results.

## **2. The Impact of the Civil War on Wealth Levels and Distribution**

Both the 1860 and 1870 population censuses included questions about real and personal property ownership. Along with the 1850 census, which collected data on real property ownership, they constitute the only nationally representative data on personal wealth levels prior to the late-20<sup>th</sup> century. Wealth levels in both census years were self-reported, but a number of studies have confirmed their reliability. Soltow (1975, p. 6) found that reported wealth levels in the 1850 to 1870 censuses were “generally in line with estimates made by various authorities on wealth distribution. Growth rates are similar to those found for GNP per worker by Kuznets and commodity output per worker by Gallman.” Steckel (1990) pointed out that real estate holdings cannot be easily concealed and were probably reliably reported. Even if respondents could have concealed their wealth, Querubin and Snyder (2011, p. 65) argued that they had no real incentives to do so because “even if some respondents were worried that the information provided would not in fact be confidential, there was no clear incentive for under-reporting or over-reporting wealth. There was no federal tax on wealth at the time, and no estate tax. Personal vanity, however, might have lead to some over-reporting.” Steckel (1994) showed that discrepancies between local tax records and self-reported census wealth levels in Ohio and Massachusetts were not systematically related to other socioeconomic indicators for the period between 1820 and 1910. A number of other studies similarly demonstrate a close

correspondence between the 1870 census wealth data and various local tax assessments (Galenson and Pope 1992, Blocker 1994, and Bleakley and Ferrie 2016). Galenson and Pope (1992, p. 227) concluded that “the wealth figures in the census manuscripts appear to be reasonably accurate estimates of household wealth, even though they may not typically have been based on detailed calculations of household wealth.” Bleakley and Ferrie (2016, p. 1483) concluded that “despite the supposed shortcomings of the 1870 census data, its striking correspondence to wealth reported by tax assessors was evident.”

Despite the overall consistency of self-reported census wealth and other more objective measures of property ownership, there could be regional differences in responses that would bias our comparisons. With the exception of the Bleakley and Ferrie (2016) article, studies comparing tax rolls and census data have focused on non-southern regions, so it is possible that southerners were more reluctant to reveal information about wealth holding to Federal Census enumerators. We cannot conclusively rule out this possibility, but the data themselves suggest this was not the case. One reasonable internal consistency check is the fraction of household heads in each region who reported owning real estate that gave a zero value or did not answer the question on personal property ownership. Since real estate holdings were readily observed and reasonably well documented it seems less likely that people would attempt to conceal their real estate holdings. While close to 40 percent of census respondents reported zero personal property, only about 10.7 percent of those with non-zero real property holdings reported no personal property. Splitting the sample by region, among those with non-zero real estate wealth, only 8.7 percent of

southerners reported zero personal property wealth, compared to 11.4 percent of northerners.<sup>6</sup>

Census officials at the time and some later scholars have expressed concern about the quality of the 1870 census enumeration, arguing that there was a significant under count in this year. The war and reconstruction created some special challenges for enumerators in the South, particularly in counting low income black Southerners, which apparently distorted the count to a greater degree than in other census years. Steckel (1991) argued that the small increase of the black population in the 1860s followed by a large increase in the 1870s is evidence of a significant undercount for the black population. More recent analysis, however, suggests that the 1870 undercount may not be as significant as previously believed.<sup>7</sup> According to Hacker et al (1999, p.129), “the undercount estimate given in the 1890 census report was greatly exaggerated as a result of a failure to account for the magnitude of the negative demographic shock caused by the Civil War.” Fully incorporating the slow population growth of the 1860s relative to the 1870s yields an undercount of about 6.6 percent, not significantly different from nonresponse rates in modern survey data and not much higher than the 1850 census (Hacker, 2013).<sup>8</sup> On this basis Hacker et al, argued

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<sup>6</sup> The value of personal property reported by the southern real property owners was lower (averaging \$1,250) than it was for northerners (\$1,889), but this is not surprising given the large share of southern wealth accounted for by slaves prior to the Civil War.

<sup>7</sup> This concern originates with the Director of the 1870 Census, Francis Walker, who believed that there had been a significant undercount of the population. As a result of these concerns, President Grant ordered a recount in Philadelphia, New York, and Indianapolis. These concerns were reiterated in the 1890 census and have been accepted by many subsequent historians.

<sup>8</sup> Ransom and Sutch (1975) estimated that the black undercount was about 6.6 percent.

that the “under enumeration of southern whites and blacks in 1870 was far lower than 1890 investigators estimated,” and concluded that “[The 1870 census] will not pose a significant problem for most analyses.” Whatever undercount issues exist with the 1870 census are, in any case, likely to be less relevant for the present study, since we focus on the overwhelmingly white top wealth holders whereas the undercount was most significant for poorer and younger blacks in the South.

Tables 1 and 2 summarize property ownership patterns by region in 1860 and 1870, respectively, based on data available in the Integrated Public Use Microdata Series (IPUMS) 1-in-100 random sample of the Census (Ruggles 2015).<sup>9</sup> Because there are only a small number of observations from the Mountain and Pacific Census divisions we have dropped these regions from our analysis. We further restrict our sample to household heads. Since more than 90 percent of property ownership reported in the two censuses was attributed to household heads, inclusion of non-heads would simply increase the apparent inequity of the distribution without yielding additional insight. In the tables, we report a number of statistics characterizing property ownership by within-region percentile rankings based on total property wealth. The first five rows of each table report the following values for each group: the number of observations in the IPUMS; median values for real property, personal property, and total property wealth; and the average share of real property in total wealth. The remaining rows report a number of demographic and occupational characteristics. The first column for each region shows characteristics of the bottom 55

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<sup>9</sup> The North includes states in the Northeast and North Central Census division, while the South includes states in the South Atlantic and South Central Census divisions.

percent of wealth holders. We selected this cut-off because the bottom 55 percent of household heads reported no real or personal property ownership in 1870. The subsequent columns show characteristics for higher wealth groups.

The 1860 data illustrate in striking detail the enormous fortunes that the slave system permitted the wealthiest southerners to accumulate. The median wealth reported by those in the top 1 percent of the southern wealth distribution in 1860 was a staggering \$122,250, more than three times the median wealth of the top 1 percent of northerners.<sup>10</sup> Indeed, the median wealth of the richest northerners was comparable to the median for those between the 95<sup>th</sup> and 99<sup>th</sup> percentiles in the South. In an economy that was still predominantly rural and agricultural, slavery eliminated the labor constraints that limited the size of northern farms and allowed for a much greater concentration of wealth (Wright 1970, 1978; Ransom 1989). As Williamson and Cain (2010) put it, “The total estate for those in the upper tail of the [wealth] distribution was enormous. It should be emphasized, however, that this is not a small elite; as a group, slave owners were sizeable and wealthy.” Ransom (1989, 63) found that a mere two percent of farmers held nearly a quarter of all wealth in the pre-Civil War South and that these wealthy planter elite controlled Southern politics before and after the war.

In the postwar period, there is evidence that land ownership remained highly concentrated. Ransom and Sutch (1977) found that “a small elite of white landowners controlled the employment opportunities for the majority of black workers” (80).

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<sup>10</sup> Comparing monetary values across time is complicated. Perhaps the best metric by which to evaluate this figure is as a share of GDP. Using this criterion, \$122,250 in 1860 is equivalent to \$49.3 million in 2016 (Williamson 2017).

Jonathan Wiener (1976) found that the top 5 percent of landowners in the Alabama and Mississippi black belts held 24 percent improved acreage, 26 percent of slaves, 26 percent of cotton output, and 30 percent of farm value. Shugg (1937) documented the expansion of the plantation system in Louisiana after the Civil War; while many of the large plantations were split into smaller tenant farms, the ownership of those farms often remained in the same hands.

While this earlier scholarship has provided valuable insights into the nature of wealth persistence, there are aspects of this question that can only be adequately addressed with the broader perspective we take here. We know that wealth remained highly concentrated after the war based on these earlier regional studies, but we know little about the pre-war origins of the postwar planter elite, particularly outside of the regions on which previous scholarship has focused.

The impact of slave wealth in the South is also apparent in the much lower share of real property in total wealth compared to the North. In the North, real estate was the principal vehicle of wealth accumulation, accounting for two-thirds or more of property ownership among the top 45 percent of household heads who reported any property holding. In contrast, personal property (which included slaves) made up close to three-fifths of wealth in the top 10 percent of the Southern wealth distribution and was still about half of total property wealth for those between the 55<sup>th</sup> and 90<sup>th</sup> percentiles.

Comparing Table 2 with Table 1, it is evident how large an impact the Civil War and emancipation had on southern wealth holders.<sup>11</sup> Given the prominent role of slaves among the property of the wealthiest southerners, it is reasonable to conjecture that the effects of emancipation may have been most pronounced at the top of the wealth distribution.<sup>12</sup> While northern wealth holders above the 55<sup>th</sup> percentile experienced an approximately 50 percent increase in real property wealth over the 1860s, the value of property owned by southerners fell by nearly 75 percent. The drop was especially pronounced for personal property; above the 90<sup>th</sup> percentile, southern wealth holders experienced a 91 percent drop in the value of personal property, while real property wealth was cut by more than half. As a result, after the war the relative shares of real and personal property in the South converged toward those in the North, with real property making up 60-70 percent of wealth, at least among the wealthier household heads.

Tables 1 and 2 also reveal a number of other notable regional differences over the decade. Women made up a relatively small share of household heads in both regions and in both census years. However, women represented a larger fraction of wealth holders in the South both before and after the Civil War, and there was a noticeable increase in the female share of heads of household among the poorest

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<sup>11</sup> It is worth noting that the war itself was enormously costly for the nation as a whole, but disproportionately so for the South. Goldin and Lewis (1975) estimated that the war cost \$75 per capita for the North and \$451 for the South.

<sup>12</sup> The elimination of slave wealth also had dramatic implications for the economic institutions that emerged during Reconstruction. Since slaves could no longer be used as collateral to secure credit, the “pawn-shop economy” of the furnishing merchants stepped into the breach (Ransom and Sutch, 1977). Moreover, Wright (1986) argued that massive shift in the basis of southern wealth transformed wealthy southerners from “laborlords” to “landlords.”

households after the war. In the South in 1860, 84.7 percent of households below the 55<sup>th</sup> percentile of the wealth distribution had male heads, but that number dropped to only 79.6 percent in the 1870 census. We suspect this is driven by the presence of war widows in the South, where an estimated 13 percent of white men of military age died as a result of the war (Hacker 2011).<sup>13</sup>

In the North, the likelihood that an individual was living outside of his or her state of birth diminished as wealth levels increased. In both 1860 and 1870, close to two-thirds of northerners below the 55<sup>th</sup> percentile were living outside their state of birth, a proportion that fell to around 50 percent at the top of the wealth distribution. In the South, geographic mobility was markedly lower among those at the bottom of the wealth distribution, and there is no clear relationship between wealth and geographic mobility. The proportion of high wealth household heads living outside their state of birth was roughly similar to that for lower wealth household heads.

In both regions, rural residents outnumbered urban dwellers, but residence patterns looked rather different across wealth strata. In the North, the percent urban followed an inverted-U pattern in both 1860 and 1870, with the rural shares lowest at the bottom and top of the wealth distribution. As Rosenbloom and Stutes (2008) noted in their analysis of 1870 wealth data, inequality increased with urbanization. There was, however, a noticeable decline in rural residents over the course of the decade at all wealth levels. This decline was especially pronounced among the wealthiest 1 percent of Northerners, where the proportion rural fell from 53.4 percent to 39.2 percent over the decade. The proportion rural was consistently higher in the South,

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<sup>13</sup> For more on southern war widows, see Hacker et al (2010) and Faust (2004).



and there was little variation across the wealth distribution in 1860. By 1870, perhaps reflecting the beginnings of a shift away from agriculture as the source of regional wealth in the South, the top 1 percent of southern wealth holders were much more likely to be urban residents than was the case ten years earlier.

The bottom rows in each table report the occupational distribution within each wealth stratum using the IPUMS standardized 1950 occupational codes. Farmers dominated the top of the southern wealth distribution in both 1860 and 1870, but white-collar jobs were much more important at the top of the northern wealth distribution. There were some notable changes in occupational composition across the wealth distribution over the Civil War decade. Most notably, and consistent with the rise in urbanization, the share of farmers fell while the numbers of professional & technical and clerical & managerial occupations rose.

The cross-sectional evidence presented so far is sufficient to establish that there were important regional differences in wealth holding, and that the Civil War and emancipation produced large shocks to wealth holding, especially in the South. They cannot, however, reveal what happened to individuals during the 1860s. Were the wealthiest southerners able to retain their relative position in the wealth distribution despite the absolute loss of wealth during the 1860s? Or did the shock of the war and emancipation cause those at the top to fall down the wealth distribution and allow those further down to rise up? As our earlier review of the literature suggests, answers to these questions have varied over time and have been limited in their generality by data constraints. Resolving this question requires following the fortunes of individuals over the course of the decade. Past efforts to do this have focused on following

individuals within a limited area; however, as we describe in this section, we are now able to construct a nationally representative linked sample that is not constrained to the geographically immobile.

### **3. Creating a Linked Sample**

Methods of record linkage across multiple censuses are now well-established. The prevailing approach, which has evolved from that pioneered by Ferrie (1996), proceeds by selecting a target sample in one census year, searching by name (often coded phonetically) in the other census for potential matches, and then evaluating these matches based on characteristics such as birthplace and implied birth year, calculated as census year minus reported age (see Massey 2016, pp. 9-10). If more than one potential match meeting the established criteria remains, the record is typically dropped. As we describe below, we closely follow the standard approach, but with a few modifications dictated by the characteristics of our research questions.

Since we are interested in identifying the origins of top wealth-holders in 1870, we begin with a sample of those at the top of the wealth distribution in each region (North and South) in 1870 and seek to link them backward to records in the 1860 census.<sup>14</sup> It is more common in the literature to link individuals forward from an earlier census to a later one, but a number of prominent studies have also followed a

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<sup>14</sup> A related but distinct question is what happened to top wealth holders in 1860? Answering this question would require starting with a sample from the 1860 census and seeking to link individuals forward to the 1870 census. Such an approach would complement the results reported here, and is part of our larger research agenda, but resource constraints have not allowed us to conduct this parallel study.

backward linkage strategy (see Schaefer 1985; Steckel 1990; Galenson 1991, and Galenson and Pope 1992).<sup>15</sup> There are advantages and disadvantages to both forward and backward linkage strategies (Ruggles 2008). In a backward-linked sample, such as ours, new entrants (immigrants and those who have inherited wealth) will lower linkage rates, since they will not appear in the earlier census. In a forward-linked sample, on the other hand, attrition due to mortality and emigration will both tend to lower linkage rates.<sup>16</sup> Thus, the choice of linkage strategy is largely a function of the question one seeks to answer.

To construct our linked sample, we begin by identifying household heads in the IPUMS with total 1870 property holdings that placed them among the top 5 percent in their region of residence. For 1870, the IPUMS has collected both a 1 percent random sample and a black oversample, referred to as the 1.2 percent sample.<sup>17</sup> In hopes of increasing the size of our initial sample of wealthy individuals we used the 1.2 percent sample. The decision to restrict the sample to the top 5 percent reflects an effort to ensure a large enough sample of linked individuals for regional differences to be

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<sup>15</sup> Some of these papers use both backward- and forward-linking strategies. Backward linkages have sometimes been used because early census indexes were constructed at the state level, and it was necessary to use state of birth of children in the household to identify the state index to be searched to locate the household at an earlier date.

<sup>16</sup> Using contemporary data Massey (2016) shows that mortality can actually increase linkage rates by reducing the pool of potential matches with similar names, since cases where two or more potential matches are often discarded. Bailey et al (2017) offer additional insight about the effects of different strategies on linkage rates in historical contexts.

<sup>17</sup> For 1860 and 1870 the IPUMS 1.2% sample includes an oversample of households containing one or more blacks. While non-black households are sampled to produce a 1-in-100 sample of the population, households with black members were sampled at a rate of 1-in-50.

visible, while keeping the data collection effort manageable.<sup>18</sup> We further limit our sample to individuals between the ages of 25 and 75 in 1870. The lower limit helps to reduce the number of young children we are seeking to match in 1860, while the upper limit seeks to avoid the distorting effect of wealth transfers in old age.

Most of the literature using linked samples restricts analysis to adult males to avoid the difficulties created by women changing their name at marriage. We have opted, however, to include female household heads in our sample. Close to 7 percent of the top wealth holders in 1870 were female (see Table 2), a fact that may reflect in part the differential mortality caused by the Civil War. Given this relatively large number of females, we prefer to include them despite potential linkage challenges. Because we are linking backward and are able to search the entire population census in 1860 (not just household heads), the problem of linkage is reduced to some degree since we can find women who were not household heads in 1860. In practice, linkage rates for female household heads (35 percent) are lower than for males (45 percent), but still quite acceptable. If we are able to locate an 1870 female household head in 1860, we assign to her the 1860 wealth of the head of the household in which she resided, on the assumption that by 1870 she had inherited this wealth from the 1860 head. Such an approach is not perfect—we will, for example, miss women who married

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<sup>18</sup> Because we must hand collect the matched data for 1870, expanding the sample is relatively costly. Feigenbaum (2015) has demonstrated that machine learning can be used to generate matches between two machine-readable sets of data, when they are available. However, this is not the case for the period we are studying. A complete count census is available for 1880, but this census did not collect data on property ownership, and is temporally removed from the period we are studying. And while a complete count census is available for 1850, names are available only for only a subset of states.

or remarried after 1860—but it seems superior to the alternative of simply ignoring this group of wealth holders. Like women, some of the younger 1870 household heads will be members of other households in 1860. Again, however, we can locate them in 1860, and, as we do for women, we assign to them the 1860 wealth of the head of the household in which they resided.<sup>19</sup>

These choices generated a sample of 3,944 top wealth household heads in 1870 (2,427 and in the North and 1,517 in the South) to be linked backward to the 1860 census. We then searched for each of the individuals in our sample in the 1860 census using the Ancestry.com database based on first and last name, and year of birth calculated from reported age in 1870. Ancestry.com's search engine codes names phonetically to allow for variant spellings and provides a list of individuals ranked by the quality of the match to the information entered. To qualify as a successful link, the individual located in the 1860 census had to have approximately the same first and last names (using the Ancestry.com algorithm) and an implied birth year (based on age at the time of the census) within 2 years plus or minus that recorded in 1870. In cases where the linkage was ambiguous because there were multiple individuals meeting these criteria, we used place of birth to distinguish between the potential matches. If, at this point, there were still multiple potential matches we did not record a link.

For each linked individual, we noted several aspects of link quality, including whether the place of birth was the same in both censuses, and whether we were able to identify other household members in both censuses. We did not, however, use

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<sup>19</sup> The number of such individuals is small, however, and our results are not sensitive to this choice.

information about other household members to determine whether a link was valid because of the potential sampling bias that this criterion would introduce. The results of our search are summarized in Table 3. We were successful in linking 1,763 individuals, a success rate of 44.7 percent. Based on indicators of link quality, our confidence in the linkage process is quite high. In all but 50 cases, place of birth was identical in both censuses, and in 85 percent of cases we were able to find other household members (a spouse and/or child) that matched across the two censuses. Our linkage rate appears to be on the high end of historical studies linking across nineteenth century census records. Ferrie (1996), for example, reports a success rate of just under 20 percent when linking forward from the 1850 to the 1860 census. The relatively high rate of success in linking in our sample may reflect our focus on high wealth individuals. It seems likely that such individuals would be more likely to be enumerated and to provide accurate information than those with fewer economic resources. Backward linkage also eliminates the negative effects of mortality on linkage.<sup>20</sup> This is especially important in light of evidence that approximately 8 percent of white males between ages 13 and 43 (in 1860) died in the war.<sup>21</sup>

Table 3 also reports a number of characteristics of the linked and unlinked individuals. The final three columns of the table report differences in mean values between the linked and unlinked samples and their significance levels. It is apparent

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<sup>20</sup> Schaefer (1985) used a backward linkage approach similar to ours and found a high linkage rate of approximately 50 percent between the 1860 and 1850 censuses.

<sup>21</sup> The estimated death rate is from Vinovskis (1989, p. 38). Previous studies (Wiener, 1976; Campbell, 1982) have recognized death as a factor in non-persistence and typically look for potential heirs, but this approach is obviously limited in cases where there were no surviving heirs.

that a number of these characteristics differed significantly between the linked and unlinked individuals. Linked individuals were, on average, 4 years older than those we failed to link. This may be because of the difficulty of locating records for younger individuals in 1860, especially if they were living in households headed by others. Linked individuals also reported higher values of both real and personal property, were less likely to be living outside their state of birth, and less likely to be foreign born. In addition, there was a strong regional differential in the likelihood of linkage, with northerners more likely to be linked than southerners. In contrast to the association of a number of personal characteristics with the likelihood of linkage, the overall occupational distributions across the linked and unlinked groups was quite similar although linked individuals were more likely to be farmers and somewhat less likely to be in clerical and managerial occupations.

#### **4. Assessing Wealth Mobility in the 1860s**

The decade of the 1860s was characterized by substantial economic disruptions in both northern and southern states. In the South, the war resulted in property destruction and ended with the emancipation of the slave population, transferring the largest component of southern wealth from slave owners to the formerly enslaved. In the North, the interruption of cotton shipments affected the textile industry, while the demands of raising and supplying the Union Army created opportunities for enterprising businessmen. How did these events affect wealth holders in both regions? Were southern wealth holders able to hold onto their economic power despite the significant reductions in their total wealth caused by emancipation? Or did

the disruptions of the 1860s create greater opportunities for upward (and downward) wealth mobility?

As we have noted, during the 1860s average wealth levels decreased substantially in the South, but increased in the North. Thus, it makes the most sense to consider the question of wealth stability in relative terms within each region. Table 4 summarizes information about transitions in wealth strata in each region over the decade of the 1860s. The rows of each table indicate location in the 1860 wealth distribution, while columns correspond to 1870 wealth levels. To locate individuals in the 1860 wealth distribution we have used percentile cut-offs for total property ownership in the individual's region of residence calculated from the IPUMS 1 percent sample. In the lower panel of the table, we report the value of each cell as a percentage of the column total.

Comparing the two regions, it is apparent that there was considerably more turnover among the ranks of top southern wealth holders than among northern wealth holders. While more than 40 percent of the those in the top 5 percent of northern wealth holders had been in the top 5 percent in 1860, less than 28 percent of top southern wealth holders in 1870 had enjoyed a similar status in 1860. Roughly the same proportion of the top 5 percent in each region (around 20 percent) was drawn from the next stratum of wealth holders in 1860 (90<sup>th</sup> to 95<sup>th</sup> percentile). On the other hand, our data suggest that the turmoil of the Civil War decade created much greater opportunities for those with moderate wealth in 1860 – between the 55<sup>th</sup> and 90<sup>th</sup> percentiles - to move up to the top of the wealth distribution. Nearly 40 percent of the wealthiest southerners in 1870 had been in this group in 1860, compared to less than



one quarter of the richest northerners. Note that these results are not sensitive to variations in the population under consideration. As illustrated in Figure 1, restricting the population to males, white males or white males between ages 35-65 in 1870 does not materially affect the results. It also seems unlikely that these results could be explained by regional differences in mortality rates among top wealth holders.<sup>22</sup>

Although not directly comparable to our study, Steckel (1990, p. 277) found that 46.2 percent of real estate wealth holders in the top 10 percent in 1850 persisted among the top 10 percent of 1860 real estate wealth holders. Moreover, he reported that persistence was higher among these top wealth holders in the South (53.2 percent) than in the North (39.7 percent) (p. 279). Because of the small size of Steckel's sample of high wealth individuals and differences in sample construction, this comparison can be treated at best as suggestive, but if these results hold up they would suggest that the effects of Civil War and emancipation did create substantially more turnover among the wealthiest southerners.

One motivation for examining wealth mobility at the regional level is the concern that previous studies that have focused on the county level may be distorted by the effects of geographic mobility. Table 5, which summarizes data on geographic mobility in our linked sample overall and by region of residence in 1870, makes clear

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<sup>22</sup> If, hypothetically, the Civil War resulted in a higher death rate among top southern wealth holders in 1860, this would open up more spaces at the top in 1870 that would have been filled by upward movement from those lower in the wealth distribution in 1860. Assuming that the true rates of wealth mobility were the same in both regions, and that the actual decadal death rate of 10.4% for 40-year white old males between 1860 and 1870 (Carter et al, Series Ab 770-771) applied in the North, the death rate of Southern top wealth holders would have had to have been over 40% to produce the observed difference in regional rates of wealth mobility.

that rates of geographic mobility were relatively high. Close to 25 percent of top wealth holders changed their county of residence over the decade of the 1860s. Moreover, rates of geographic mobility were higher in the South (34.7 percent of top wealth holders in 1870 had changed county of residence) than in the North (only 20.3 percent had moved).

In Table 6 we examine differences in wealth mobility of movers and non-movers separately. The top panel of the table reports regional wealth transition data comparable to Table 4, but calculated only for those who changed county of residence during the decade. The bottom panel repeats this information for those who remained in their 1860 county of residence. In both regions, movers were less likely to persist among the top wealth holders. Correspondingly, there was a much greater likelihood that geographic mobility was combined with upward wealth mobility. In both regions, close to 60 percent of “movers” in the top 5 percent of wealth holders in 1870 had moved up from below the 90<sup>th</sup> percentile in 1860, many of them from the bottom 55 percent of the 1860 wealth distribution. In contrast, wealth persistence was higher in both regions for the geographically immobile: almost half of “stayers” in the North retained their position at the top of the wealth distribution over the decade of the 1860s, while 29.1 percent of southern “stayers” persisted at the top. The regional difference in persistence at the top would still be present in a study limited to the non-movers, but the magnitude of the regional difference would be understated without including the movers.

One concern in interpreting the results in Table 4 is that they may be influenced by differences in sample composition across regions. As noted earlier, the probability

of linkage varied systematically with a number of personal characteristics, and it is possible that these differences affected differences in measured persistence. To test the effects of differences in linkage probabilities we have broken our linked sample into 24 demographic groups based on age, nativity, sex, and region of residence and used the probability of linkage within each of these demographic cells to reweight the linked observations so that they reflect the composition of the initial sample of top wealth holders.<sup>23</sup> The results of this calculation are reported in Table 7. There is a slight narrowing in regional differences in wealth persistence, but like Table 4, Table 7 suggests that wealth persistence was much lower in the South than in the North.<sup>24</sup>

## 5. Conclusion

For the United States, the 1860s was a decade of pronounced economic turmoil resulting from a major war and the politically imposed end of slavery. These shocks created huge economic losses in the South, but must also have offered opportunities to profit in the region for those adept enough to respond to changing conditions.

Similarly, economic shocks to the northern economy should have created

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<sup>23</sup> To construct these demographic cells we used three age ranges—25 to 40, 40 to 55, and 55 to 75 – along with the three binary demographic characteristics of nativity, region of residence and sex. We then calculated link probabilities and used the inverse of the probability of linkage for individuals in each cell to calculate weighted wealth transition tables.

<sup>24</sup> As an alternative to the calculations in Table 7 we have also estimated probit regressions of the probability of remaining in the top 5 percent of wealth holders. In the baseline regression, we control only for region of residence, and then add progressively more demographic characteristics. Consistent with the results reported in Table 7, we find that even after controlling for observable demographic characteristics there is a strong, negative and statistically significant effect of living in the South on persistence in the top wealth group.

opportunities to profit. In the aggregate, the events of the 1860s resulted in substantial declines in measured wealth in the South and large increases in wealth holding in the North. Views about how this turmoil affected those at the top of the southern economy have differed. Beginning in the late nineteenth-century, historians emphasized the turnover in southern economic elites, arguing that the Civil War wiped out the planter class and created a new elite. More recently, however, scholarly views have shifted, arguing that persistence rates at the top were no different in the 1860s than they had been in the more peaceful 1850s.

By using the Ancestry.com database we are able to improve on past efforts to link wealthy individuals across census years. Where previous studies have been confined to a few counties, we are able to study a random sample of wealthy individuals in all locations and link them across census years regardless of geographic mobility. Like previous scholars, we too find that there was considerable persistence among wealthy southerners: 47 percent of those in the top 5 percent of the southern wealth distribution in 1870 had been in the top 10 percent of the distribution in 1860. But the rate of persistence in the South was considerably lower than it was in the North over the decade of the 1860s. In the North, almost 62 percent of those in the top 5 percent of wealth holders in 1870 had begun the decade in the top 10 percent. Thus, while wealth provided insulation from the shocks of the 1860s, it was a less effective insulator in the South than in the North.

These results also shed some light on post-war economic development in the South. For instance, even as stark wealth inequality persisted into the reconstruction period and the hierarchical structure of the pre-war Southern economy, the greater

turnover we observe there indicates that the wealthiest landlords of the postwar era were often different individuals than the laborlords of the late antebellum period.

For those interested in the impact of the Civil War and emancipation on the economic development of the postbellum South, the results reported here require some revision of widely accepted views. While there was undoubtedly an entrenched southern elite that held onto economic status and power, it also appears that the 1860s introduced considerably greater levels of turnover in the South than in other parts of the United States. Collection of additional data will be required to determine whether these regional differences existed in the 1850s as well, or if the Civil War was the cause of this difference.

More generally, our findings that the Civil War led to higher rates of wealth mobility in the South have salience for discussions of the dynamics of wealth and income inequality. Prompted in part by the well-publicized work of Thomas Piketty (2014), economists have recently shown a renewed interest in this topic. Piketty has argued that capitalist economies are characterized by long-run tendencies toward increasing concentration of wealth and income, but that in the twentieth century the forces of concentration were significantly obscured by the massive disruptions caused by the two World Wars and the Great Depression. A number of other studies have explored the long-run persistence of social and economic status. Clark (2014) makes use of differences in the frequency of family names among elite groups to argue that social status is highly persistent over long time periods. Long and Ferrie (2013), using linked census data for the United States to trace patterns of occupational mobility, concluded that rates of mobility have declined since the nineteenth century. But less

attention has been devoted to the way in which economic and political shocks may affect the persistence of social status. The evidence presented here adds support for the view that major political shocks can disrupt the normal accumulation of assets and cause greater wealth mobility, at least among those on the losing end of these shocks.

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**Table 1: 1860 Characteristics of Northerners and Southerners, by percentile**

	North					South				
	Below 55th	55th	90th	95th	99th	Below 55th	55th	90th	95th	99th
Number of Observations	18,764	12,379	1,782	1,378	356	6,631	4,221	599	487	121
Real Property Wealth (Median, \$)	0	1,600	6,000	10,000	27,860	0	1,500	6,250	12,800	50,000
Personal Property Wealth (Median, \$)	100	500	1,205	2,612	10,812	100	1,200	11,305	25,000	70,000
Total Property Wealth (Median, \$)	100	2,200	7,327	13,000	40,000	150	3,100	17,800	38,000	122,250
Real as Pct of Total Property Wealth	28.4%	71.6%	76.3%	71.9%	67.6%	23.4%	52.1%	40.5%	38.0%	44.9%
Male	89.2%	93.9%	94.9%	94.2%	93.3%	84.7%	89.9%	90.8%	90.1%	94.2%
Rural Resident	65.1%	84.7%	85.6%	76.2%	53.4%	82.1%	92.2%	90.3%	88.9%	85.1%
Foreign Born	41.4%	20.2%	11.3%	10.7%	16.3%	14.3%	6.0%	4.8%	3.7%	5.8%
Living Outside Birthstate	68.5%	58.6%	48.8%	50.6%	55.9%	48.7%	49.8%	45.2%	50.5%	50.4%
White	98.2%	99.7%	99.9%	99.8%	100.0%	94.4%	99.4%	99.8%	99.6%	99.2%
Age (Median)	37	43	46	48	49	38	42	46	48	48
Professional & Technical	2.1%	3.1%	2.9%	7.0%	7.6%	1.7%	4.3%	9.0%	8.6%	3.3%
Farming	22.4%	61.8%	68.5%	55.9%	30.3%	39.1%	69.5%	68.6%	70.6%	76.9%
Clerical&Managerial	4.4%	7.7%	11.8%	19.7%	35.4%	3.0%	6.8%	11.4%	12.7%	14.0%
Sales	1.6%	0.8%	0.8%	0.4%	2.2%	1.0%	0.7%	0.7%	0.2%	0.0%
Craftsmen	21.7%	12.4%	6.2%	4.9%	6.2%	16.3%	7.7%	3.0%	1.8%	1.7%
Operatives & Kindred workers	11.0%	5.0%	2.6%	3.6%	3.7%	6.4%	2.2%	0.8%	0.4%	0.0%
Service workers	2.4%	0.5%	0.2%	0.6%	0.0%	2.9%	0.9%	1.0%	0.4%	0.0%
Laborers	23.4%	2.8%	1.1%	0.8%	0.8%	18.0%	1.2%	0.2%	0.2%	0.0%
Non-Occupational	11.0%	6.0%	6.0%	7.0%	13.8%	11.7%	6.8%	5.3%	4.9%	4.1%

Sources and Notes: The data are from the Integrated Public Use Microdata Series (IPUMS) 1-in-100 random sample of the Census (Ruggles 2015). The North includes states in the Northeast and North Central Census division, while the South includes states in the South Atlantic and South Central Census divisions.

**Table 2: 1870 Characteristics of Northerners and Southerners, by percentile**

	North					South				
	Below 55th	55th	90th	95th	99th	Below 55th	55th	90th	95th	99th
Number of Observations	25,261	15,992	2,429	1,810	492	11,099	7,718	1,049	833	217
Real Property Wealth (Median, \$)	0	2,400	8,000	15,000	40,000	0	380	3,000	7,300	25,000
Personal Property Wealth (Median, \$)	100	650	2,000	3,500	20,000	0	300	1,000	2,000	6,442
Total Property Wealth (Median, \$)	175	3,100	10,500	19,000	60,000	0	725	4,152	9,900	31,333
Real as Pct of Total Property Wealth	34.4%	73.1%	75.9%	73.3%	63.8%	8.7%	45.6%	69.4%	73.6%	72.4%
Male	88.1%	92.7%	94.9%	94.4%	92.3%	79.6%	89.1%	91.9%	90.6%	90.8%
Rural Resident	60.6%	79.6%	79.7%	67.0%	39.2%	85.2%	90.7%	85.3%	83.9%	67.7%
Foreign Born	40.8%	28.6%	19.3%	17.2%	17.3%	6.5%	7.5%	12.1%	10.3%	11.5%
Living Outside Birthstate	67.9%	62.5%	55.8%	51.1%	51.4%	39.3%	46.5%	43.9%	40.8%	47.9%
White	97.1%	99.6%	99.9%	99.9%	99.8%	40.9%	89.8%	99.3%	99.5%	99.5%
Age (Median)	39	45	48	49	50	40	42	46	48	50
Professional & Technical	2.1%	2.5%	3.7%	6.1%	7.3%	1.0%	3.0%	6.5%	8.2%	8.8%
Farming	20.5%	56.5%	62.2%	50.6%	17.9%	20.3%	62.6%	61.8%	56.1%	48.8%
Clerical&Managerial	5.1%	8.4%	14.0%	21.7%	43.7%	1.6%	4.3%	13.3%	18.0%	24.9%
Sales	1.8%	1.3%	1.2%	1.4%	2.6%	0.6%	0.6%	0.5%	0.6%	0.5%
Craftsmen	18.6%	12.4%	6.1%	5.0%	5.1%	7.3%	7.9%	5.5%	5.0%	4.1%
Operatives & Kindred workers	14.4%	5.8%	2.6%	3.1%	3.0%	4.0%	3.1%	2.0%	1.0%	1.4%
Service workers	2.2%	0.6%	0.4%	0.3%	0.4%	3.8%	0.9%	0.6%	0.5%	0.0%
Laborers	23.5%	4.1%	1.3%	0.9%	0.6%	45.9%	8.0%	0.9%	0.5%	0.0%
Non-Occupational	11.8%	8.3%	8.4%	10.8%	19.3%	15.5%	9.6%	9.1%	10.2%	11.5%

Sources and Notes: See Table 1.

**Table 3: Characteristics of Linked Sample**

	No Link (1)	Linked observations based on			Difference in means		
		Name and Age (2)	+ Birthplace (3)	+ HH Member (4)	Difference	t-stat	p value
Number of Observations	2,181	1,763	1,713	1,492			
Individual & Household Characteristics:							
Age	47.7	51.6	51.6	52.7	-4.0	-11.16	0.000
Nonwhite	0.7%	0.2%	0.2%	0.1%	0.5%	2.36	0.019
North	54.1%	70.7%	70.6%	70.6%	-16.6%	-10.93	0.000
Urban Resident	67.2%	69.1%	69.2%	69.8%	-1.9%	-1.29	0.196
Male	91.4%	94.2%	94.4%	95.0%	-2.8%	-3.41	0.001
Foreign Born	16.9%	10.8%	11.0%	11.3%	6.0%	5.53	0.000
Has a Spouse in 1870	81.4%	87.7%	88.0%	89.5%	-6.3%	-5.48	0.000
Has a Child/Children in 1870	93.0%	97.2%	97.3%	98.4%	-4.2%	-6.30	0.000
Living Outside State of Birth	50.1%	44.3%	44.5%	44.9%	5.8%	3.64	0.000
Wealth Levels:							
Value of Real Property	\$18,441	\$22,489	\$22,296	\$22,349	-\$4,048	-3.89	0.000
Value of Personal Property	\$8,822	\$11,486	\$11,160	\$10,492	-\$2,664	-2.70	0.007
Occupations:							
Professional & Technical	7.1%	7.7%	7.8%	7.3%	-0.6%	-0.71	0.477
Farming	45.6%	49.6%	49.6%	51.5%	-4.0%	-2.50	0.012
Clerical & Managerial	25.3%	22.5%	22.4%	21.4%	2.8%	2.09	0.037
Sales	1.1%	1.5%	1.5%	1.4%	-0.4%	-1.03	0.304
Craftsmen	4.5%	4.9%	4.8%	5.2%	-0.4%	-0.57	0.571
Operatives & Kindred workers	2.2%	2.5%	2.5%	2.6%	-0.3%	-0.61	0.545
Service workers	0.4%	0.2%	0.2%	0.1%	0.2%	1.04	0.297
Laborers	0.8%	0.5%	0.5%	0.5%	0.3%	1.22	0.222
Non-Occupational	13.0%	10.7%	10.7%	9.9%	2.3%	2.23	0.026

Sources and Notes: Household heads with total property wealth placing them in the top 5 percent of the wealth distribution and between ages 25 and 75 were identified in the 1870 IPUMS. This generates a sample of 3,944 individuals (2,427 in the North and 1,517 in the South) who were then linked to the 1860 census using Ancestry.com.

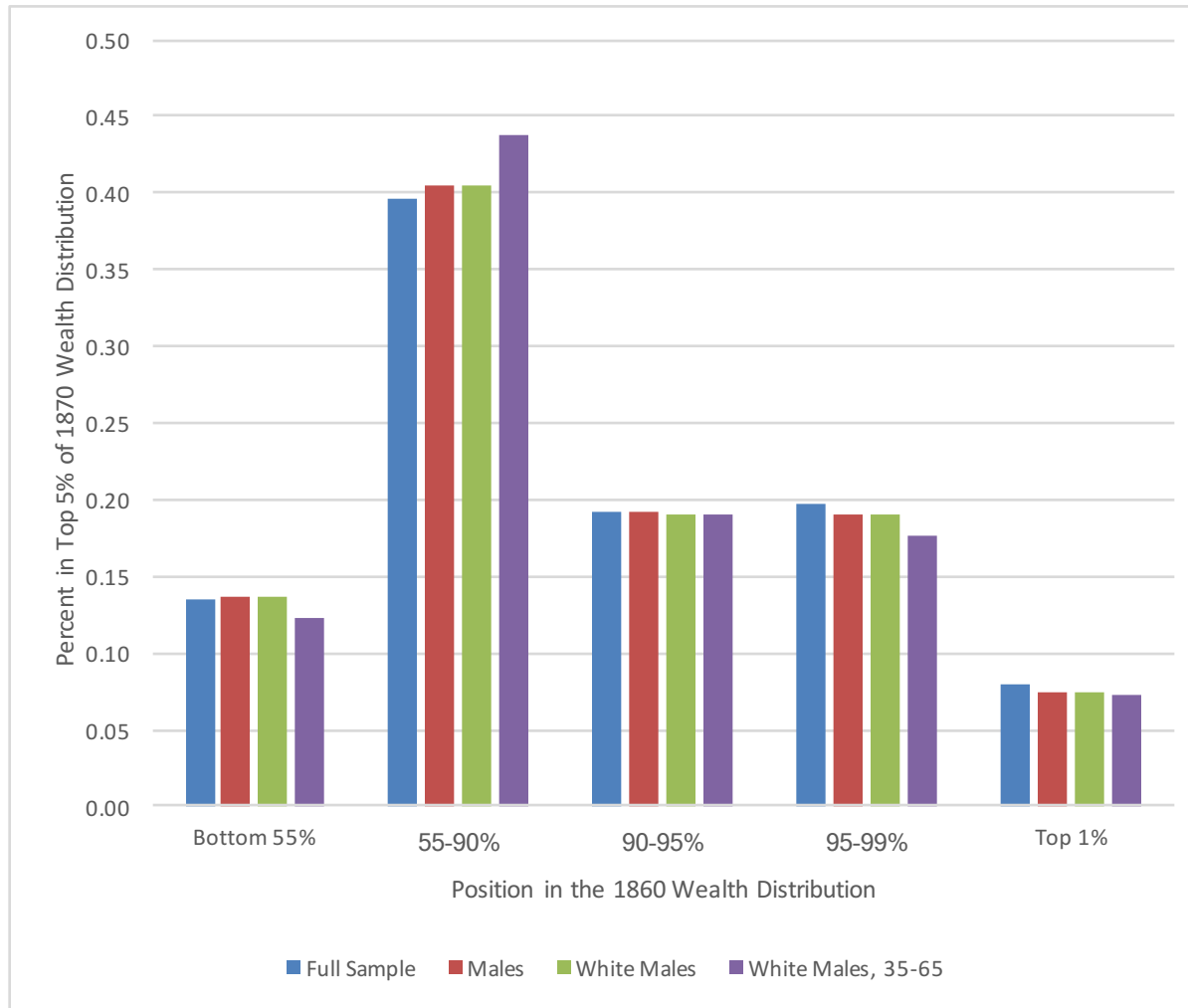
**Table 4: Transition Matrix Between 1860 and 1870 Wealth Centile Groups**

Position in the 1860 Wealth Distribution	South, 1870 Wealth Distribution			North, 1870 Wealth Distribution				
		Top 95-99%	Top 1 %	Row total		Top 95-99%	Top 1 %	Row Total
	Bottom 55%	62	8	70	Bottom 55%	146	36	182
	55-90%	187	17	204	55-90%	252	43	295
	90-95%	78	21	99	90-95%	229	18	247
	95-99%	67	35	102	95-99%	295	78	373
	Top 1%	16	25	41	Top 1%	48	102	150
	Col Total	410	106	516	Col Total	970	277	1247
	Column Percentages							
		Top 95-99%	Top 1 %	Row total		Top 95-99%	Top 1 %	Row total
Bottom 55%	15.1%	7.5%	13.6%	Bottom 55%	15.1%	13.0%	14.6%	
55-90%	45.6%	16.0%	39.5%	55-90%	26.0%	15.5%	23.7%	
90-95%	19.0%	19.8%	19.2%	90-95%	23.6%	6.5%	19.8%	
95-99%	16.3%	33.0%	19.8%	95-99%	30.4%	28.2%	29.9%	
Top 1%	3.9%	23.6%	7.9%	Top 1%	4.9%	36.8%	12.0%	

Sources and Notes: The rows of each table indicate location in the 1860 wealth distribution, while columns correspond to 1870 wealth levels. To locate individuals in the 1860 wealth distribution we have used percentile cut-offs for total property ownership in the individual's region of residence calculated from the IPUMS 1 percent sample. In the lower panel of the table, we report the value of each cell as a percentage of the column total.

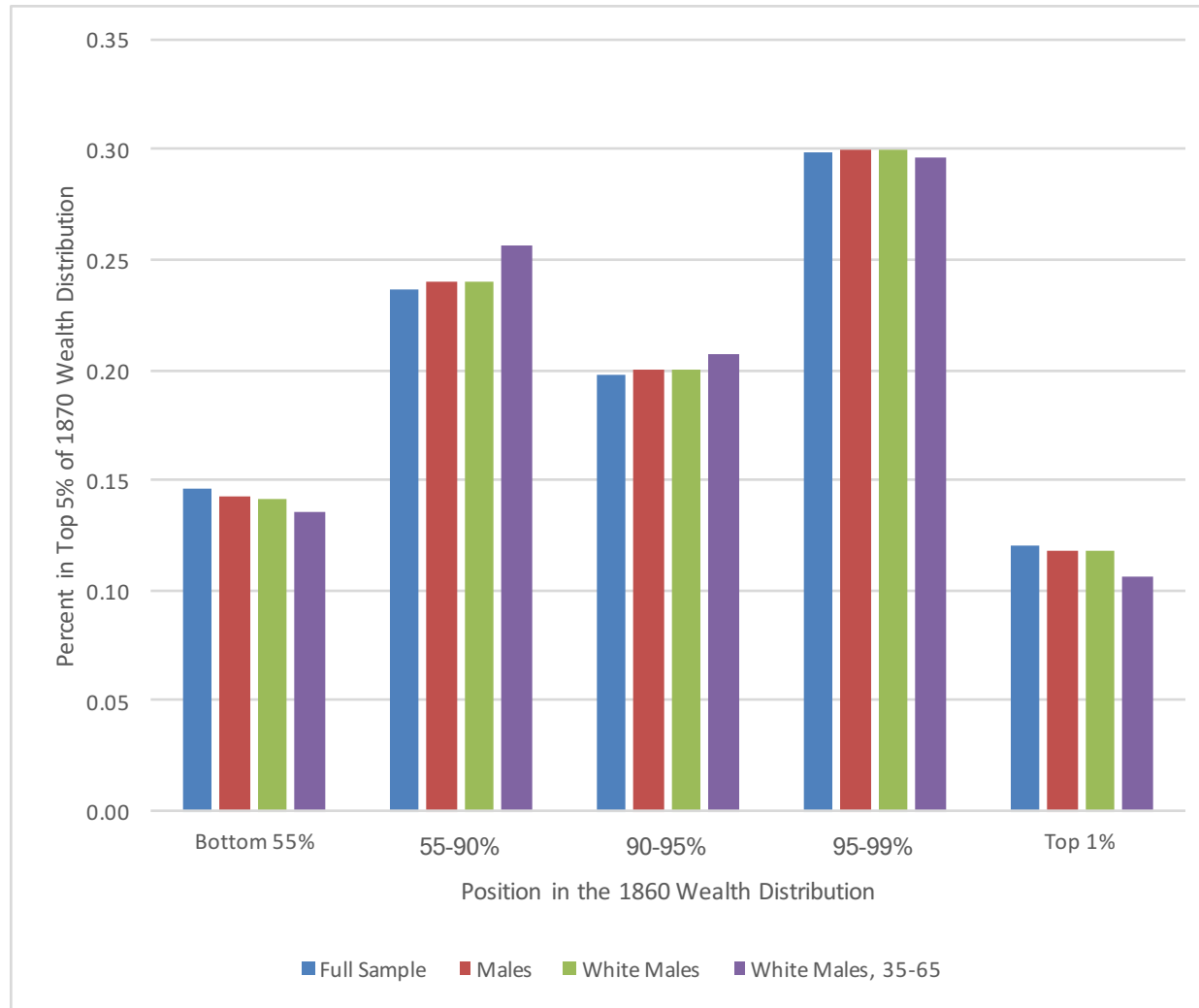
**Figure 1: Robustness Checks for Transition Matrix**

**Panel A: South**



Notes: Shows the fractions of Southern households in various 1860 wealth strata (along the horizontal axis) that moved into the top five percent of wealth holders in 1870 (measured on the vertical axis) using various restrictions on the population.

### Panel B: North



Notes: Shows the fractions of Northern households in various 1860 wealth strata (along the horizontal axis) that moved into the top five percent of wealth holders in 1870 (measured on the vertical axis) using various restrictions on the population.

**Table 5: Geographic Mobility, 1860-1870**

Mobility Status 1860-1870	All Observations		North		South	
	Frequency	%	Frequency	%	Frequency	%
Same county	1,331	75.5%	994	79.7%	337	65.3%
Different County, Same State	235	13.3%	131	10.5%	104	20.2%
Different State	197	11.2%	122	9.8%	75	14.5%
Column Total	1,763		1,247		516	

Notes: See Table 3 Sources and Notes for the underlying dataset from which mobility status was calculated.



**Table 6: Transition Matrix Between 1860 and 1870, by Mobility Status**

Position in 1860 Wealth distribution	<b>South, 1870 Wealth Distribution, Movers</b>						<b>North, 1870 Wealth Distribution Movers</b>						
	Frequencies			Column Percentages			Frequencies			Column Percentages			
		95-99%	100%	Total	95-99%	100%	Total	95-99%	100%	Total	95-99%	100%	Total
	Bottom 55%	40	4	44	29.4%	9.3%	24.6%	65	21	86	33.9%	34.4%	34.0%
	55-90%	61	5	66	44.9%	11.6%	36.9%	66	13	79	34.4%	21.3%	31.2%
	90-95%	15	9	24	11.0%	20.9%	13.4%	28	2	30	14.6%	3.3%	11.9%
	95-99%	16	15	31	11.8%	34.9%	17.3%	25	10	35	13.0%	16.4%	13.8%
	100	4	10	14	2.9%	23.3%	7.8%	8	15	23	4.2%	24.6%	9.1%
	Total	136	43	179				192	61	253			
	<b>South, 1870 Wealth Distribution, Stayers</b>						<b>North, 1870 Wealth Distribution, Stayers</b>						
Frequencies			Column Percentages			Frequencies			Column Percentages				
	95-99%	100%	Total	95-99%	100%	Total	95-99%	100%	Total	95-99%	100%	Total	
Bottom 55%	22	4	26	8.0%	6.3%	7.7%	81	15	96	10.4%	6.9%	9.7%	
55-90%	126	12	138	46.0%	19.0%	40.9%	186	30	216	23.9%	13.9%	21.7%	
90-95%	63	12	75	23.0%	19.0%	22.3%	201	16	217	25.8%	7.4%	21.8%	
95-99%	51	20	71	18.6%	31.7%	21.1%	270	68	338	34.7%	31.5%	34.0%	
100	12	15	27	4.4%	23.8%	8.0%	40	87	127	5.1%	40.3%	12.8%	
Total	274	63	337				778	216	994				

Notes: The top panel reports regional wealth transition data comparable to Table 4, but calculated only for those who changed county of residence during the decade. The bottom panel repeats this information for those who remained in their 1860 county of residence.

**Table 7: Wealth Transitions with Weighted Observations**

		South, 1870 Wealth Distribution						North, 1870 Wealth Distribution						
		Frequencies			Column Percentages			Frequencies			Column Percentages			
		Top 95-99%	Top 1 %	Row total	Top 95-99%	Top 1 %	Row total	Top 95-99%	Top 1 %	Row total	Top 95-99%	Top 1 %	Row total	
Position in the 1860 Wealth Distribution	Bottom 55%	209	25	234	17.3%	8.2%	15.4%	Bottom 55%	341	82	422	18.0%	15.5%	17.4%
	55-90%	554	58	613	45.8%	19.2%	40.4%	55-90%	511	92	603	27.0%	17.5%	24.9%
	90-95%	217	59	276	17.9%	19.5%	18.2%	90-95%	421	35	457	22.2%	6.8%	18.9%
	95-99%	186	98	285	15.4%	32.4%	18.8%	95-99%	530	139	669	27.9%	26.5%	27.6%
	Top 1%	45	63	108	3.7%	20.8%	7.1%	Top 1%	92	177	269	4.9%	33.7%	11.1%
	Col Total	1,211	304	1,515				Col Total	1,896	525	2,421			

Notes: These calculations are based on three age ranges—25 to 40, 40 to 55, and 55 to 75 – along with the three binary demographic characteristics of nativity, region of residence and sex. The weights used to calculate the weighted wealth transition tables are the inverse of the linkage probability for individuals in each cell.