ESSAYS ON RACE AND THE PERSISTENCE OF ECONOMIC INEQUALITY

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Economics)
in The University of Michigan
2008

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To My Dad

Acknowledgements

I would like to thank my dissertation committee, Warren Whatley, Ben Chabot, Martha Bailey, Maggie Levenstein, and Tiya Miles. Without your support and guidance, I would never have been able to turn a vague idea into a research agenda, blurry microfilms into a dataset, and a handful of regressions into a paper. I would also like to acknowledge the support of the late Gary Saxonhouse.

I am grateful for the generous financial support I received from The Sasakawa Young Leaders Fellowship Fund at the University of Michigan, which allowed me the freedom to undertake a rather lengthy data collection project. Additionally, I have greatly benefitted from the support of the Economic History Association and the National Science Foundation.

Friends both economic (Sara LaLumia, Erika Morris, and Nick Montgomery) and non-economic (Liz Lewis, Genevieve Mathieson, Amit Mehta, and Mandy Noda) provided the encouragement, support, and occasional reality check necessary to finish a dissertation, and I thank them whole heartedly.

Finally, I would like to thank my family (particularly my mom, Bug, and Bean), WRG, and my husband, Mark, for putting up with an absent-minded, slightly stressed graduate student with nary a complaint.

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Chapter 1

Introduction

> But the vision of "forty acres and a mule"--the righteous and reasonable ambition to become a landholder, which the nation had all but categorically promised the freedmen--was destined in most cases to bitter disappointment.
>
> -W.E.B. DuBois[1]

Although over 140 years have passed since slaves were emancipated in the United States, African-Americans continue to lag behind the general population in terms of earnings and wealth. Both Reconstruction era policy makers and modern scholars have argued that the large gap between black and white income and wealth could have been reduced or eliminated if plans to allocate each freed slave family "forty acres and a mule" had been successfully implemented following the Civil War. Other scholars, however, have questioned this conventional wisdom that land alone would have altered the economic conditions of former slaves. There are no previous quantitative investigations of these competing claims, primarily because researchers have thought there was little variation in policy toward freed slaves. Without a group of former slaves who were

[1] "The Freedmen's Bureau." W. E. Burghardt Du Bois Atlantic Monthly 87 (1901): 354-365.

treated with access to free land, the construction of a counterfactual to analyze the economic impact of a postbellum land distribution policy is difficult.

In this dissertation, I contribute to the debate by identifying a group of former slaves who did receive land after emancipation. The Cherokee Nation, which joined the Confederacy in 1861, was forced by the United States to extend full citizenship to its former slaves. In contrast to U.S. freedmen, the Cherokee's former slaves could then claim any unused land within the Cherokee Nation as their own. This variation in the treatment of former slaves provides a compelling way to assess both the shorter-and longer-term effects of land distribution as a policy to ameliorate economic inequality.

To explore these effects, I compiled, encoded, and developed documentation for three previously unavailable datasets: a 60% sample of the 1880 Cherokee Census, a 100% sample of the 1860 Cherokee Nation slave schedules, and a sample of individuals linked from the 1880 Cherokee Census to the 1900 United States Census. I use these samples to assess how the availability of free land affected the Cherokee freedmen in 1880 and in 1900.[2]

My study of the effect of free land on the Cherokee freedmen takes place in four stages. In this *Introduction*, I will provide a brief history of Cherokee Nation during four time periods—before the Nation was forcibly removed to Indian Territory, during Removal and its immediate aftermath, during the Civil War, and finally from

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[2] "Cherokee Freedmen" is the commonly used term to describe the Cherokee's freed slaves and the descendents of these slaves. There are some problems with this terminology. First, it can be somewhat ambiguous as it refers to both true freed men (former slaves) and people who were never enslaved. Second, it can be used to mean freed*men*, meaning only male freedmen, or it can refer to all freedmen, meaning male and female freedmen. The term freed*people* might be less ambiguous and not sound as though it is excluding half the population. However, as "freedmen" is the standard within the literature, I will utilize the term despite its potential problems.

Reconstruction until 1880. This section will provide a context for the exploration of the Cherokee freedmen's conditions and economic status that occurs in the following chapters.

In *Chapter Two*, I assess the impact of free land on former slaves in 1880. I begin by discussing the academic debate surrounding the issue of "forty acres and a mule" and African-American economic progress. I then utilize a variety of statistical and historical sources to compare the experiences of southern and Cherokee slaves in the decades immediately before the Civil War and conclude that slaves in both locations lived under similar conditions, indicating that southern freedmen can serve as a proper comparison group for the Cherokee's former slaves. Using my sample drawn from the 1880 Cherokee Nation Census and previously collected data from the southern United States in 1880, I find that the racial gap in land ownership rates was smaller in the Cherokee Nation than in the southern United States. Furthermore, black farmers in the Cherokee Nation, on average, owned farms that were closer in size to those of non-black farmers, were more likely to undertake long-term capital investments in their land, and had higher absolute levels of wealth and income than southern black farmers.[3] These advantages translated into significantly lower levels of racial inequality in the Cherokee Nation than in the South. The estimated difference in the racial wealth gap was substantial and ranged from 46% to 75%. For income, the estimated difference in the racial gap was between 20 to 56%. These results suggest that if Reconstruction era plans to provide the newly freed slaves with "forty acres and a mule" had been implemented, the level of

[3] Wealth was measured by value of livestock owned, and income was determined as the total value of crops produced.

American racial inequality could have been greatly diminished—at least in the short run.

In *Chapter Three*, I extend the analysis to 1900 by using the sample of individuals linked from the 1880 Cherokee Census to the 1900 United States Census. First, I construct measures of intra- and inter- generational occupational mobility. I find high degrees of occupational persistence and upward mobility for Cherokee freedmen. 90 percent of farmers in 1880 remained farmers in 1900, while 80 percent of people who could transition to higher occupational class did. Cherokee freedmen who were children in 1880 also displayed a high degree of intergenerational occupation persistence and upward mobility. 65.9 percent of all sons have the same occupation as their father, and a majority of the observed occupational mobility is upward. These high degrees of occupational persistence and upward mobility suggest that at least some of the beneficial effects of free land persisted in the first generation of Cherokee freedmen and was passed on to their children. I then compare the Cherokee freedmen to southern freedmen. I find evidence that the Cherokee freedmen children had higher levels of human capital accumulation than black children both in the South and the Indian and Oklahoma Territories. Additionally, Cherokee freedmen adults tended to have higher literacy rates, were more likely to own their own homes, and were more likely to be farmers. Finally, by incorporating whites and Cherokees from the IPUMS sample into the analysis, I measure the levels of racial inequality in the Cherokee Nation and the South. As in my earlier paper, I find evidence that the level of racial inequality is smaller in the Cherokee Nation than in the South. These results further suggest that the Cherokee freedmen benefitted from their access to free land.

In *Chapter 3,* I provide a description of two of the datasets I collected—the 1880 Cherokee Census and the sample of individuals linked to the 1900 United States Census.[4] Detailed data collection procedures, an analysis of sample selection issues, the contents of the data set, summary statistics, and other relevant information are included.

2. A Brief History of the Cherokee Nation

a. Pre-Removal

While exploring what would later become the southeastern United States, Hernando Desoto first encountered a group of American Indians referred to as the "Chalaque" in 1540.[5] The Cherokees lived in at least 200 fairly large villages that shared a common culture and religion. The villages were tied together politically and would unite for ceremonies and war. Additionally, the Cherokee villages shared a similar form of economic organization. Each village relied heavily upon settled agriculture for subsistence (particularly beans, corn, and squash). Additional calories and raw materials were gained through hunting and gathering.

By the first decade of the nineteenth century, the Cherokees had retreated from their traditional location throughout the southeast and were concentrated in the northwestern corner Georgia and immediate surrounding areas. Surrounded by the United States and its increasing population, the Cherokees began to respond to the changing economic and political forces. In 1808, the Nation passed its first written laws.

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[4] Information about the third dataset I collected, the 1860 Cherokee Nation Slave Schedules, appears in Chapter 1.

[5] "Chalaque," from the Creek word "Chelokee" means, "people of a different speech." The Cherokee language is of the Iroquoian language family, but is quite different from the other Iroquoian languages (Basel, 24).

Just twenty-one years later, the Cherokee Nation was a republic with a written constitution based upon the United States'. The Cherokees lived in settled homes; grew crops such as corn and wheat; read local newspapers printed in both English and the new Cherokee syllabary[6]; had saw mills, grist mills, blacksmith shops, and ferries; raised livestock such as cattle and horses; attended public schools; [7] and began to intermarry with whites. Furthermore, a class of Cherokee slaveholders began to emerge. In the early days of Cherokee slavery, the treatment of slaves was predominately determined by the slaves' owners, and few laws existed. The first slave law was passed in 1820 and forbade the purchase of goods from slaves. Anyone who purchased stolen property from a slave had to compensate the property's true owner for the full value of the stolen goods. Slaves were also prohibited from purchasing liquor. Within the next decade, slaves were prohibited from owning property and marrying Cherokees or whites. Anyone wishing to manumit a slave for the purpose of marriage would be subject to prosecution.[8] If a slave died while undergoing "moderate correction", the General Council decided that the corrector would be within his legal rights (Miles, 143). Notably, no laws yet existed that prohibited slaves from attending school, and some slaves did attend school. Slaves were also more likely to know English than their Cherokees owners, and English-speaking slaves may have enjoyed a higher status as they taught their Cherokee-speaking owners the language or assisted their owners in trading with nearby white southerners (Miles, 12). The paucity of early slave laws and the slaves' English abilities have suggested to some historians that Cherokee slaves at this time may have enjoyed better treatment than

[6] The Cherokee syllabary, developed by Sequoya in 1821, allowed the Cherokee language to be written in an easily learnable way.
[7] The level of public school availability in the Cherokee Nation would not be met by the surrounding southern states until after the American Civil War.
[8] Perdue (1988), 50-58 discusses these early slave laws.

their Southerner-owned brethren.[9] Others disagree and have concluded that, "slavery in the Cherokee Nation was a microcosm of the 'peculiar institution' that existed in the United States."[10]

All scholars agree, however, that in 1835 both the Cherokee Nation and its slaves began to experience dramatic transformations. The Nation at this time was prospering. A census taken by the United States War Department concluded that there were 16, 542 Cherokees; 1,592 slaves; and 201 intermarried whites living in the Cherokee Nation (Naylor, 17). There were 207 slaveholders. Although some owned large numbers of slaves, a great majority (83 percent) owned ten or fewer (Perdue, 58). Besides this population data, the census also collected information on agricultural production. Wishart (1995) collected this data and was one of the first to analyze it in depth. He concluded that, "a large number of Cherokee households… were either farm producers at levels well in excess of subsistence or were procuring a living some other way with other types of human or physical capital (Wishart, 136)." Furthermore, households not reaching surplus production likely contained the aged or orphaned.

b. Removal and Rebuilding of the Nation

Despite their successful adoption of many typically southern ways of life, the Cherokees were soon forced to leave the area. The discovery of gold on their lands, population pressures in Georgia, and the (likely disingenuous) concern of President Andrew Jackson for American Indians' well-being led to the passage of the Indian Removal Act and the Indian Intercourse Act. Together, these Acts called for all

[9] See Miles, 71-76 for a discussion of this literature
[10] Halliburton, page x of the Introduction.

American Indians living East of the Mississippi, including the Cherokees, to be removed to the newly formed Indian Territory. The Cherokees at first resisted, but some small groups began removal in 1835. The United States eventually obtained a treaty agreeing to cede the Nation's lands in exchange for new land in Indian Territory. Although the treaty was signed only by a small group of Cherokees without the consent of the Cherokee people or government, the United States Supreme Court decided the treaty was enforceable and ordered the Cherokees to leave their homes by 1838. Only 2,000 did so, and 16,000 remained as the Court's deadline approached. Rounded up by U.S. troops and forcibly removed to Indian Territory, 4,000 Cherokees died on this trip—referred to now as the Trail of Tears.[11]

Although slaves accompanied their owners on these trips to the new Cherokee Nation, their survival rates are unknown. Two facts indicate that survival rate of slaves on the journey west may have been higher than the overall rate of Cherokees on the Trail of Tears. First, the slave-owning Cherokees tended to be wealthier than the other Cherokees and were likely better provisioned for the journey west. Also, many of the wealthier Cherokees left before the forced removal. With better provisions and voluntary timing of their journey, the wealthy, slave-owning Cherokees had a relatively more pleasant journey and suffered fewer deaths. Their slaves, whose tasks on the journey included trail clearing, hunting, nursing, sewing, cooking, and keeping watch, may have benefited from their owners' advantages.[12]

Once in Indian Territory, several daunting tasks faced the Cherokees. They had to physically rebuild their nation, re-establish a government, and build unity between the

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[11] http://www.pbs.org/wgbh/aia/part4/4p2959.html.
[12] See Perdue (1988), Chapter 4 for a detailed description of slavery and Cherokee removal.

pro-removal and anti-removal factions. In 1839, a new constitution, similar to their old one, was adopted. The new government had three branches: legislative, executive, and judicial. The nation was divided into 8 districts (later a ninth was added) that each elected representatives to the National Committee (resembling the U.S. Senate) and the Nation Council (like the House of Representatives). Males aged 18 or more years were allowed to vote. A Principle and Assistant Chief were also elected. The National Council appointed an executive council (or cabinet), a national treasurer, and the members of the Judiciary.

The new constitution had a significant innovation. Found in Article 1, Section 2, it read,

> The lands of the Cherokee Nation shall remain common property; but the improvements made thereon, and in the possession of the citizens respectively who made, or may rightfully be in possession of them: Provided, that the citizens of the Nation possessing exclusive and indefeasible right to their improvements, as expressed in this article, shall possess no right or power to dispose of their improvements, in any manner whatever, to the United States, individual States, or to individual citizens thereof…[13]

In short, all land in the nation was deemed to be in the public domain. A form of land ownership was conferred on whomever improved a piece of land, but that individual was not entitled to sell the land to the United States, its states, or its citizens. The use of the word "citizen" when referring to members of the Cherokee Nation eligible to claim land was significant. Because "citizen" was not modified with "of Cherokee blood," all citizens, regardless of parentage or race, were entitled to land in the public domain.

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[13] http://www.thepeoplespaths.net/history/CherConst1839.htm

When writing the original document, the framers intended for intermarried whites to have land access. This wording was to take on additional significance when the Cherokee's former slaves became citizens.

While critics viewed this provision as some sort of communism, their opinions exhibited a misunderstanding of the Cherokee land system.[14] The Cherokees traditionally held private property that could be sold at will and were not opposed to private property. Constitutionally protected common property was introduced in response to the repeated taking of land by the United States and white settlers. By codifying their land's inalienability, they hoped (in vain, as it turned out) to keep their land owned by Cherokees forever (Perdue, 55). Furthermore, the method of obtaining property was in keeping with the very Enlightenment principles that had been glorified in the United States. The system was quite Lockian—to own land, one simply had to mix one's labor with it. This shared, in its essence, similarities with the property rights enjoyed by homesteaders in the Great Plains and prospectors in the western gold fields—you use the land, you get the land.[15] Once land was claimed, the rights associated with it were very similar to those associated with ownership in fee simple. Land could be sold, left in a will, used as collateral for a loan, given away, or used as its owner saw fit. It simply could not be sold to certain entities, a restriction that would seem familiar to owners of houses with restrictive covenants that forbade selling to people of certain races.

While the new government was being formed, Cherokees went about the business of reconstructing their society. Labor was needed to clear and claim new farms. Slaves

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[14] The following discussion draws heavily from Bloom's (2002) analysis of property rights in the Cherokee Nation.
[15] See Bloom (500) for more details.

were a great help in such endeavors. The first large slave sale in the new nation was held in 1838. Chief John Ross' brother, Lewis, transported 500 slaves from Georgia for sale. Others traveled to Tennessee, Arkansas, and New Orleans to purchase slaves. Pioneers travelling through the nation to points west would occasionally sell their slaves to the Cherokees. When legal means of slave purchase were not available, illegal slave traders would offer up stolen slaves for sale.[16]

As the Cherokees acquired more slaves, the organization of their slave labor continued to be similar to that of southerners. Some of the elite Cherokees had large plantations of 600 to 1000 acres worked by large numbers of slaves (Miles, 191). They grew crops, such as wheat, cotton, and corn, for the market. Any surplus not sold in the Cherokee Nation or surrounding areas was shipped down river to New Orleans. On the large plantations, there was division of slave labor and a field hand-house servant distinction. Overseers directed the field hands. As is the southern United States, the median slaveholding in the Cherokee Nation was 5.[17]

During the winter, slaves were put to work in alternate tasks. The nation's many profitable salines were one of the leading industries and a popular use of winter-time slave labor.[18] One slave owner, for example, devoted almost all of his 150 slaves to his salines during the winter months (Perdue, 105). If an owner was unable to utilize slave labor, he could rent out his slaves to someone who could by taking part in the thriving slave rental market. Both Cherokee and white southern slaveholders shared this desire to

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[16] See Perdue, chapter 5, for a discussion of slave sources in the Cherokee Nation.
[17] Wahl (2001), Table 4, for statistics on southern slave holding.
[18] The water from salines, or salt springs, was boiled to extract salt. The salines were one of the nation's most profitable industries until a combination of labor shortages and decreased transportation costs made salt produced elsewhere less expensive.

maximize gains from slave labor by offering slaves for rent or utilizing them in non-agricultural purposes during the winter months.

Slave laws became more severe during this time period and began to more closely resemble those in the southern states. Consistent with the legal tradition of slave status following that of the slave's mother, the new constitution allowed the children of Cherokee women and black men to be citizens, but those born to a black mother and Cherokee father were not. However, anyone of "negro or mulatto parentage" could not hold public office. The legislature passed laws further restricting the rights of slaves and freed blacks. A citizen could not marry a slave or a non-citizen "person of color." Fifty lashes was the prescribed punishment, and 100 lashes were to be given to a black male convicted of the crime. Free blacks who did not have any Cherokee blood could not hold any property or improvements. At the time of this law's passage in 1840, the few blacks who did own property had it seized and sold. Blacks could not sell liquor. Any slave who left his owner's property without a pass could be punished by special "patrol companies" that roamed the countryside looking for slaves. Only free blacks with Cherokee privileges (i.e., Cherokee mothers) could carry weapons. Thirty-nine lashes were given to those in violation of this law. Slaves and free blacks without Cherokee privileges were not allowed to be taught to read or write. In 1842, all free blacks who had not been freed by a Cherokee citizen were forced to leave the nation. If a black had been freed, his former owner was personally responsible for the slave's conduct. Free blacks were also prohibited from encouraging or helping slaves escape from their owners. One hundred lashes were given to any guilty of the crime. In 1848, the prohibition against teaching blacks to read or write was expanded to include all blacks—even those

of Cherokee blood. To help ensure that blacks were not taught to read and that abolitionist sentiment did not spread, no teachers with abolitionist sentiments could be hired within the nation.[19] These laws bear a striking similarity to those enacted by the Southern states.

During this time period, all of Cherokee society began to more closely resemble that of the Nation's neighboring states. Native dress, religion, customs, ceremonies, and medicine fell into almost total disuse (Littefield (1978), 7). Pupils in schools were taught in English from textbooks that were used in New England schools. (Holland, 362). Most Cherokees lived in double log cabins, while the more well off lived in clapboard homes. The richest had fine homes that would compare favorably to southern plantation houses. There were incorporated towns, such as the capital city Tahlequah, with public services like police and fire control. The towns boasted, among many attractions, stores, dentists, saddlers, tailors, blacksmiths, hotels, and taverns. The stores would sell on credit, with the credit prices of goods being higher than the cash price. There was a weekly newspaper, a Masonic lodge, a debating society, a temperance group, and even a horseracing track. There was a cotton gin and 22 ferry landings that served to take cotton to market. Cherokee agriculture was thriving. The nation closely resembled its neighboring states of Missouri, Arkansas, and Kansas.[20] As George Butler, the Cherokee's representative from the Superintendency of Indian Affairs, reported in 1859, "From their general mode of living, the Cherokee will favorably compare to their neighbors in any of the states."[21]

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[19] See Littlefield (1976), 19-20, for a complete listing of slave laws enacted during this time period.
[20] Holland, 360-395, provides a detailed description of life in the Cherokee Nation during this time period.
[21] Butler, Report of the Commissioner of Indian Affairs (1859), 19.

By 1860, the Cherokee population had begun to recover from the shock of removal. There were 13,821 Cherokees by blood, 716 adopted whites, and 2,511 slaves (Littefield (1978), 7). With roughly fifteen percent of its population enslaved, the Cherokee Nation was similar to states like Kentucky (19.51 percent enslaved), Maryland (12.69 percent), and its neighbor of Missouri (9.72 percent) but lagged behind the overall south (32.27 percent).[22] There were enough slaves, however, to make the Cherokee Nation and the southern states natural allies in the debate over slavery.

c. The Civil War

When the Civil War broke out, Cherokee Chief John Ross initially determined that his nation should maintain neutrality. Highly educated and cognizant of the political climate, Ross proclaimed that, "We do not wish our homes to become a battleground between the states and our soil to be rendered desolate and miserable by the horrors of civil war."[23] However, neutrality proved to be untenable, and Ross' fears proved prophetic. The Cherokee Nation was strategically located. Bordered by Union Kansas on the north and Confederate Missouri and Arkansas on the east, it was literally between the North and the South. Western Arkansas was reluctant to join the C.S.A. without Indian Territory. With Texas to the west, it was also a direct land route between the contiguous Confederacy and its far-flung member state. The Confederacy began to court the Cherokees. In addition to their natural slavery link, they promised the nation sovereignty, delegates in the C.S.A. legislature, protection of Cherokee trust funds, and future annuity payments. The Union, meanwhile, made several missteps in gaining

[22] Historical Statistics of the United States (1970).
[23] Quoted in Confer, 61

Cherokee support. The Union's representatives to Indian Territory at this time were southern sympathizers, and the Department of the Interior made no move to send new representatives. Instead, the Union stopped paying tribal annuities and pulled all troops out of forts in Indian Territory. Texas troops soon took their place, and 300 Cherokees joined the CSA under the command of prominent Cherokee slaveholder Stand Waite. Early Confederate victories convinced the Cherokees to join in August of 1861. However, like other border states, popular support was divided into pro-Union and pro-Confederacy camps.

The pro-Union faction gained some official power in 1862. Union troops invaded the capital of Tahlequah and gave John Ross the opportunity to change allegiances. He initially refused. However, after being captured by Union troops, pardoned for his crimes, and escorted to Philadelphia, he was persuaded to switch allegiances. Ross loyalists, led by Thomas Pegg, ran a pro-Union Cherokee government. Meanwhile, Stand Waite led an alternate, pro-Confederate government (Sturm, 5). Each continued to pass its own laws, and, on 19 February 1863, the Union loyalists passed a Cherokee Emancipation Proclamation. All slaves were freed, but, quite strikingly, they were not made citizens of the Nation. They were ordered to immediately leave—unless the former slaves agreed to keeping working for a Cherokee and received an official labor permit from the government (Johnson, 46). The slaveholders tended to be Confederate loyalists who ignored the Union loyalist law. There is no indication that they obeyed the law or that the law was ever enforced.

The Cherokees faced wartime conditions and destruction on par with the most ravaged areas in the southern United States. Seven officially recognized battles were

fought in the nation, and another four were waged close to its borders. The fighting in Bloody Kansas and the guerilla warfare of Missouri also spilled into the nation, making conditions dangerous in most areas throughout the entirety of the war. Communication was unreliable, food and clothing were scarce, and, with the most men off at war, women, children, and the elderly were left to struggle on their own. Their situation was worsened by a lack of beasts of burden. Almost all of the nation's 20,000 horses were commandeered for military use by one side or the other. Bushwhackers and soldiers took what was left of the livestock.[24] 300,000 cattle, worth an estimated $2 to 4 million in 1860 dollars, were stolen (Littefield (1978), 15). Houses and barns were burnt by the opposition of the time, and fields and fences fell into disrepair. A prominent Cherokee, John Adair, recalled the devastation a decade later:

> All that was left us was our country, but the numerous and well cultivated farms in the four long years of blood were overgrown with shrubs and brambles, fences burned away, and nothing left to show that places [were] once inhabited except perhaps a chimney or ???, making the desolation more imposing.[25]

His lament described a devastation similar to that found throughout many areas of the southern United States.

During these chaotic times, slave owners tried to maintain control of their chattel. After Union troops attacked in 1863, many Confederate sympathizers fled to relative safety in Texas or the Choctaw Nation. While some slaves continued to serve their owners in their new homes, others were able to escape during the hurried evacuations

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[24] Confer, 150-164, describes conditions in the Cherokee Nation during the Civil War.
[25] Cherokee Advocate, January 24, 1874, quoted in Holland, 546. '???' designates a word that was unreadable in the original document.

(Confer, 171). They, along with other Cherokee runaways, often headed north. Younger, male slaves were more likely to successfully complete this journey north. A large contingent of such Indian slaves headed to Kansas and served in First Kansas Colored Infantry (Perdue, 142). During battle, they may have encountered fellow Indian slaves serving as personal servants to their Confederate masters.

A majority of slaves remained in the nation. Many were unable to leave, either due to ill health or the presence small children. Sometimes, they would remain with owners who themselves did not feel able to complete a long trip to safer areas. Others would try to escape into the countryside undetected. After the Union took Fort Gibson from the Confederacy, hundreds of Cherokee and Creek slaves, encouraged by Union soldiers to leave their masters, headed to the security of the military installation. Although conditions were harsh and disease outbreaks led to high death rates, many remained camped within a half-mile radius of the Fort at the War's end (Confer, 195).

Exactly how many slaves survived the war is difficult to determine. An 1867 census of the nation counted 802 freedmen, with 499 of them in the area of Ft. Gibson. The census was not completed and is certainly an undercount. The commonly accepted population estimates range from 2,000 to 2,500 freedmen (Littefield (1978), 76). The entire nation had approximately 17,000 residents in total, about the same as before the war (Thornton, et al., 99-103). This number belies the toll of the war on the Cherokees, though. The Cherokees had adopted new citizens from other tribes during intervening time period, and a great number of Cherokees did die during the war. An 1887 report from the Bureau of Ethnology concluded a wartime population decline of 33 percent

from 21,000 to 14,000.[26] While this percentage is often cited, it is likely too high. In 1869, the Commissioner of Indian Affairs reported that "nearly a quarter" of all Cheorkees died during the war, and this estimate seems more reasonable.[27]

d. Reconstruction

On June 23, 1865, General Stand Waite officially surrendered. He was the last Confederate general to do so. Defeated and divided, a "social demoralization consequent upon the late war, such as found to exist in the Southern United Sates, prevail[ed] to some extent [in the Cherokee Nation]"[28] Any sense of ennui felt by the Cherokees was worsened during post-War negotiations to rejoin the Union. The questions that plagued the policy debates about the southern states' secession and readmission were also present in the background of the Cherokee meetings: What did it mean to join the C.S.A.? Should former Confederates be punished? What should happen to the former slaves? How harsh should conditions for readmission be?

However, two other elements further complicated the Cherokee's negotiations. First, the Federal government was determined to seize the opportunity to obtain land concessions from the Cherokees. Indeed, Commissioner of Indian Affairs Douglas Cooley explicitly stated his goal that Cherokee land would be used to relocate other Indian tribes, such as those on the Great Plains, to Indian Territory.[29] Railroad lobbyists also had their hand in the negotiations. The growing rail system did not yet have a right-of-way through Indian Territory. The railroads wanted one and used their political

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[26] Fifth Annual Report of the Bureau of Ethnology (1887), 351, 376.
[27] Report of the Commissioner of Indian Affairs (1869), 72.
[28] *ibid*., 405
[29] Annual Report of the Commissioner of Indian Affairs (1865), 298-299.

influence to make railroad land grants a requirement in the Cherokee treaty (Wardell, 185).

The status of the Cherokee Freedmen also complicated the debates. They were emancipated at the command of the United States, and, some Cherokees thought, they should then be the problem of the United States. Even Union loyalists who supported emancipation did want the slaves to remain in the Cherokee Nation. Recall that the initial Cherokee Emancipation Proclamation required slaves without work permits to leave the nation. The Federal government, however, took a "your slaves, your problem" approach. General H.J. Hunt, who commanded the Frontier District of the Department of Arkansas at Fort Smith, worried that the Cherokee Freedmen might congregate at nearby military bases and become dependent on the U.S. government for support. He wanted to prevent this, and initially did not want to inform the Freedmen that they were free for fear that they would rush to the military bases for food and shelter. The Interior Department's liaison between Indian slaves and their former masters, Brevet Major General John Sanborn, took a slightly more free market approach. He thought the former Indian slaves should have all the "rights, interests, and annuities of Indians." Once they knew of their rights, he reasoned, they would choose to stay in Indian Territory and would not become the problem of the United States.[30]

With these motives known to all, representatives of the Union Cherokees, the Confederate Cherokees, and the Federal government met to discuss a peace treaty. In a sense, two separate peace agreements needed to be reached—once between the two Cherokee factions, and one between the Cherokees and the United States. The feud

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[30] Littlefield, 18-30 for a discussion of these negotiations and the provisions included in the treaty.

within the nation was a weakness that the United States exploited to gain concessions from both sides. After almost a full year of negotiations, bargaining ploys, and almost agreed upon treaties, all three sides concluded negotiation in July of 1866.

The final treaty bore a resemblance to U.S. policy toward the southern states.[31] The Cherokee alliance with the Confederacy was deemed void, and general amnesty was granted for crimes committed during the War. The Cherokee confiscation laws, which had, as their name suggested, confiscated the property of Confederate Cherokees, were repealed, and former Confederates were allowed to reclaim their property. All slaves were freed. Unlike the southern states, the Cherokees were forced to make large land concessions to the United States government, other Indian tribes, and the railroads.

The most significant provision for the former slaves was Article 9:

> The Cherokee Nation having, voluntarily, in February, eighteen hundred and sixty-three, by an act of the national council, forever abolished slavery, hereby covenant and agree that never hereafter shall either slavery or involuntary servitude exist in their nation otherwise than in the punishment of crime, whereof the party shall have been duly convicted, in accordance with laws applicable to all the members of said tribe alike. They further agree that all freedmen who have been liberated by voluntary act of their former owners or by law, as well as all free colored persons who were in the country at the commencement of the rebellion, and are now residents therein, or who may return within six months, and their descendants, shall have all the rights of native Cherokees: Provided, That owners of slaves so emancipated in the Cherokee Nation shall never receive any compensation or pay for the slaves so emancipated.

Despite initial protests, the Cherokees were forced to make their former slaves citizens with full rights. This meant, as discussed above, the new freedmen could settle on and

[31] See http://www.firstpeople.us/FP-Html-Treaties/TreatyWithTheCherokee1866.html for the complete text of the treaty.

improve any unoccupied land within the nation. Few Cherokees wanted their former slaves to have claim to land within the nation or the other rights of full citizens. As somewhat of a compromise, the Federal negotiators agreed to a 6 months provision—in order to gain citizenship, former freedmen had to be in the nation within 6 months. Those who had not returned by Jan of 1866 would have their Cherokee citizenship nullified.

In the initial aftermath of the War, life of the Cherokee freedmen resembled that of freedmen in the southern states. Landless and without resources, many former freedmen went to work for their former owners as either sharecroppers or wage laborers (Wicket, 104). Although the Freedmen's Bureau did not have jurisdiction within Indian Territory, General Sanborn and his agents fulfilled some of the Bureau's tasks. Sanborn issued circulars that detailed his policies concerning the freedmen. The freedmen were to be considered free and with the rights of free men. He instructed his agents to supervise the negotiation of labor contracts and to ensure that all freedmen whose labor was contracted out for over 1 month receive a written contract. They were also to enforce the contracts. Furthermore, the Federal government would provide destitute freedmen with rations and assistance ((Littefield (1978), 20-21). Notably, Sanborn did not undertake one of the Freedmen Bureau's most important roles—education. Sanborn and the Federal government remained silent on the establishment of schools for the Cherokee freedmen. Furthermore, they offered no financial assistance to freedmen interested in starting schools. Despite the lack of educational opportunities, the freedmen were either working for wages or shares and seemed to be mainly self-supporting. In April of 1866, General Sanborn reported to his superiors that

> The rights of the freedmen are acknowledged by all; fair compensation is paid; a fair proportion of crops to be raised on the old plantations is allowed; labor for freedmen to perform is abundant, and nearly all are self-supporting.[32]

Of the 2000-2500 freedmen in the nation, only 150 applied for applied for assistance from the Federal government (Littefield (1978), 23).

After the passage of the Confiscation Laws, Sanborn issued a circular authorizing the Freedmen to occupy and cultivate the land of former Confederates. He also encouraged them to grow corn and cereals to ensure they would have enough food to eat (Littefield (1978), 22). Some did occupy the land, but were hesitant to make great improvements on it lest the former owner seize them. The situation quickly changed with passage of the treaty. Word spread quickly throughout the nation that former slaves were now Cherokee citizens with all the rights. Since General Sanborn had assisted the freedmen in becoming "reasonably well supplied with farming implements and seed,"[33] the freedmen were ready to leave their owners' lands and start working their own, and they did.

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[32] Quoted in Wickett, 103.
[33] Quoted in Littlefield (1978), 23

Chapter 2

The Righteous and Reasonable Ambition to Become a Landholder: What Happened When Former Slaves Received Land After the Civil War?

In January of 1865, General William Tecumseh Sherman authorized freed slaves to establish forty acre farms along parts of the South Carolina and Georgia coasts.[34] He later provisioned them with broken down military mules. Although the land was later restored to its Confederate owners,[35] rumors of "forty acres and a mule" quickly spread throughout the southern states.[36] References to the promised land and plow animal have remained in American public discourse ever since, and they reflect a long-held belief that the enduring economic and social inequality between whites and blacks could have been

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[34] The full text of Sherman's order, Special Field Order Number 15, is printed in the *Memoirs of General W.T. Sherman* (2000) 250-252.

[35] A relatively small number of former slaves living on some of the Sea Islands were permitted to maintain their plots.

[36] The front page of the Staunton (Virginia) Vindicator on November 8, 1867 provides an illustration of the hope for "forty acres and a mule" spreading throughout the South, "We have the statement from an unquestionable source, that at one of the precincts in Amherst county, on election day, a negro after voting, said to the officer in charge that he wanted his 'forty acres of land and a mule.' An explanation being asked for, he stated that he had been told that every negro who voted was to have forty acres of land and a mule given him, immediately after voting, and he wanted his then and there. The disappointment, disgust and indignation of the deluded darkey were intense, when told that he had been fooled, and that neither land nor mule were there for him. The old negro further said that numbers of others on the ground had also been told the same that he was, and had come to the election with the same bright anticipations of the riches that were to be theirs."

reduced or eliminated if Reconstruction-era policy makers had given each former slave family its own farm.[37] Foner (1983), Higgs (1977), Ransom (2005), Engerman (1981; 1982) and Woodman (1977; 2001) have questioned this conventional wisdom that land alone would have altered the economic conditions of former slaves. Instead, they all maintain that various aspects of the southern economic and social environment would have counteracted any advantage that land offered freedmen. There are no previous quantitative investigations of these competing claims, primarily because researchers have thought there was little variation in policy toward freed slaves. Without a group of former slaves who were treated with access to free land, the construction of a counterfactual to analyze the economic impact of a postbellum land distribution policy is difficult.

In this chapter, I develop an empirical strategy that exploits a plausibly exogenous variation in policies of the Cherokee Nation and the southern United States to identify the impact of free land on the economic outcomes of former slave families.[38] The Cherokee Nation, located in what is now the northeastern corner of Oklahoma (see Figure 1), joined the Confederacy in 1861 and was forced during post-war negotiations to declare its former slaves, who were of African descent, citizens with "all the rights of native

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[37] The phrase has appeared in sources as diverse as the writings of W.E.B. Du Bois; the film *Gone With the Wind;* and the rapper Tupac Shakur's 1996 song *Letter to the President,* which inquired, "What happened to our 40 acres and a mule, fool? (Shakur, 1999)." John Conyers, Jr. (D-Michigan) has kept the idea alive in the halls of Congress by introducing HR-40, "The Commission to Study Reparation Proposals for African Americans Act" every year since 1989. The bill's number, 40, was chosen, "as a symbol of the forty acres and a mule that the United States initially promised freed slaves." In 2002, over 100,000 people claimed a non-existent "forty acres and a mule" tax credit. The director Spike Lee named his production company Forty Acres and a Mule Filmworks. A Google search for "forty acres and a mule" located over 34,800 websites with the phrase in October of 2007.

[38] Unless explicitly stated otherwise, I define the South as states that joined the Confederacy: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

Cherokees."[39] According to the laws of the Nation, all citizens, including the freed slaves, were guaranteed the right to claim and improve any unused land in the Nation's public domain —be it forty acres or 400 acres.[40]

Although qualitative evidence suggests that Cherokee freedmen were relatively better off than southern freedmen, there have been no previous attempts to estimate the effect of free land access on the Cherokee freedmen. To undertake this analysis, I have gathered two sources of census manuscripts for the Cherokee Nation. First, I have encoded the entirety of the 1860 Cherokee Nation Slave Schedules. Second, I collected a 60 percent sample of the 1880 Cherokee Census. These data provide the only quantitative evidence on this unique population of former slaves.

I use farm-level data to estimate the difference in outcomes for blacks and non-blacks in the Cherokee Nation and the South.[41] I find that blacks in the South lagged further behind non-blacks in land ownership rates, farm size, and investment in long-term capital projects than blacks did in the Cherokee Nation. The advantages Cherokee

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[39] Article 9 of the Treaty between the United States and the Cherokee Nation, July 19, 1866. Full text of the article is available in Appendix 1.

[40] Once a Cherokee citizen claimed land, the citizen had ownership rights similar to those of typical fee simple ownership. As long as the land was not abandoned, the citizen held heritable usufructuary rights, and the land could be sold, used as collateral for loans, bequeathed in wills, or improved upon. However, only Cherokee citizens were able to hold these rights. See Bloom (2002).

[41] By black, I refer to people who were of African descent and whose racial classification would not have precluded their being enslaved. I will generally use black, former slave, and freedman interchangeably throughout this paper. A former slave was any individual who had been enslaved and was freed. Within the context of the South after the Civil War, almost all blacks born before 1863 would have been former slaves. "Freedman" is usually synonymous with former slave. However, the descendents of the former slaves of the Cherokees continue to refer to themselves as the Cherokee freedmen today. Non-blacks refer to people who were of all other races besides black and whose race would have prevented them from being a slave. In the South, a vast majority of non-blacks were white. In the Cherokee Nation, non-blacks belonged primarily to two groups. "Adopted whites" was the official government designation for white people who had gained Cherokee citizenship through marriage. A "native Cherokee" was any person "not of color" (i.e., not black) who was born into Cherokee citizenship. The child of an "adopted white" and a "native Cherokee" was considered a "native Cherokee." Therefore, some "native Cherokees" has a significant quantity of white blood. For example, John Ross, the Principal Chief of the Cherokee Nation during the Civil War, was 1/8 Cherokee and 7/8 Scottish.

freedmen experience in these areas translate into smaller racial wealth and income gaps in the Cherokee Nation than in the South. Additionally, the Cherokee freedmen had higher absolute levels of wealth, as measured by the value of livestock, and higher levels of income, as measured by the value of crops produced, than southern freedmen. These results together suggest that access to free land had a considerable and positive benefit on former slaves.

2. Theory and Relevant Literature

An 1892 editorial in the *Afro-American Advocate* noted that, "The opportunities for our people in that country [the Cherokee Nation] far surpassed any of the kind possessed by our people in the U.S."[42] Cherokee historians tend to agree with the newspaper's assessment. Daniel F. Littlefield, Jr., author of a seminal work on the Cherokee Freedmen, wrote, "In the succeeding thirty years [after the Civil War], they developed a life-style that most blacks in the South would have envied (Littlefield 1978, 49)." Indeed, some Cherokee freedmen attained a level of wealth that even whites in the South would have envied. Zack Foreman was born to a poor single Cherokee freedwoman and transformed a dying calf into the one of the largest cattle fortunes in all of Indian Territory. He then arranged for the Kansas City Southern Railroad to lay train tracks for him and died as the "only Negro in the United States at the time who privately owned a railroad."[43]

This qualitative evidence suggests that the Cherokee freedmen benefited from their access to free land and escaped a pernicious consequence of slavery— low levels of

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[42] Feb. 19, 1892, quoted in Littlefield (1978), 69.
[43] J.J. Cape Interview, GFPHC, 88:56-58. Quoted in Wickett, M. R. (2000).

wealth and income relative to people who had not been slaves. Higgs (1982; 1977) found that large southern black-white wealth and income gaps existed during the decades following emancipation. In 1880, black total property holdings were just 1/36 those of whites. This ratio improved slightly to 1/26 by 1890, 1/23 by 1900, and grew to 1/16 by 1910.[44] The income ratio was also far from unity. It was ¼ in 1867 and 7/20 in 1900.[45]

Engerman (1982) noted that there was general agreement about one cause of this secular inequality. Southern blacks' dearth of capital at emancipation "meant that, no matter how rapidly incomes grew, they would remain far behind those of whites for [a] very prolonged perio[d] (Engerman 1982, 218)." Granting land to blacks at emancipation would have allowed them to increase their level of capital relative to whites and, hence, also increase their incomes. This form of capital was also particularly useful. Over 90 percent of southern blacks lived in rural areas following the Civil War, and land was a key instrument of both income generation and growth in the South's primarily agricultural economy (Higgs 1982, 725).

DeCanio (1979) estimated the impact of land distribution on the time path of black-white inequality. His analysis relies upon Stiglitz's (1969) model of the distribution of wealth and income among groups, which predicts the existence of an egalitarian long run distribution of wealth.[46] That is, eventually all groups will have the

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[44] Higgs uses data from Georgia property tax returns. Margo (1984) extends Higgs work with wealth information for Arkansas, Louisiana, North Carolina, and Virginia. He finds a similar temporal trend to Higgs—blacks accumulated property at a faster rate than whites, but the black-white wealth gap remained large on the eve of World War I. However, Margo's evidence suggests that black wealth grew at a slower rate than Higgs calculated.

[45] These gaps persist today. Margo (2004) calculated the ratio of black to white wealth as .16 in 1995 and the black-white income ratio as .62 in 2001.

[46] Stiglitz assumes that the production function exhibit constant returns to scale, the Inada conditions are fulfilled, wealth and capital are the only 2 factors of productions, the labor force is homogeneous, perfect competition exists in the factor markets, savings are linear, factors and goods are priced at their marginal

same average levels of wealth and income even though they had different initial levels of wealth. Although the result of long run egalitarianism may be reassuring to those concerned about inequality, there is an important caveat. Convergence is not instantaneous, and the potential welfare costs of inequality that persists as the economy moves towards egalitarianism should not be discounted.

DeCanio calculated the predicted time required for black-white wealth and income convergence following emancipation. The impact of blacks' initial low levels of wealth would have persisted for over a century. The black-white income ratio would have grown to about only 2/3 by 1970. Giving each freedmen head of household "forty acres and a mule" would have dramatically increased blacks' starting average wealth level to 60% that of whites, which would have increased blacks' average incomes at emancipation to about half that of whites.

Even the slow convergence calculated by DeCanio overstates the actual rate. He finds that the predicted income gap in 1900 was 64 to 80% of the actual black-white income gap. By 1970, 31 to 48% of the actual income gap was explained by the predicted values.[47] The divergence between the actual and predicted values suggests that some of the model's assumptions did not hold. Likely causes of this divergence were restricted access to credit, low levels of human capital, and white resistance to black land ownership.

Southern credit markets were far from perfect following the Civil War. Ransom and Sutch (2001), Carlton and Coclanis (1989), Jaynes (1986), James (1981), Mandle

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products, the labor force grows at a constant rate n for all groups, no intermarriage occurs between groups, and an inheritance is split equally among all heirs.

[47] DeCanio uses the Higgs (1977) estimates of wealth and income to calculate the actual gap.

(1978), Higgs (1977) and others have discussed the shortage of credit available to farmers and other individuals. The southern credit system had been destroyed during the Civil War, and the new one that emerged was ill-equipped to support the economic activities of freedmen. Southern banks were not located in many of the more remote rural areas where freedmen tended to live, and few freedmen could afford the transportation and opportunity costs associated with traveling to a bank. Those blacks with access to banks had difficulty conveying their credit worthiness to bankers, and this asymmetric information problem contributed to the high interest rates freedmen were often charged. Many freedmen only had the uncertain collateral of a year's crops, which further contributed to their credit risk.

Faced with substantial obstacles in accessing credit markets, many blacks were shut out from land ownership. Access to free land would have allowed blacks to own land without having to find elusive financing or save for the entire purchase from their meager earnings. Furthermore, southern freedmen who did purchase land were not immune to credit problems. Having depleted their savings and faced with high interest rates on their loans, many black landowners lacked the capital to make productivity-enhancing investments. Additionally, concern over losing land to creditors could cause blacks to intentionally forgo investments with long term payoffs for fear of never reaping the benefit.[48]

Foner (1988) and Ransom (2005) both have argued that free land without access to credit markets would have done little to improve the economic status of black families.

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[48] The story of Nate Shaw, a black farmer in Alabama who lost his land at various times to bad crop years and white hostility, illustrated the hurdles that blacks faced after finding the cash and financing to buy land. See Rosengarten (1974).

Credit constraints would have prevented freedmen who received forty acres from being able to maintain their farms or undertake productivity enhancing investments. However, as landowners typically earned a higher income than wage labor, share croppers, or tenants (Irwin and O'Brien 2001), land owning freedmen may have been able to use their additional income to invest in their land or purchase additional capital in spite of restricted access to credit. Land may have also served as the collateral necessary to gain access to capital markets. Without fear of foreclosure and loss of land, blacks may have also been more likely to make long term investment in their farms.

The Stiglitz model assumes homogeneity of labor; white labor and black labor are assumed to be equally productive. There is little doubt that freed slaves had lower average levels of human capital than whites, particularly as measured by literacy rates and schooling completed. However, Engerman (1980, 492) and Woodman (2001, 56) both point out another potential difference in black and white human capital: slavery may have influenced the ability of freedmen to function in a market-oriented society, and, in particular, the "work ethic" of slavery may have undermined former slaves' ability to respond to market signals. Such a difference in outlook between whites and blacks could have contributed to different work and investment decisions and decrease the relative income of blacks. Land ownership on its own would have been unable to correct a difference in market orientation between blacks and whites.

Finally, implicit in the assumptions of Stiglitz's model is equal security of property rights for blacks and whites. If freedmen faced race-based discrimination in their ability to purchase land or were uncertain in their permanent title to land they had purchased, they may have chosen either not to purchase land or to invest less in the land

they did purchase. Ransom and Sutch (2001, 86-87) document white resistance to black land ownership throughout the South. Although the discriminatory attitudes of whites did not serve to suppress all black land ownership, increased risk could increase the costs (to both black buyers and white sellers) of a land sale to blacks and subsequently decrease the incentives of black landowners to invest in their property. Widespread black land ownership through a distribution policy would have helped blacks avoid discrimination in land sales. By dramatically increasing black land ownership, such a policy could have overwhelmed any potential white resistance.

In summary, economic theory predicts that land distribution would have decreased the size of the black-white wealth and income gaps in the short run. Land would have directly increased the wealth holdings and income generating potential of blacks at emancipation. Widespread land distribution may have offered blacks the opportunity to engage in income generating investments or land use decisions that were either risky or impossible for most landless blacks in the South. Additionally, widespread land distribution could have eroded white resistance to black land ownership or overcome certain aspects of racism.

3. Research Design and Data

An empirical analysis of the effects of free land on the wealth and income gaps between blacks and whites has previously eluded researchers for two reasons. First, few plausibly exogenous idiosyncratic variations in post-war land policy have been identified by researchers. Second, data to test the effects of these variations were unavailable. The Cherokee Nation's land policy provides remedies for both problems. As a "domestic

dependent nation," the Cherokee Nation was in the unique position of being "southern" with respect to economic and social organization while simultaneously adhering to a different legal regime.[49] This allowed for the development of black slavery in both the South and the Cherokee Nation before the Civil War, but different policies towards the freed slaves after the War. Additionally, the Cherokee Nation's adoption of western practices of government encouraged the collection and maintenance of census data.

a. 1880 Agricultural and Population Data

To infer the effect of free land access on former slaves in the Cherokee Nation, I located a little known census held by the National Archives and Records Administration, Southwest Region. The 1880 Cherokee Census was collected by the Cherokee government in the spring of 1880.[50] It was available only as microfilmed copies of the original, hand-written census manuscripts. Figure 2 contains a sample page from the census. I collected and digitized a 60 percent sample of the 1880 Cherokee Census; it includes all blacks in the Cherokee Nation and 50 percent of the rest of the population. Appendix 2 contains a list of all information collected by the Cherokee Census and a comparison of the aggregate totals of the Cherokee Nation and my sample. My sample is

[49] John Marshall famously declared the Cherokee Nation a "denominated domestic dependent nation" in *Cherokee Nation v. Georgia,* 30 U.S. 1 (1831). The practical implication of the designation is that the Cherokee Nation had a government that could enact and enforce its own laws and policies. However, all laws and policies could be overridden by the United States Congress. To do this, Congress must explicitly pass legislation contradicting a law or policy. In the absence of such legislation, the Cherokee law stands.
[50] The Cherokee Nation was not included in the United States Census until 1900. Cherokee citizens were considered "Indians not taxed" and excluded from U.S. census enumerations.

fairly representative of the Nation, with the exception of the oversampling of the Cherokee freedmen.[51]

The census collection procedures were typical for the time period. Two enumerators were appointed for each of the Nation's nine districts (equivalent to a state or county) and were tasked with taking the census. They were required to make "full and complete returns of all persons residing or sojourning in their district," including their "chief productions of agriculture, including number of horses, cattle, hogs, sheep, etc., during the year ending in May 1st 1880."[52]

Three aspects of the Cherokee Census deserve additional attention. Only people listed on the final census rolls were to be considered citizens of the Cherokee Nation, so every citizen had an incentive to ensure his or her inclusion on the rolls. No such motivation existed for the United States' censuses. Additionally, this census was recorded at the family level. In contrast, U.S. censuses are recorded at the household level. If households include individuals beyond immediate family, then Cherokee Nation families will be smaller on average than U.S. households, all else equal. Third, the Cherokee census recorded both the demographic and agricultural data for a family on the same census page. In the United States' census, demographic information for a household was recorded on a population schedule. Any agricultural information for the household was recorded on a separate agricultural schedule.

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[51] A copy of a census page, the complete text of the instructions given to the census makers, detailed data collection procedure, and other information about the 1880 Cherokee Census are in my paper, "The Linked Sample of the 1880 Cherokee Census to the 1900 United States Census."

[52] *Cherokee Advocate*, January 28, 1880.

To compare the Cherokee Nation to the southern states, I use two pre-existing samples. The 1% Public Use Microdata Sample of the 1880 United States Census (1880 IPUMS) contains information from the population schedules—name, age, race, occupation, literacy, family structure, and marital status. It contains no agricultural information. Note that it also contains no numerical wealth or income data.[53] I also use the sample collected by Roger Ransom and Richard Sutch for their book *One Kind of Freedom.*[54] This sample of farmers in 1880 was constructed by matching farmers listed on the 1880 United States Agricultural Schedules to their respective entries on the 1880 Population Schedules.[55] Farmers of various tenure types, including owners, fixed renters, and sharecroppers, were enumerated on the agricultural schedules. The sample contains farms from all the confederate states except Arkansas. Therefore, any analysis done with this sample will exclude Arkansas. Detailed information on data collection procedures is available in Appendix G of Ransom and Sutch (2001). I have included a variable list in Appendix 3.

b. Research Design

The variation in land policy between the Cherokee Nation and the southern United States allows me to examine the effect of free land access on the racial wealth and income gaps in each area. I am interested in both estimating the difference in these gaps and in identifying factors that influence this difference. To explore the difference in the

[53] Occupation is in the Census, and this does provide some information to the extent that occupation reflects relative status.
[54] Not all southern counties were included in the 1KF sample. Instead, Ransom and Sutch divided the South into economic regions and chose sample counties from each region. The use of sampling weights during estimation should ameliorate the effect of the non-random sampling. A completely random sample of southern farms would have been preferable, but the cost of creating such a sample was prohibitive.
[55] The agricultural and population schedules required matching because, unfortunately, the agricultural schedules contain only the name and not the race of the farmer.

gaps and its causes, I will use farm-level data for male heads of households from the Cherokee Census and the 1880 U.S. agricultural sample.[56] By restricting the analysis to farmers, I am able to calculate monetary values for a farm family's income and wealth using data on farm production and livestock ownership. Census data involving the entire population would not allow such numerical calculations of income or wealth. The trade-off for these estimates is the exclusion of non-farm households. Because the southern economy was primarily agricultural, the focus on farm families is less restrictive is 1880 than it would be today.

The Stiglitz model and DeCanio's calibration of the model both predict that the wealth and income gaps would be smaller in the Cherokee Nation. That is, for a given measure of wealth or income Y,

$$Y_{\text{southern non-black}} - Y_{\text{southern black}} > Y_{\text{Cherokee non-black}} - Y_{\text{Cherokee black}}.$$

The difference in the racial gaps of the Cherokee Nation and the South for an outcome of interest can be estimated using the specification

$$Y = \beta_0 + \beta_1 \cdot Black + \beta_2 \cdot CN + \beta_3 (Black \cdot CN) + \gamma X + \varepsilon \qquad (1)$$

Y is the outcome of interest, such as wealth or income. The vector X includes various demographic and land quality controls. Black is a dummy variable equal to 1 if a farmer is a black. β_1 measures the location invariant effect of being black on Y. The CN dummy

[56] Southern counties that grow primarily rice, sugar, or tobacco will excluded from the analysis. These cash crops utilize different farming technologies and have larger minimum efficient scales than the more common southern crops, such as corn and cotton. Counties that predominantly grow rice, sugar, and tobacco tend to have rich white land owners and poor black farmers—in other words, a large gap between black and white income and wealth. Including these counties would serve to increase the difference in the black-white wealth and income gaps.

variable is 1 if an individual lives in the Cherokee Nation. Its coefficient, β_2 , measures the effect of living in the Cherokee Nation relative to living in the South for a non-black. β_3, the coefficient on the interaction term, measures the difference in the gaps. Since the omitted category is non-former slave in the south,

$$\beta_3 = \Phi(X) - \Gamma(X)$$

where

$\Phi(X)$ = E[Y| non-black in the South, X] – E[Y| black in the South, X]

and

$\Gamma(X)$ = E[Y| non-black in the Cherokee Nation, X] -E[Y|black in the Cherokee Nation, X].

A positive and significant estimate of β_3 suggests that the black-white gap for farmers was smaller in the Cherokee Nation than in the United States for the outcome of interest.

In order interpret to β_3 as measuring the effect of free land access on former slaves, several conditions must hold. First, the differences in land policy between the southern United States and the Cherokee Nation must not reflect differences in underlying attitudes towards freedmen. Second, the initial conditions in both places must be similar. Third, slaves in both areas must have entered freedom with similar levels of experience and human capital. Finally, the introduction of the different land policies must not have altered the composition of blacks in either location. The following sections will examine the validity of these assumptions.

i. Differences in land policy do not reflect differences in attitudes

Cherokee land policy was not the result of a more favorable opinion of blacks in the Cherokee Nation than in the South. Instead, it reflected the Cherokee Nation's lack of bargaining power during postwar negotiations with the United States.

The future of the Cherokee's former slaves played a prominent role in postwar discussions between the Cherokee Nation and the United States. Some Cherokees believed that, since the former slaves had been freed by the United States, the United States should be responsible for removing all freedmen from the Cherokee Nation and absolving the Cherokees of any responsibilities towards their former slaves. At the very least, a segregated area of Indian Territory should be set aside as a home for the freedmen.[57]

The United States was not supportive of these proposals. The Department of Interior was already providing rations and other assistance to freedmen in the Cherokee Nation and had no desire to continue to do so.[58] Brevet Major General John B. Sanborn, who was assigned by the Department of the Interior to supervise relations between freedmen and their former owners, felt that if the former Indian slaves should have all the "rights, interests, and annuities of Indians," they would choose to stay in Indian Territory and would not become the problem of the United States (Littlefield 1978, 20).[59] The Cherokees were forced to accede to the Federal government's wishes, and in July of

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[57] See Letter from John B. Sanborn to James Harlan, January 5, 1866.
[58] This task was undertaken by the Freedmen's Bureau within the southern United States. However, the Freedmen's Bureau did not have jurisdiction within the Cherokee Nation.
[59] Abel (1925) and Debo (1970) have both argued that the United States was had an additional motivation—to cause disruption within the Cherokee Nation by forcing the Nation to treat its slaves better than the southern states did.

1866, the Cherokee's former slaves became official citizens of the Nation.[60] Politics, and not differing attitudes, was responsible for this policy difference.

With citizenship, the Cherokee freedmen had three very important advantages over their southern counterparts. First, each freed Cherokee slave could claim as much land in the public domain as he or she was able to use.[61] Second, because General Sanborn assisted the freedmen in becoming "reasonably well supplied with farming implements and seed,"[62] each freedman who claimed land had some working capital to start a farm. Third, the U.S. government enforced the Cherokee freedmen's property rights. That is, once a freedman claimed land, Sanborn and his assistants assured that whites or Cherokees did not attempt to remove them from that land. The Cherokee freedmen, most of whom had initially entered into sharecropping contracts just like many southern freedmen, stopped working the land of others. By the next season, many of the former Cherokee slaves had established their own farms.[63]

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[60] Resistance to the Cherokee freedmen's citizenship continues to the present day, and the freedmen's citizenship was revoked in 1992. Only in May of 2006 did the Cherokee Supreme Court finally rule that the Cherokee Nation was legally and constitutionally obligated to grant their freedmen citizenship. The citizenship was short-lived, and in March of 2007 a referendum vote in the Cherokee Nation again revoked the freedmen's citizenship. The matter has returned to the courts.

[61] To claim land, a Cherokee citizen was required to put a fence around his plot and then use the land. The fence requirement served to make claimed land immediately distinguishable from unclaimed land. When a Cherokee freedmen wished to start his own farm, he simply needed to identify the land he wished to claim and put up a fence.

[62] Quoted in Littlefield (1978), 23.

[63] There was one piece of legislation which attempted to provide free land to southern freedmen. The Southern Homestead Act of 1866 made land in the 5 southern public lands states of Alabama, Arkansas, Florida, Louisiana, and Mississippi open for homesteading. The Freedmen's Bureau was charged with administrating the program. While the goal of this legislation may have been noble, it suffered from, "poor preparation, clumsy administration, local opposition, and corruption (Hoffnagle (1970), 612)." The amount of available public lands was large and comprised about 1/3 of all land in these 5 states. By October of 1869, 11,633 homesteads had been applied for. Around 4,000 of these applicants were black (or about 0.27% of the total black population of these 5 states). Many of these applicants had their homesteads fail. Why did so few freedmen families take advantage of the free land? First, homesteads could only be applied for in person at a designated office, usually located in the state capital. Mississippi did not have a land office until August of 1868. The travel costs for applying alone may have persuaded many freedmen not to apply. Second, the maps used to select homesteads were old or non-existent, and locating a homestead site could be difficult and, at times, impossible. Freedmen were often

Relations between the Cherokees and their former slaves were not perfectly harmonious after the passage of the treaty. After receiving complaints from Cherokee freedmen, the Senate sent a special committee to Indian Territory in 1885 to investigate the conditions of freedmen in Indian Territory. The published report details ill will towards the freedmen. A Missouri lawyer who spent time in Indian Territory testified that,

> [The freedmen] do not enjoy the same rights and privileges that the balance of the nation do… Their general treatment is very much like it has been of the colored people in the South in the past… I should say that their treatment has been about like that of the colored people in Louisiana, Mississippi, and the other Southern States.[64]

William Boudinot, the Executive Secretary of the Nation, stated unequivocally that, "It is the policy of the nation that the two races should be separated."[65] The freedmen before the committee complained that they were denied access to the vote, were treated unfairly in jury trials, and had access to either no or poor quality schools. There were also complaints, both to the special committee and in separate petitions, that

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personally required to hire and pay surveyors to locate their homesteads, a practice which added further costs and difficulties. Third, public lands were often not located near areas where freedmen lived, and many may have chosen to remain near family and friends than venture to a far off location that lacked a support network in the case of farming failure. Fourth, nothing was provided for freedmen except the land. Selected freedmen received transportation to the home site and one month's food. Supplies, equipment to clear the land, seed, livestock, food to eat until the first harvest, etc., were all the freedmen's responsibility. Fifth, crop failures in 1866 and 1867 contributed to small savings by freedmen and the failure of many homesteading attempts. Sixth, white hostility dissuaded freedmen from taking homesteads. The rate of failure was so high that General O.O. Howard, Superintendent of the Freedmen's Bureau, eventually began to discourage freedmen from taking homesteads. Of the 4,000 homesteads applied for, 3,000 were in the state of Florida. This high number was a response to a change in Florida's policies towards black homesteaders. Rations were promised to all black homesteaders who fenced in 10 or more acres of land by April of 1868. However, in July of 1868, the United States Congress decided to terminate the Freedmen's Bureau in Florida, which essentially ended the promised rations and contributed to the failure of many homesteads (Hoffnagle (1970), 627-628). The SHA was officially repealed on July 4, 1876. For more information on the SHA, see Pope (1962) and Hoffnagle (1970).

[64] Condition of Certain Indian Tribes (1886), 3

[65] Condition of Certain Indian Tribes (1886), 76

violence was perpetrated against the freedmen by Cherokees. These are all situations southern freedmen faced and suggest that many Cherokees and southerners held similar attitudes towards their former slaves.

ii. Slaves and Slavery were Similar

If Cherokee slaves had higher levels of human or physical capital at emancipation, then any advantages they had in 1880 could be a reflection of their higher initial levels of capital. Although no direct evidence of the human capital or wealth levels of slaves exists, evidence from slave laws, contemporary descriptions, the Works Progress Administration slave narratives, and census data indicate that Cherokee and southern slaves entered freedom with similar types of human and physical capital. Based on such sources, some historians conclude, "slavery among the Cherokees was little different than that in the white South (Littlefield and Littlefield, 1976)."

Cherokee slave laws greatly resembled those found in most southern states. Appendix 4 contains a listing of Cherokee Nation slave laws.[66] Laws relating to the acquisition of capital—both physical and human—are most of interest. Like many other southern slaves, Cherokee slaves were forbidden from owning property or improvements. The Nation also prohibited slaves from learning to read or write, a law which it shared with about half of southern states. Laws also prohibited the teaching of any person of color—slave or non-slave—to read. There is no evidence of differential enforcement of these laws in the Cherokee Nation and the South, which is consistent with the claim the

[66] For an overview of slave laws in the South, see Wahl (2001).

both Cherokee and southern slaves had limited opportunities to obtain physical capital or formal schooling.

The organization of Cherokee slave labor resembled that in the South. Like in the South, most slaves were lived on smaller farms and not on large plantations. However, some of the elite Cherokees had large plantations of 600 to 1000 acres worked by large numbers of slaves (Myles, 2000). They grew crops for sale and profit. There was a distinction between field hands and house servants, and overseers directed the field hands, employing the gang labor system for larger slaveholdings.[67] Like in the South, slaves were hired out for manufacturing or other work when the fields were fallow or if the slave had a particularly valuable skill. This similarity in slave tasks suggests that Cherokee slaves did not acquire a different set of skills while in bondage.

There is evidence that Cherokee and southern slave owners treated their slaves in a similar manner. When the Works Progress Administration gathered stories from former slaves during the Great Depression, former slaves from Indian Territory were interviewed. Billington (1982) compared the narratives of Indian-owned and white-owned slaves by cataloging the slaves' experiences along a number of parameters, including incidences of physical punishment, care and food availability, and attitudes towards former owners. He concluded that there were few differences between white and Indian slave owners.[68]

No comprehensive human capital or education measures for slaves were recorded during slavery. However, using 1880 Census data, I calculated the literacy rates of

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[67] The WPA Slave Narrative of Linda Vann, a former Cherokee slave, provides a detailed account of the organization of slave labor on a large Cherokee plantation.
[68] I have also located and read all Cherokee slave narratives and confirmed Billington's results.

Cherokee and southern blacks for different birth cohorts. They are reported in Table 1 and Figure 3. Black birth cohorts born before 1861 would have experienced the traditional slave system. The literacy rates for these cohorts are lower in the Cherokee Nation than in the South for these freedmen. This suggests that Cherokee slaves did not have higher levels of human capital than southern slaves.

The Slave Schedule of the 1860 United States Census further supports the assertion that slavery in the Cherokee Nation was similar to that in the United States. Through enumerator error, the 1860 Arkansas slave schedules included all slaves in the Cherokee Nation.[69] I located copies of these Cherokee slave schedules and digitized them in their entirety. Table 2 contains summary statistics for my 1860 Cherokee slave data and the 5% 1860 Public Use Microdata Flat Sample of the Slave Population (Slave PUMS) for both the southern United States and Arkansas. I have included Arkansas in the table because it borders the Cherokee Nation, has similar geography and crop growing conditions, and the slave information was collected by the same enumerator. The composition of the slave population is similar across all three regions in mean age and prevalence of female slaves. All areas share the same median slave holding. The Cherokee Nation's mean is lower. The lower mean reflects the lack of the very large slave holdings that existed in the Southern states. Figure 4 plots the distribution of slave holdings. The distribution in the Cherokee Nation is similar to that of the United States, with the higher end of the distribution truncated. The number of slave owners in this truncated upper tail was small. Only 1.83% of southern slave owners owned more than

[69] The Cherokees were considered "Indians not taxed" and, therefore, they and their slaves should have been excluded from the census returns (Doran, 1978).

56 slaves, which was the largest holding in the Cherokee Nation. In Arkansas, only 1.52% of owners held more than 56 slaves.

These data all indicate that both the institution of slavery and the slave population in the Cherokee Nation and the South were very similar.

iii. Control and treatment groups should display similar trends and conditions

As discussed in the previous section, Cherokee and southern blacks had similar initial levels of wealth and human capital at emancipation. Any potential difference in the initial racial wealth gap, then, would be a result of differences between southern and Cherokee non-blacks. Evidence indicates that non-blacks in both places shared similarities in institutions, economic activities, social organization, and wartime experiences. Additionally, available data on farming demonstrates similarities between the two areas.

The Cherokee Nation adopted governmental structures explicitly modeled after those in the United States.[70] The economy was, like the South's, primarily agricultural, and the main crops were corn, wheat, oats, and cotton.[71] As discussed above, slave labor was used. Cherokees built the same style houses and buildings as their neighbors in

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[70] The Cherokees had a written constitution which defined a government with a bicameral legislature, a president with the title of Principle Chief, a cabinet, and a Supreme Court. The government also ran a system of public schools. Pupils were taught in English from textbooks used in New England schools. There were two high schools, one for males and one for females. The course of study in these schools included geometry, Greek history, Latin, geography, botany, algebra, and o
ther classes typical of New England high schools. Classes on Cherokee history or culture were not taught. Curriculum decisions were made by the Cherokee National Council. See Abbott (1987). The Cherokee Male and Female Seminaries were, respectively, the first and second nonsectarian schools of higher education to open west of the Mississippi (Mihesuah, 1991).

[71] Surplus crops were sold in neighboring states or shipped to New Orleans.

Arkansas and Kansas.[72] There were several incorporated towns.[73] Cherokees dressed in western clothing, attended Christian churches, and bought patent medicines purported to be straight from New York (Littlefield 1978, 7).[74] As George Butler, a southerner and the Cherokee's representative from the Superintendency of Indian Affairs, reported in 1859, "From their general mode of living, the Cherokees will favorably compare to their neighbors in any of the states."[75]

The Cherokees suffered from ill effects of the Civil War similar to those in the southern states. During the Civil War, seven officially recognized battles were fought in the Nation (Perdue, 132-133). Houses and barns were burnt by the opposition of the time, and fields and fences fell into disrepair. A prominent Cherokee, John Adair, recalled the devastation a decade later:

> All that was left us was our country, but the numerous and well cultivated farms in the four long years of blood were overgrown with shrubs and brambles, fences burned away, and nothing left to show that places [were] once inhabited except perhaps a chimney or [text illegible], making the desolation more imposing.[76]

Although data on agriculture and livestock are scarce for both the Cherokee Nation and the South in the years before the Civil War, I assembled all the available

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[72] Most Cherokees lived in double log cabins or clapboard homes while the richest had fine plantation houses. See Figure 5 for an example of a Cherokee plantation house.
[73] These towns had public services (such as police and fire control), stores, dentists, saddlers, tailors, blacksmiths, hotels, and taverns. There was a weekly newspaper, a Masonic lodge, a debating society, a temperance group, and even a horseracing track.
[74] The types of dress, religion, customs, ceremonies, and medicine that people tend to associate with American Indians fell into almost total disuse.
[75] Butler, Report of the Commissioner of Indian Affairs (1859), 19.
[76] Cherokee Advocate, January 24, 1874, quoted in Holland (1956), 546.

comparable information in Table 3.[77] The Cherokee Nation had fewer slaves per capita, and this lower level of slaves per capita is consistent with other slave states not in the cotton South. The values of livestock owned per capita are quite similar, and indicate that initial levels of livestock wealth were similar. The acreage per capita calculations are not exactly comparable. Only acres in cultivation were available for the Cherokee Nation, while the southern data reflect improved acres. Improved land was defined as land that was, "cleared and used for grazing, grass, or tillage, or which is now fallow, connected with or belonging to the farm (United States Census, 1853)." At 4.4 acres per capita, the Cherokee acreage was 1.84 lower per capital than the southern acreage. Part, if not all, of that difference can be attributed to the different acreage definitions used.

iv. Unaltered Group Composition

My analysis would be biased if the composition of the Cherokee freedmen citizenry had been influenced by the availability of free land. Land access could have encouraged some southern slaves to flock to the Cherokee Nation to claim both land and the possibility of a better future. However, the restrictions of the treaty prevented such a land rush. Only former slaves of the Cherokees who returned by January of 1867 were eligible for citizenship. This provision was strictly enforced, and those freedmen who were listed on the 1880 Cherokee Census rolls were those who could prove they were eligible for citizenship. If southern blacks moved to the Cherokee Nation to gain access to free land, then the demographic characteristics of the Cherokee Nation would reflect this. Movers would be those who had the lowest costs of moving and the most to gain

[77] The southern data in the table was found from the 1860 United States Census of Agriculture. The Cherokee Nation data were reported in an 1859 Commissioner of Indian Affairs Report. With the exception of the number of slaves, these data were estimates, not actual counts.

from land—likely young men. Table 4 shows some basic demographic characteristics of the Cherokee Nation and the South in 1880. Table 2, which was introduced above, contains similar information for each area's black population in 1860. A comparison of the data shows no evidence a flood of young black southern men entered the Cherokee Nation. Instead, both the South's and Cherokee Nation's black populations underwent a similar change to an older, more female population.

A potential problem with Cherokee freedmen group composition could arise if there was a systematic difference between those who became citizens and those who did not gain post-war citizenship. There were 2,511 slaves in 1860 and an estimated freedmen population of 2,000 to 2,500 in 1866. Population growth was likely limited during the war, and these numbers suggest that there was only small group of freedmen who were not in the Cherokee Nation at the war's close.[78]

The data all demonstrate that the group composition of the Cherokee freedmen did not alter due to the introduction of the treatment of free land access.

The evidence presented above suggests that all four conditions are true, and β_3 can be interpreted as measuring the effect of free land access on former slaves.

4. Factors Influencing the Magnitude of the Racial Wealth and Income Gaps

To explore the effects of free land access on the magnitude of the racial wealth and income gaps, I will first examine three factors present within the agricultural census data that could influence the relative size of the Cherokee and southern gaps. The

[78] An extensive analysis of group stability issues appears in my paper, "The Linked Sample of the 1880 Cherokee Census to the 1900 United States Census." I located United States Census data for all blacks in the United States who were born in Indian Territory. I find no evidence that group stability is problematic.

Cherokee freedmen's access to free land could have influenced their propensity to own land, the amount of land actually owned, and their willingness to invest in their land. After demonstrating that the Cherokee freedmen did have advantages in all three of these wealth- and income- enhancing factors, I estimate the relative size of the racial wealth and income gaps in the Cherokee Nation and the South. The measures of income and wealth will include variants of the total dollar value of crops produced by a farm and the total dollar value of livestock owned. Together, these two measures would constitute a large share of all income and wealth available to a farmer.

Various controls are used to check for the robustness of the results. To ensure that the results are not driven by demographic or human capital differences, I control for the age and literacy of each farmer. Older farmers had more time to accumulate both wealth and human capital, and I expect age to be positively correlated with wealth and income measures. I also include the square of age to control for possible non-linear effects. Human capital differences are accounted for with the inclusion of a literacy dummy variable that will be coded as 1 if a farmer can read or write. Literacy could have assisted farmers in learning about new farming techniques, engaging in legal transactions, and obtaining other useful information. The coefficient will likely have a positive effect on wealth and incomes. Additionally, to ensure that differences in the land type are not driving results, I include controls for the predominant soil type in each farm's county.[79]

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[79] Soil types are taken from the soil map included in *Tenth Census of the United States, Volume 5, Report on Cotton Production in the United States (1880).* Because cotton was grown in Indian Territory, the map includes soil types for the Cherokee Nation.

a. Free Land and the Relative Propensity to Own a Farm

With their access to free land, the Cherokee freedmen were more likely to own farms than southern freedmen, who faced impediments in obtaining financing and a potentially hostile response to their land ownership. Table 5 reports 1880 census data on farm ownership rates. In the Cherokee Nation, there was no racial difference in the likelihood of owning a farm. 67.8% of all Cherokee black male heads of households owned a farm while 70.4% of all non-black male heads did. The difference in these two ownership rates is not statistically significant.

There was significant difference in the southern black and white farm ownership rates. The southern data does not allow for a direct calculation of percent of farm owners, but information from the IPUMS and 1880 Agricultural Census samples can be combined to make an estimate. In the agricultural sample, 28.4% of black farmers owned their land. The remainder engaged in some for of tenancy arrangement, such as sharecropping or fixed rental. The IPUMS data reveals that 43.4% of black male household heads in the rural South were farmers. The total implied black farm ownership rate is 12.3%—less than a fifth of that in the Cherokee Nation. 70.7% of non-black male household heads in the rural South were farmers, and their land ownership rate was 73.7%.[80] Their implied total non-black land ownership rate is 52.1%. This is over four times the South's black land ownership rate. The difference is large and statistically significant.[81]

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[80] Note that an equal proportion of non-black male household heads in the South and the Cherokee Nation were farmers. This result further supports the claim that the South and the Cherokee Nation were similar.

[81] While I calculate the farm ownership rate here, there might be a concern that the property ownership rates are different. However, any difference would likely not change the general finding of my results. Why? Non-farming blacks were largely poor laborers. Some non-farming whites were poor laborers, but others also engaged in other high income, white collar occupations. Non-farming whites would have had

These calculations indicate the effect of free land access on former slave's farm ownership rates was quite large. Because the southern calculations require the use of two separate datasets, regression analysis to estimate equation (1) cannot be used. However, an estimate of the unconditional difference in the gaps, can be calculated as

$$(52.1\text{-}12.3) - (70.4\text{-}67.8) = 37.2$$

This gap is positive, and the difference in gaps is significant. Access to free land had a large effect on closing the gap in black and white farm ownership.

b. The Size of Landholdings

Becoming a landowner was one dimension of having more capital. The amount of land owned by a farmer was another. One might expect Cherokee freedmen landowners to own more land than southern freedmen landowners. A measure of acres in use is utilized to explore the amount of land owned by a farmer. Acres in use includes all tilled fields, acres not planted due to crop rotation, acres in pasturage, acres in orchards, and acres with structures.[82]

The average black owner in the South had 33.67 acres in use. The average was 31.9 in the Cherokee Nation. The difference is not statistically significant. As mentioned above, Cherokee freedmen were allowed to claim as much land as they could use.[83] If black owners in both areas faced similar capital input prices, agricultural technology, and labor markets, then these constraints may have dictated a similar efficient scale of farm size and explain the similarity in average farm size.

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higher property ownership rates than non-farming blacks, and excluding overall property ownership from my analysis should, therefore, not understate the southern racial ownership gap.

[82] Acres in use is reported in the Cherokee census data and in the U.S. data. Other reported land size measures differ, which is why I examine acres in use and not, for example, total farm size.

[83] The consequence of this use requirement was that a blanket claim on all unused land could not be made by one person.

Table 6 reports the results of the regression specification with acres in use as the dependent variable. Columns 1 through 3 include only owners. The first column reports a baseline specification and includes no other covariates besides the race and location specific dummy variables. The coefficient on the interaction term is positive and significant. Column 2 demonstrates that result is robust to the inclusion of literacy and age controls. Column 3 additionally includes soil dummy variables that control for the type of soil a farm sits on. The interaction term remains positive and significant with inclusion of both sets of the additional covariates. The gap between Cherokee blacks and non-blacks is much smaller than the gap between southern blacks and non-blacks. The penalty for being black in the South relative to a non-black in the South (β_1) is about double the penalty for being a black in the Cherokee Nation ($\beta_1 + \beta_2 + \beta_3$) for each regression.

Because Cherokee and southern black farm owners have the same average acreage in use, this result is driven by the difference in the non-black acreages—non-blacks in the Cherokee Nation used less acreage than blacks in the Cherokee Nation. This is partly endogenous to the treatment of free land for former slaves. With their own land to work, many Cherokee blacks were no longer available as hired laborers, and Cherokee non-blacks lost a potential supply of labor.[84] There is ample evidence of non-black Cherokees complaining of a labor shortage during the decades after the Civil War.[85] Cherokee farmers made efforts to hire other laborers, such as poor whites, but in

[84] Ransom and Sutch (2001) argue the postbellum decline in southern agricultural output was partially due to an inward shift in black labor supply—free blacks optimized over labor and leisure and chose to work fewer hours then they were compelled to work during slavery. Here, I am arguing that there was shift in whom black labor hours were supplied to.
[85] See, for example, Bloom (2002).

the days before modern transportation labor recruitment could be a costly and slow process. In the next section, I will address another potential cause of smaller non-black farm sizes that is attributable to a difference in crop mix.

Columns 4 through 6 include the results when all farmers, including renters and sharecroppers, are included. While the coefficients in the owners only regressions reflected the differing sizes of owned farms, this second specification instead examines land available to all farmers. Non-landowning blacks were not completely shut out from farming. Being able to rent or sharecrop a farm almost certainly represented an economic gain to the landless farmer that should not be ignored. The general pattern found in the owners only results is present in the all farmers results. However, the absolute magnitudes of the estimates for the black dummy variable and interaction term are lower in all three specifications. This suggests that the penalty for being black is smaller when all farmers are included. This result stems from the inclusion of a class of southerners that is often overlooked—poor whites. White southern landowners were quite well off in terms of land ownership; they had at average of 85.38 acres in use, much more than blacks' 35.00 acres. Whites without land, though, did not have such a large advantage over blacks without land; they used 46.15 acres, while the average black used 33.5 acres. The white advantage was still large and significant, but just not quite as large as the advantage for only owners.

c. Long Term Capital Investments: The Case of Fruit Trees

Varying land use patterns between Cherokee and southern freedmen suggest that Cherokee freedmen were more likely to undertake a certain type of investment in their

land—the planting of orchards.[86] Orchards were gaining popularity during this time period, and the 1880 United States Statistics of Agriculture reported that a "noticeable feature of these returns… [is] the great proportional increase in the orchard products on 1880 over 1870 in the southern states."[87] The increase was not surprising, because the income stream from a fruit orchard could be quite large. Using the median yields in the 1880 U.S. Agricultural sample and 1880 farmgate prices,[88] I calculate that a farmer could receive $58 per acre planted in apple trees and $7 per acre planted in corn.[89]

Switching an acre of land from corn to apple trees was not costless. As Rhode (1995) pointed out, orchards are a long term investment, because they require a large initial outlay, and the land produces little to no income during the initial gestation period.[90] Once the trees start producing fruit, however, they have a long and valuable productive life. An assurance of stable property rights is critical when making such a long term investment in land. This is not only because of a farmer's desire to make a return on his investment, but because lending institutions also wish to make a return on any loan used to establish an orchard. Uncertainty over the tenure land ownership decreases the expected returns for both the farmer and banker.

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[86] Other types of investment might also be of interest. Unfortunately, the other investment data for southern farms (such as value of farm implements) is incompatible with the investment data for Cherokee farms (such as number of structures present).
[87] *Tenth Census of the United States, Statistics of Agriculture* (1880, 43)
[88] Farmgate prices are price paid directly to the farmer.
[89] All crop and livestock price data are from *U.S. Department of Agriculture Statistical Bulletin No. 16, Prices of Farm Products Received by Producers* (1927) with the exception of fruit prices. The USDA bulletin did not report fruit prices until the twentieth century. I obtained fruit prices from an article in the *Cherokee Advocate* March 16, 1881.
[90] This time period may be vary based on climate, fruit tree type, and age of rootstock planted, but it is about 3-7 years for apple and peach trees.

Renters would have little incentive to invest in fruit trees due to uncertainty of their time on the land. Owners would have little incentive to plant fruit trees for their renters. During the initial gestation years with no fruit production, owners would have difficulty monitoring their tenants' care of the tree. Therefore, non-land owning farmers would be less likely to have access to orchard production.

Agricultural data indicates that Cherokee freedmen were much more likely to invest in orchards than southern freedmen. Table 7 shows the percentages of blacks and non-blacks who planted fruit trees in the Cherokee Nation and the South. 59.7% of Cherokee freedmen farmers have planted fruit trees. Their median acreage planted is 3.5, or about 10% of the typical Cherokee freedmen farm's acreage in use. At 25.7, the mean is much higher than the median, indicating the presence of large outliers. These facts suggest that former slaves were able to respond to market forces to make rational and long-term economic plans and did not suffer from a lack of market orientation due to their time in slavery. In the South, only 5.25% of black owners and 2.28% of black farmers planted fruit trees. Those who did invest in orchards planted significantly fewer acres in trees.

To confirm that Cherokee freedmen were relatively much more likely to plant orchards than southern freedmen, table 8 reports the results of the following probit regression

$$Prob(Y=1) = \Phi(\beta_0 + \beta_1 \cdot Black + \beta_2 \cdot CN + \beta_3 (Black \cdot CN) + \gamma X + \varepsilon)$$

The dependent variable equals 1 if any acreage is planted in fruit trees.

Columns 1 to 3 report the results for all farmers, while columns 4 to 7 report the results for owners only regression. The interaction term is positive in both baseline regressions, confirming that the higher rates of orchard ownership in the Cherokee Nation are not solely due to its greater proportion of owner-farmers. Additionally, the interaction term remains positive and significant in the regressions with controls included. As expected, the regressions with controls find that literacy and age are positively correlated with probability of investment in fruit trees. These results tell us that gap in orchard investment between freedmen and whites was considerably smaller in the Cherokee Nation than in the South for both land owners and renters.

The increased propensity to plant orchards in the Cherokee Nation also suggests an explanation for the smaller average acreage of whites in the Cherokee Nation. Fruit cultivation tends to take place as small-scale, intensive farming, while crops such as corn or wheat tend to be grown on larger, more extensive scale (Rhode, 1995). The Cherokee Nation's smaller average farm size may be a reflection of their greater number of fruit trees.

5. Empirical Estimates of the Magnitude of the Difference in the Racial Wealth and Income Gaps

In the above sections, farm-level data demonstrated that the Cherokee freedmen's access to land offered them several advantages over southern freedmen. In particular, blacks in the Cherokee Nation were closer to non-blacks with respect to land ownership rates, farm size, and investment decisions than southern blacks. These facts are consistent with the hypothesis that access to free land would decrease the racial wealth and income gaps.

To estimate the magnitude of the Cherokee freedmen's relative advantage in dollar terms, I will consider two measures of income and wealth obtainable from the agricultural census data: total value of livestock owned and the value of all crops produced. These measures capture slightly different dimensions of wealth and income. Livestock is a useful measure of available capital, investment, and future consumption. For instance, a cow can be used as a piece of capital (a milk producing machine), an investment (buy a cow today, raise it, and sell it for profits in the future and perhaps acquire a few baby cows along the way) and consumption (eating the cow). The value of crops produced is an important and large component of any farmer's income.

a. The Gap in Livestock Wealth

If access to free land enabled Cherokee freedmen to invest more, then one would expect the Cherokee freedmen to be relatively more likely to own livestock than southern freedmen. Columns 1 through 4 of table 9 report the results of a probit regression with the dependent variable equaling 1 if a farmer owned any livestock. For all farmers (columns 1 and 2), the coefficient on the interaction term is positive and significant in both specifications.[91] The gap in livestock ownership rates is smaller for Cherokee freedmen, as would be expected. For owners only (columns 3), the gap is still smaller, but the magnitude is less pronounced than in the all farmer case. Because one determinant of a southern farmer moving up the agricultural ladder from sharecropper to owner was ownership of work stock, this result is not surprising.

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[91] Non-landowning farmers often borrowed or rented livestock from their landowner. Census takers may have reported this borrowed or rented livestock as being owned by the farmer. With such cases possibly present in the U.S. data, then the coefficient on the interaction term should be best viewed as a lower bound on the difference in the gaps. Alternatively, the results for the all farmers regressions can be interpreted as measure of livestock available for use.

The gap in the value of livestock owned is also smaller in the Cherokee Nation than in the South. Columns 4 through 7 of table 9 report the results of a regression with the log value of livestock owned as the dependent variables. To calculate the total value of livestock, I summed the values of all horses, cattle, mules, sheep, and swine reported on a farm according to 1880 farmgate prices. Only farmers with positive livestock values are included in this regression. Results for all farmers and owners only are reported. In all specifications, the gap between value of livestock owned by blacks and whites is significantly smaller in the Cherokee Nation, even after controlling for a variety of covariates. Additionally, not only is the gap smaller, but the absolute level of livestock value is higher for the Cherokee freedmen. These results suggest that access to free land afforded blacks the extra income required to increase their investment in livestock.

b. The Racial Gap in Crop Income

The sale of crops was a primary income source for most farmers. With relative advantages in farm size and investment, the Cherokee freedmen should have relatively higher levels of income from crops than southern freedmen. Table 10 reports regression results for three measures of the log value of crop income. In columns 1 through 4, crop value was computed as the sum of the values of total yields of corn, cotton, oats, wheat, Irish potatoes, and sweet potatoes. The coefficient in the interaction term is positive for all specifications. It is not significant for the baseline case.

There is a problem with this measure of crop value, however. It excludes the value of fruit production. As demonstrated above, fruit production was an important component of a Cherokee farm's crop mix. By excluding the value of fruit, the estimates in columns 1 through 4 did not take into account a large share of Cherokee incomes and

may underestimate the difference between the black-white crop value gaps. The Cherokee Census did not include fruit yields so they must be imputed. The U.S. agricultural sample does contain information on fruit production, and it can be used to calculate median and mean fruit yields per acre. I use these yields to estimate the value of fruit production for each Cherokee farm. Columns 5 through 8 of table 10 report regression results in which the median fruit yield is assumed. The mean fruit yield results are reported in columns 9 through 11. As expected, including either fruit value serves to increase the magnitude of the interaction term in all specifications for both owners and all farmers. The interaction remains significant in all regressions. Additionally, the inclusion of farm size does not alter the significance of the interaction term, suggesting that the Cherokee farms produced higher value per acre, in part due to the higher value per acre of orchards relative to other forms of agricultural.

Both sets of fruit regressions find that, not only is the racial gap smaller in the Cherokee Nation, but the absolute income level for blacks in the Cherokee Nation is higher than the absolute income level for southern blacks. Additionally, in both fruit baseline specifications, the location invariant effect of being black (-0.30) and the coefficient estimate for the interaction (0.30) are of equal magnitude and opposite sign. The net effect of race is 0 is for Cherokee freedmen. This result strongly supports the hypothesis that free land could have a large and positive benefit on former slaves.

c. Total Liquidation Value of Farm Products

In one final exercise, I explore the racial gap in total value of farm production by summing the values of livestock and crops. This measure can be thought of as the total

amount of money a farmer would be able to earn by selling all of his farm products. Table 11 uses the crop value that excludes fruit trees. Table 12 reports estimates under the assumption of mean fruit yield. Table 13 assumes median fruit yields. The smaller racial gap in the Cherokee Nation is robust to all specifications and controls. The Cherokee freedmen again have advantages not only is the smaller size of the gap, but also in absolute levels. These results further support the hypothesis that access to free land would have closed the racial gap in income and wealth levels.

6. Conclusion

How would the distribution of free land have affected the large racial income and wealth gaps that persisted after emancipation? In this paper, I developed an empirical strategy to exploit a plausibly exogenous idiosyncratic variation in policies of the Cherokee Nation and the southern states to identify the impact of free land on the economic outcomes of former slave families. I utilized farm-level data to identify factors that could have positively affected the incomes of former slaves who had access to free land. These factors included higher rates of land ownership, relatively larger farm sizes, and an increased likelihood of planting orchards, which is evidence for higher levels of investment. All three factors suggested that Cherokee freedmen would have had relatively higher income and wealth levels than southern freedmen. I used crop and livestock data to test this hypothesis and found that the black-white wealth and income gap was smaller in the Cherokee Nation than in the South. This finding was robust to numerous regression specifications. The differences are large and consistent with the hypothesis that distributing land to freed slaves could have substantially decreased the racial wealth and income gaps.

There are two reasons to suspect that the estimated differences in the racial wealth and income gaps may understate the true magnitude of the difference in the racial gaps. First, by excluding non-farmers from my estimates, I am excluding a large number of very poor blacks. Table 14 reports the percentage of non-farmers who were employed as laborers. For blacks in both the Cherokee Nation and the South, an overwhelming majority of non-farmers worked as laborers. 85.1% of non-farming black male heads of household in the South were laborers. 82.9% were in the Cherokee Nation. The picture for non-blacks was more different. 35.6% were laborers in the South, with remainder working primarily in white collar or skilled trade occupations. 68.24% were laborers in the Cherokee Nation. Because laborers typically earned lower incomes than farmers, including non-farmers in my income estimates would likely drag down the average black income and wealth level for both the South and the Cherokee Nation. The amount of the decrease would be proportionate the share of laborers in the population. The high landownership rate of Cherokee blacks placed a limit on the number of laborers—only 26.7 percent of male household heads over 18 were laborers. The corresponding figure for the South was 48.16 percent. This larger number of laborers would decrease the average black income in the South more so than in the Cherokee Nation and cause the difference in the racial wealth and income gaps to increase.

Second, my income and wealth estimates assume that farmers had the rights to all of their reported livestock and crop yields. As discussed above, non-owners may not have owned all of their livestock. Additionally, sharecroppers and tenants paid a portion of their crop output to their landowner. Both factors would have decreased the average wealth and income levels of non-land owning farmers. Because of the large fraction of

southern blacks among non-owner farmers, this could have served to further widen the racial wealth and income gaps in the South.

Even with these potential caveats, the magnitude of difference in the racial gaps is quite high. The livestock calculations find that the difference in the wealth gaps was substantial, and ranged from 46% to 75%.[92] For crop income measures, the difference in the gap was smaller, but still substantial. My estimates place it between 20 to 56%. These results suggest that Reconstruction era policy makers had the opportunity to greatly diminish the levels of American racial inequality. As Thaddeus Stevens, a powerful congressman who proposed a detailed plan to distribute land to the former slaves, argued, "We have turned…loose four million slaves without a hut to shelter them or a cent in their pocket… If we do not furnish them with homesteads… we had better have left them in bondage."[93] Despite this rousing rhetoric and powerful supporters, no land distribution bill ever became law.[94] This failure was lamented by General O.O. Howard, Superintendent of the Freedmen's Bureau, who wrote with great prescience, that,

> Probably much more might have been done to develop the industry and energy of the colored race if I had been able to furnish each family with a small tract of land to till for themselves.[95]

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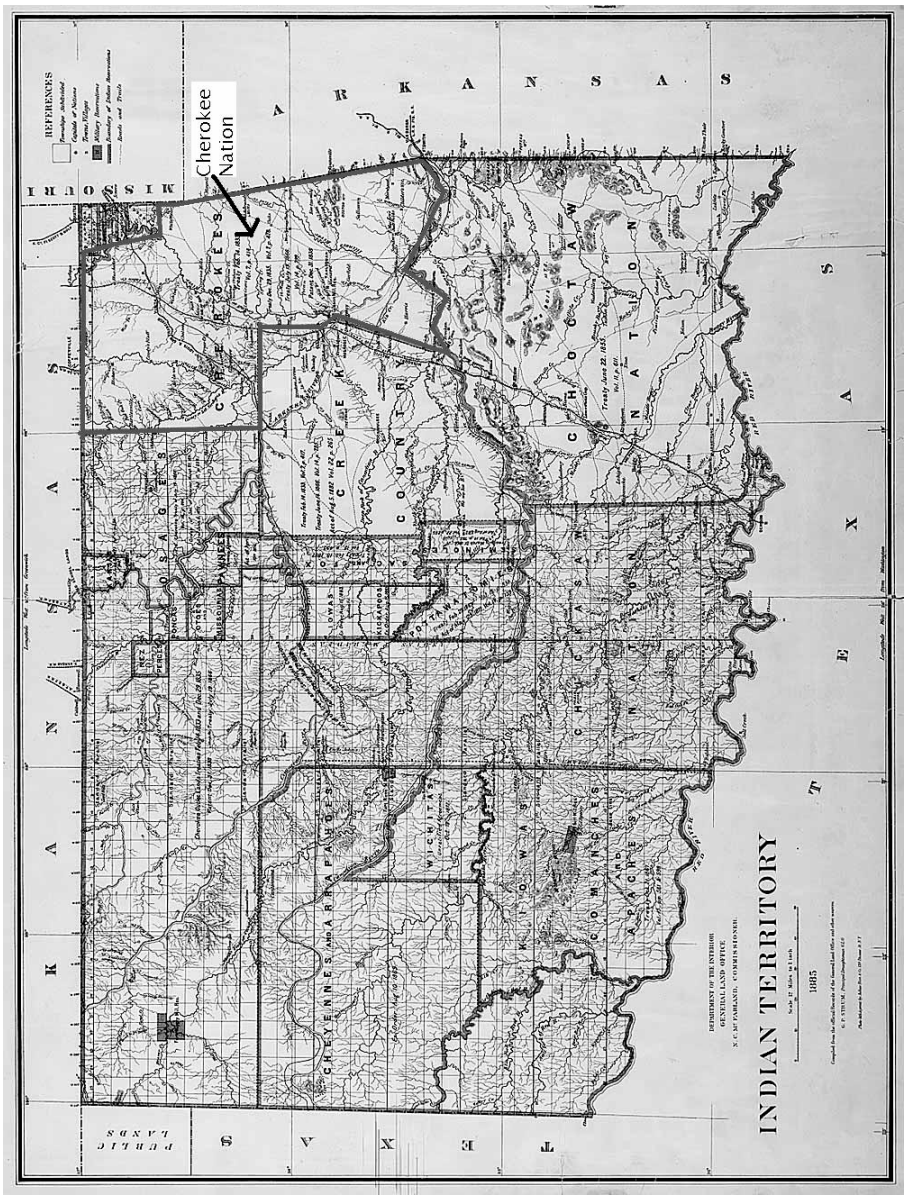
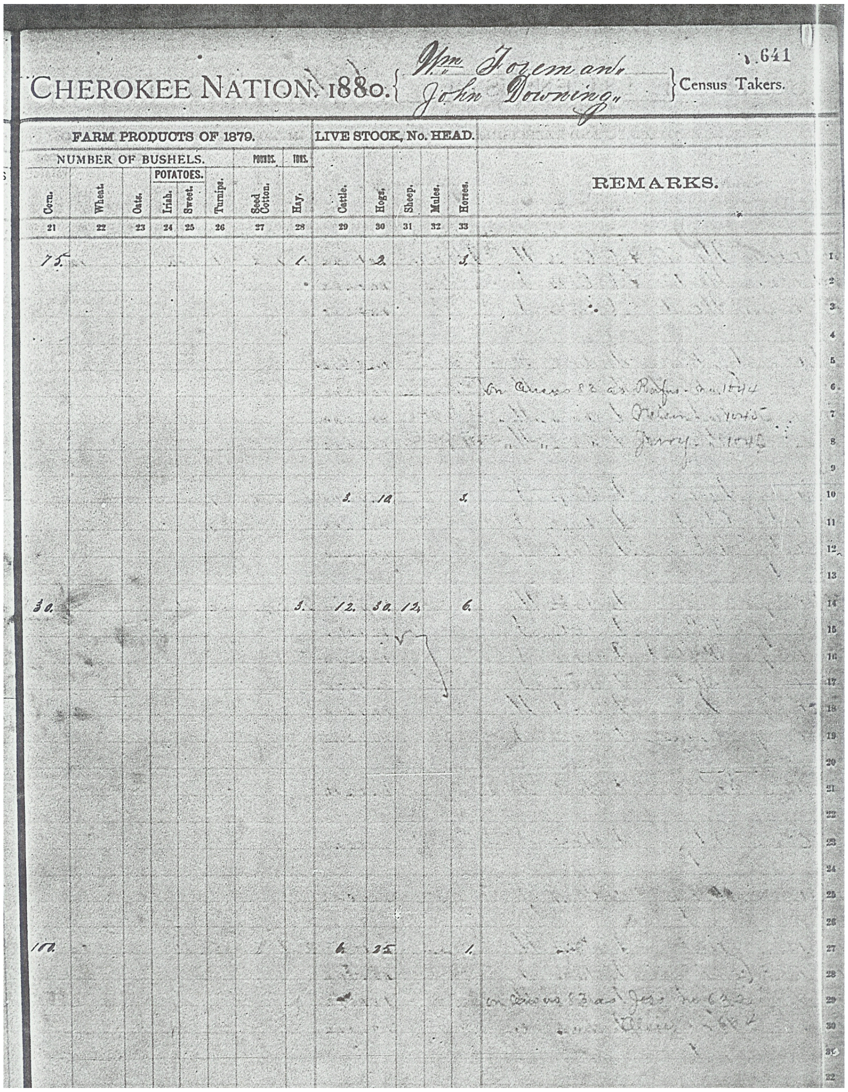
[92] Because of the semi-log specification used in these regressions, the coefficient must be transformed with (e^β - 1)*100 to be interpreted as a percent difference.
[93] Quoted in Jaynes (1986), 19.
[94] Besides Stevens, who chair of the House Ways and Means Committee, other supporters of land distribution included men such as George Washington Julian, chair of the House Committee on Public Lands, and Charles Sumner, chair of the Senate Committee on Foreign Relations
[95] Quoted in Ransom and Sutch (1977), 80.

Figure 2.1: Map of Indian Territory, 1885 (present day Oklahoma)



Source: National Archives and Records Administration, Records of the General Land Office, Record Group 49. Available at: http://www.archives.gov/education/lessons/fed-indian-policy/images/territory-map-01.jpg

Figure 2.2: Sample Census Pages from the 1880 Cherokee Census


CHEROKEE NATION. 1880. { Wm Fozeman and John Downing } Census Takers. 641

	Corn. 21	Wheat. 22	Oats. 23	Irish. 24	Sweet. 25	Turnips. 26	Seed Cotton. 27	Hay. 28	Cattle. 29	Hogs. 30	Sheep. 31	Mules. 32	Horses. 33	REMARKS.
1	75							1		2			3	
10									5	10			5	
14	30							3	12	30	12		6	
27	100								6	25			1	

641 31

SCHEDULE 1. CENSUS OF Saline DISTRICT,

	PERSONS ENTITLED TO AND EXERCISING CITIZENSHIP.									IMPROVEMENTS AND FARMS, 1880.				TOTAL ACRES IN CULTIVATION.					POTATOES	
	NAMES	Native or Adopted.	Race or Prior Nationality.	AGE.	SEX.	OCCUPATION.	Can Read.	Can Write.	Married, Yes or No.	Dwellings.	Other Structures.	No. of Farms.	Total No. Acres Enclosed.	Corn.	Wheat.	Oats.	Cotton.	Fruit Trees.	Irish.	Sweet.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
573	Johnson Murrel	√A.	Cl.	29.	M.	F 7324 Farmer	na.	yes.	na.	1.	2.	1.	1.	25.				10.		
574	Johnson Martha	√A.	Cl.	25.	F.	F 341	na.	na.	na.											
575	Johnson Maud	√A.	Cl.	18.	F.	F 342	na.	na.	na.											
576	Jones Cintha	√N.	Cher.	8.	F.	~~D 2085~~	yes.	yes.	na.	9041										
577	Jones Dalight	√N.	Cher.	5.	M.	~~D 2086~~	na.	na.	na.	9056										
578	Jones Cullohtahy	√N.	Cher.	3.	M.	D 2087	na.	na.	na.											
579	Jones Steve	√N.	Cher.	1.	M.	~~D 2088~~	na.	na.	na.	8834										
580	Josey Nicasy DEAD	√N.	Cher.	47.	F.	DEAD.	na.	na.	na.	1.	1.	1.	4.							
581	Josey Elsy	√N.	Cher.	12.	F.	8813	na.	na.	na.	Party No 3										
582	Josey Chi-nar-sea (Jancy)	√N.	Cher.	10.	F.	7256	na.	na.	na.											
583	Jumper	√N.	Cher.	39.	M.	DEAD.	yes.	na.	yes.	2.	6.	1.	20.	6.				2.		30.
584	Jumper Cullie-key	√N.	Cher.	29.	F.	DEAD.	na.	na.	yes.											
585	Jumper Polley	√N.	Cher.	11.	F.	7849	na.	na.	na.	Party No 3										
586	Jumper Sallie	√N.	Cher.	7.	F.	7731	na.	na.	na.											
587	Jumper Nick	√N.	Cher.	6.	M.	7970	na.	na.	na.	Party No 4										
588	Jumper Susie	√N.	Cher.	15.	F.	9085	na.	na.	na.	" No 3										
589	Jones Sallie	√N.	Cher.	18.	F.	√D 2089	yes.	yes.	na.											
590	Johnson Betsy	√N.	Cher.	30.	F.	√D 2090	na.	na.	na.											
591	Johnson Cealy	√A.	Cl.	17.	F.	F 815	na.	na.	na.											
592	Jones Bird	√N.	Cher. [illegible]		M.	9054	yes.	yes.	yes.	2.	2. Party No 3							60		10.
593	Jones Alkiney	√N.	Cher.	37.	F.	DEAD.	na.	na.	yes.											
594	Jones Tonah	√N.	Cher.	5.	M.	DEAD.	na.	na.	na.											
595	Jones Mary	√N.	Cher.	18.	F.	8818	na.	na.	na.	Party No 3										

Figure 2.3: Literacy Rates in the Cherokee Nation and the South

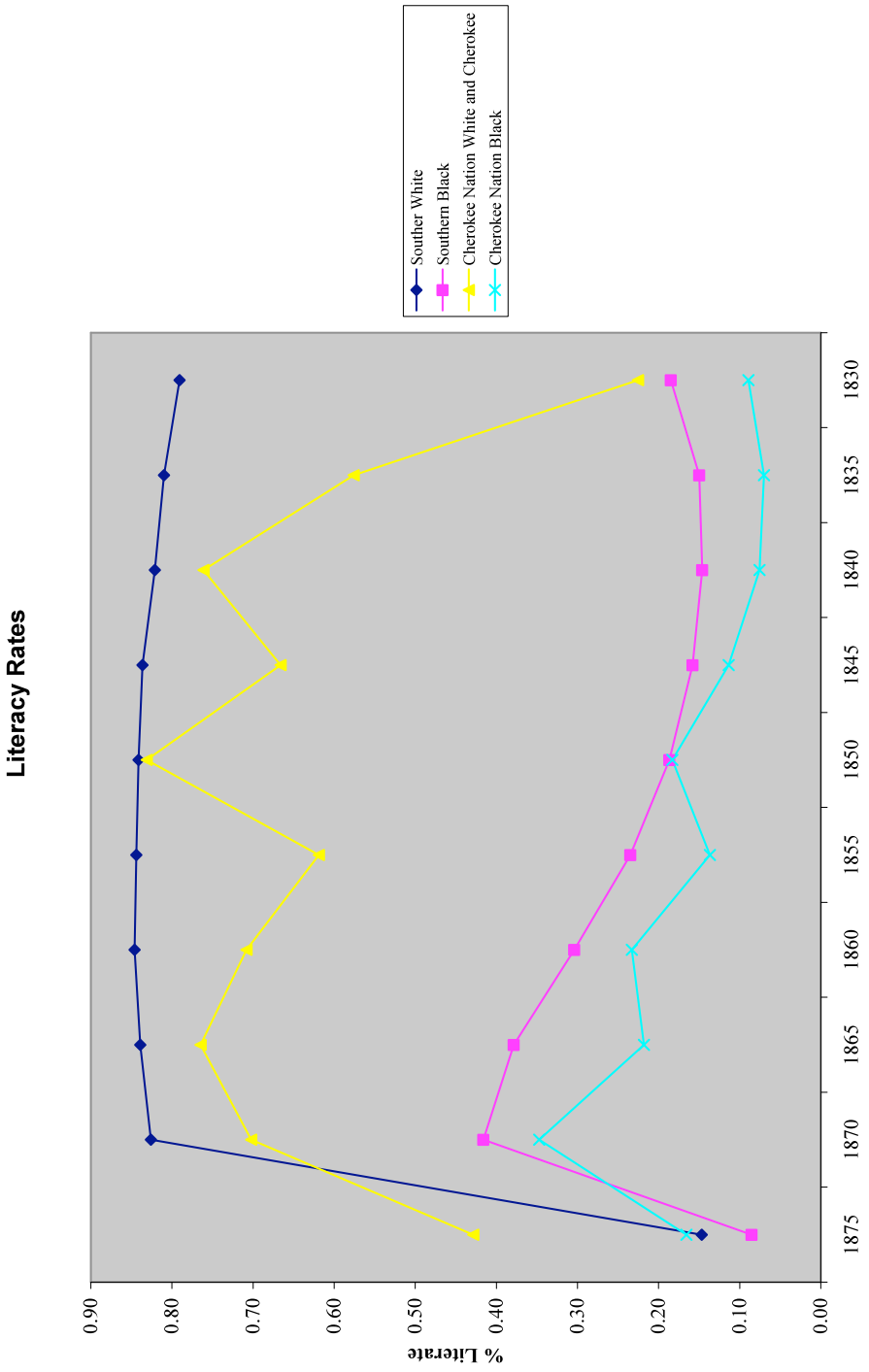


Figure 2.4: Slaveholdings by Size, 1860

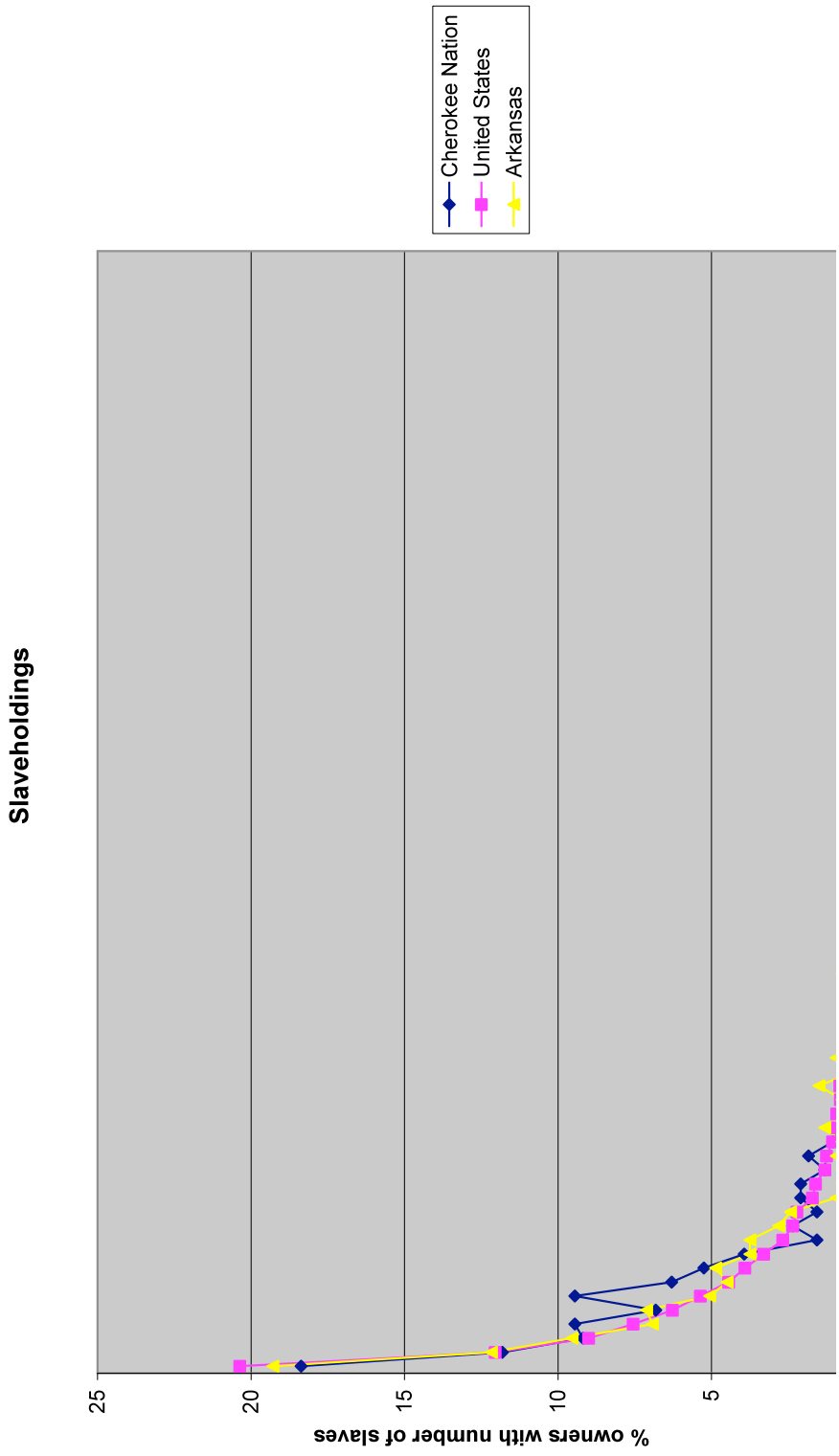
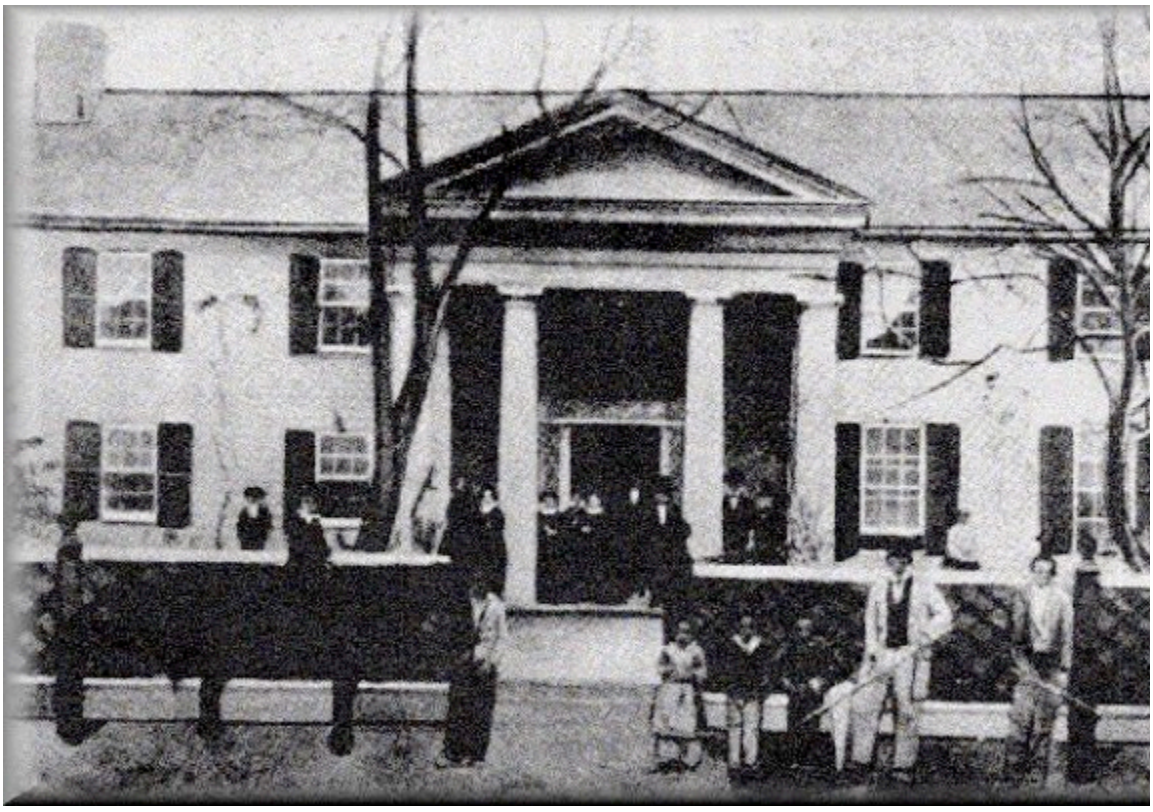


Figure 2.5: Plantation House in Cherokee Nation



Contemporary photo of Rose Cottage, the home of Cherokee Chief John Ross. Located in Park Hill, Tahlequah, Cherokee Nation. The house was destroyed during the Civil War.

Source: http://cherokeehistory.com/roseco~1.jpg

Appendix 2.1: Article 9 of the Treaty between the United States and the Cherokee Nation, 19 July 1866

The Cherokee Nation having, voluntarily, in February, eighteen hundred and sixty-three, by an act of the national council, forever abolished slavery, hereby covenant and agree that never hereafter shall either slavery or involuntary servitude exist in their nation otherwise than in the punishment of crime, whereof the party shall have been duly convicted, in accordance with laws applicable to all the members of said tribe alike. They further agree that all freedmen who have been liberated by voluntary act of their former owners or by law, as well as all free colored persons who were in the country at the commencement of the rebellion, and are now residents therein, or who may return within six months, and their descendants, shall have all the rights of native Cherokees: Provided, That owners of slaves so emancipated in the Cherokee Nation shall never receive any compensation or pay for the slaves so emancipated.

Source: http://www.firstpeople.us/FP-Html-Treaties/TreatyWithTheCherokee1866.html

Appendix 2.2: 1880 Cherokee Census

Information Collected

Demographic Information	Name Native or Adopted Race or Prior Nationality Age Occupation Can Read Can Write Married—Yes or No
Acres in Cultivation	Corn Wheat Oats Cotton Fruit Trees Irish Potatoes Sweet Potatoes
Crop Yields	Corn (bushels) Wheat (bushels) Oats (bushels) Irish Potatoes (bushels) Sweet Potatoes (bushels) Turnips (bushels) Seed Cotton (pounds) Hay (tons)
Livestock	Cattle Hogs Sheep Mules Horses
Misc.	Remarks
Added Later	Dawes Enrollment Status

Comparison of Entire Cherokee Nation vs. Sample

Variable	Entire Nation	*Sample*
Total Population	19,735*	11,899
Cherokee	15,307	8790
White	1,032	564
Colored	1,976	1784
Other	1,420	761
Number of Families	4,262	3,982 (2,674 without singles)
Occupations		
Farmers	3,549	2260
Mechanics	133	31 (88 skilled trades)
Clerks	12	4
Teachers	82	42
Millers	5	4
Traders	36	9
Attorneys	11	10 (inc. judges)
Trappers	2	3
Hunters	16	9
Preachers	24	12
Physicians	20	13
Fishermen	5	3
Stockmen	13	6
Various	8	102
Livestock		
Cattle	67,405	42,706
Hogs	108,552	66,434
Sheep	14,574	9,210
Mules	1,259	829
Horses	13,643	8,395
Crop Yields		
Corn	731,601	428,490
Wheat	59,118	36,237
Oats	53,893	31,728
Irish Potatoes	16,286.5	10,201.25
Sweet Potatoes	10,489.5	6,589.75
Turnips	9,041	5,079
Seed Cotton	2,449,830	1,839,513
Hay	10,222.25	6,064.25

Acres in Cultivation		
Corn	59,486	32,151.5
Wheat	9,899	4,715.5
Oats	5,420	2,804.75
Cotton	6,307.5	5,138
Irish Potatoes	529.375	408.667
Sweet Potatoes	438.375	357.37
Improvements		
Dwellings	5,506	3,308
Other Structures	7,103	4,162
Number of Farms	4,104	2,434
Acres Enclosed	110,955	63,238

***** These summary statistics do not include orphans under 16 years. There were 351 such citizen orphans who were enumerated on a separate orphan schedule. The 601 people that the National Council later added as citizens are also not included. Statistics for the entire Nation taken from aggregate statistics provided by the Cherokee government to the United States ("Conditions of Indian Tribes," 1886).

Appendix 2.3: Variables in the *One Kind of Freedom* Dataset

State
County
Enumeration district number
Agricultural census page number
Agricultural Census line number
Population census page number
Population census line number
Race of farm operator
Literacy
Age of farm operator
Number of people in the house including operator
Number of people at work including operator
Birthplace of farm operator
Tenure
Acres of meadow
Acres of woodland
Other acres
Value of farm
Value of farm implements
Value of livestock
Cost of fence
Cost of fertilizer
Value of farm products
Number of horses
Number of mules
Total wage bill
Man-weeks of White labor
Man-weeks of Colored labor
Number of oxen
Number of milch cows
Number of other cattle
Number of sheep
Number of swine
Acres of corn
Bushels of corn
Acres of cotton
Bales of cotton
Bushels of sweet potatoes
Numbers of acres in other crops
Number of other crops
Acres and Production of up to 4 other crops

Appendix 2.4: A Selection of Cherokee Nation Slave Laws

Cherokee Nation Laws Relating to Slavery or Race
• People could not purchase goods from slaves. • Slaves were forbidden to purchase liquor. • Slaves were later forbidden to own property. • Slaves could not marry Cherokees or whites. • Owners were legally permitted to practice deadly levels "moderate correction" on their slaves. • A mother's slave status determining that of her children. • Anyone of "negro or mulatto parentage" could not hold public office. • A citizen could not marry a non-citizen "person of color." • Free blacks without Cherokee blood could not hold any property or improvements. At the time of this law's passage in 1840, the few blacks who did own property had it seized and sold. • Blacks could not sell liquor. • Slaves must have a pass to leave owner's property. • Slaves could not carry weapons. • Slaves could not be taught to read or write. • In 1842, all free blacks who had not been freed by a Cherokee citizen were forced to leave the nation. • Former owners were personally responsible for the conduct of any manumitted slaves. • Free blacks were prohibited from encouraging or helping slaves escape from their owners. • In 1848, the prohibition against teaching slaves to read or write was expanded to include all blacks. • Individuals with abolitionist sentiments were forbidden from teaching in the nation's schools.

Sources: Perdue (50-58), Miles (143), Littlefield (19-20).

Table 2.1: Literacy Rates in the South and Cherokee Nation

		South		Cherokee Nation	
Age Range	**Birth Cohort**	**White**	**Black**	**Cherokee/White**	**Black**
6 to 10	1875	0.15	0.09	0.43	0.17
11 to 15	1870	0.83	0.42	0.70	0.35
16 to 20	1865	0.84	0.38	0.76	0.22
21 to 25	1860	0.85	0.30	0.71	0.23
26 to 30	1855	0.84	0.23	0.62	0.14
31 to 35	1850	0.84	0.19	0.83	0.18
36 to 40	1845	0.84	0.16	0.67	0.11
41 to 45	1840	0.82	0.15	0.76	0.08
46 to 50	1835	0.81	0.15	0.58	0.07
51+	1830	0.79	0.18	0.23	0.09

Sources: 1880 Cherokee Census and IPUMS sample of the 1880 United States Census. For 6-10 year old, the United States Census report does not include literacy information for all children. The Cherokee Census does. Children with missing literacy information is the United States are counted as illiterate. If those children are excluded, the white literacy rate for that age group is 85% and the black rate is 38%.

Table 2.2: Comparison of Slave Populations, 1859

	Cherokee Nation	Arkansas	United States
Sampling Rate	100	5	5
Slave Information			
% Total Population Enslaved	15	25	32.27
% Female	50.7	48.94	49.69
Mean Age	19.15	19.03	20.13
Fugitives	0	0	14
Manumitted	0	0	17
Slaveholding Information			
Mean Slaveholding	6.57	9.21	9.72
Median Slaveholding	5	5	5
Min Slaveholding	1	1	1
Max Slaveholding	56	160	527

Sources: See text.

Table 2.3: Comparison of Available Information on Cherokee Nation and the South in 1860

	1860	
	Cherokee Nation	**Southern United States**
Total Population	23511	9103332
Slaves/Black	2511	3118704
% Slave/Black	11	34
Acreage	102500*	56832153**
per capita	4.4	6.24
Total Value of Listed Livestock ***	2884350	1081679455
per capita	122.68	118.82

* Acreage in cultivation
** Improved Acres
*** Livestock types include sheep, mules, horses, and cattle.
Sources: See text.

Table 2.4: Comparison of the Southern and Cherokee Nation Freedmen Populations in 1880

	South	Cherokee Nation
Percent Female	50.46	51.12
Mean Age	20.92 (17.72)	19.65 (17.62)
Percent Married*	70.81	64.73
Percent Female Headed Households	18	33.96, 26.13**

Standard errors in parenthesis
* Percent married, spouse either absent or present, for people age 20 and over.
** First result is for all families, second result is for all families except people listed as single.
Source: See text.

Table 2.5: Farm Ownership in the Cherokee Nation and the South

	% Farmers Who Own Land		% Male Household Heads Who were Farmers		Implied Farm Ownership Rate	
	Black	**White**	**Black**	**White**	**Black**	**White**
Cherokee Nation	100	100	67.8	70.4	67.8	70.4
South	28.4	73.7	43.4	70.7	12.3	52.1

Source: See text.

Table 2.6: Acres in Use

Acres in Use	Owners Only			All Farmers		
	1	2	3	4	5	6
Black=1	-44.81***	-32.62***	-42.30***	-35.23***	-25.05***	-30.25***
	[3.65]	[3.52]	[5.64]	[2.50]	[2.21]	[3.00]
Cherokee Nation=1	-26.31***	-16.09***	-5.05	-17.01***	-9.58***	-1.21
	[4.06]	[4.21]	[6.121]	[3.46]	[3.33]	[5.32]
Black x Cherokee Nation=1	**19.59*** [5.12]**	**16.87*** [5.04]**	**25.56*** [6.50]**	**10.02** [4.37]**	**7.06* [4.28]**	**12.14*** [4.54]**
Age		2.65***	2.36***		2.62***	2.39***
		[0.76]	[0.72]		[0.45]	[0.42]
Age x Age		-0.02***	-0.02***		-0.02***	-0.02***
		[0.01]	[0.01]		[0.00]	[0.00]
Literate=1		21.84***	17.24***		17.11***	14.31***
		[4.18]	[4.32]		[2.40]	[2.32]
Constant	75.65***	-11.32	-15.84	66.36***	-15.03	-18.56*
	[3.19]	[19.56]	[19.22]	[2.38]	[10.41]	[10.51]
Soil Controls			Yes			Yes
Observations	5902	5842	5842	8603	8521	8521
Adj. R-squared	0.01	0.01	0.07	0.01	0.02	0.06
Prob > F	67.96	38.39	21.53	83.2	48.64	23.39

Robust standard errors reports in brackets. Sampling weights are used. Farmers from the 1880 Cherokee Census sample and the 1880 United States Census sample are included in all regressions.

Table 2.7: Summary Statistics of Acreage Devoted to Orchards in the Cherokee Nation and Southern States

	South				Cherokee Nation	
	All		Owners		All	
	White	Black	White	Black	Cherokee and White	Black
% with acreage in orchards	19.69	2.28	24.19	5.26	65.76	59.71
Mean Acres in Fruit Trees if Any Acres in Fruit Trees	2.88	1.91	2.89	1.51	44.59	25.7
Median Acres in Fruit Trees if Any Acres in Fruit Trees	2	1	2	1	4	3.5

Source: 1880 Cherokee Census sample and 1880 United States Agricultural Census Sample

Table 2.8 Positive Acreage Devoted to Fruit Trees

Table 8: Positive Acreage Devoted to Fruit Trees

	Probit with robust standard errors. dF/dx reported.						
Dependent variable = 1 if positive acreage is devoted to fruit trees	**All Farmers**			**Owners Only**			
	1	**2**	**3**	**4**	**5**	**6**
Black	-0.174***	-0.149***	-0.115***	-0.189***	-0.174***	-0.143***
	(0.010)	(0.010)	(0.013)	(0.018)	(0.018)	(0.023)
Cherokee Nation	0.232***	0.039	0.085***	0.221***	-0.011	0.211***
	(0.013)	(0.026)	(0.031)	(0.015)	(0.033)	(0.043)
Black x Cherokee Nation	**0.272*****	**0.220*****	**0.191*****	**0.247*****	**0.225*****	**0.200*****
	(0.042)	**(0.041)**	**(0.041)**	**(0.057)**	**(0.058)**	**(0.059)**
Age			0.012***			0.017***
			(0.002)			(0.004)
age x age			-0.000***			-0.000***
			(0.000)			(0.000)
Literate = 1			0.057***			0.076***
			(0.014)			(0.025)
Farm Size			0.000**			0.000**
			(0.000)			(0.000)
Soil Controls	No	Yes	Yes	No	Yes	Yes
Observations	8603	8603	8521	5902	5902	5842
Pseduo R-squared	0.077	0.137	0.181	0.031	0.111	0.143
Prob > Chi-Squared	724.7	1882	1048	332.4	655.5	665.8

Robust standard errors reports in brackets. Sampling weights are used. Farmers from the 1880Cherokee Census sample and the 1880 United States Census sample are included in all regressions.

Figure 2.9: Livestock Ownership

	Probit: Dependent variable = 1 if any livestock is owned			OLS: Depended variable is Log Value of Livestock			
	All farmers		Owners	All farmers		Owners	
	1	2	3	4	5	6	7
Black	-0.076***	-0.024***	-0.019*	-0.78***	-0.52***	-0.80***	-0.59***
	(0.008)	(0.008)	(0.011)	(0.04)	-0.03	(0.07)	(0.07)
Cherokee Nation	-0.024***	0.004	0.001	0.43***	1.13***	0.41***	0.64***
	(0.007)	(0.003)	(0.004)	(0.03)	-0.08	(0.09)	(0.09)
Black x Cherokee Nation	**0.020*****	**0.007*****	**0.004****	**0.56*****	**0.38*****	**0.56*****	0.51***
	(0.003)	**(0.002)**	**(0.002)**	**(0.08)**	**(0.07)**	**(0.10)**	(0.09)
Age		0.001**	0.001*		0.05***		0.05***
		(0.000)	(0.000)		(0)		(0.01)
Age2		-0.000**	-0.000*		-0.00***		-0.00***
		(0.000)	(0.000)		(0)		(0.00)
Literate = 1		0.003	0.003		0.27***		0.27***
		(0.003)	(0.003)		(0.02)		(0.05)
Farm Size		0.000***	0.000***		0.00***		0.00***
		(0.000)	(0.000)		(0)		(0.00)
constant				5.06***	3.08***	4.87***	3.18***
				(0.02)	(0.12)	(0.07)	(0.18)
Soil Controls		Yes	Yes	No	Yes	No	Yes
Observations	8603	8276	5441	8286	12214	5767	5710
Adj. R-squared	0.098	0.177	0.194	0.11	0.35	0.19	0.31
Prob > F	123.6	173.3	88.94	304.6	109.8	32.26	34.01

Robust standard errors reports in brackets. Sampling weights are used.Farmers f rom the 1880 Cherokee Census sample and the 1880 United States Census sample are included in all regressions.

Table 2.10: Log Value of Crops Produced

Log Value of Crop Income	Non Fruit Crop Income				Fruit Income Included, yield=50/acre and 50 cents/bushel (mean)				Fruit Income Included, yield=30/acre and 50 cents/bushel (median)			
	All farmers			Owners	All farmers		owners		all farmers		owners	
	1	2	3	4	5	6	7	8	9	10	11	
Black	-0.28***	-0.25***	-0.20***	-0.37***	-0.30***	-0.26***	-0.21***	-0.39***	-0.30***	-0.21***	-0.39***	
	(0.03)	(0.04)	(0.04)	(0.07)	(0.03)	(0.04)	(0.04)	(0.07)	(0.03)	(0.04)	(0.07)	
Cherokee Nation	-0.74***	-0.25***	-0.37***	-0.04	-0.09*	1.08***	0.97***	0.33**	0.35***	1.26***	0.84***	
	(0.05)	(0.09)	(0.10)	(0.12)	(0.05)	(0.09)	(0.09)	(0.13)	(0.05)	(0.09)	(0.13)	
Black x Cherokee Nation	**0.18**	**0.23****	**0.23****	**0.45*****	**0.30****	**0.21***	**0.21****	**0.44*****	**0.30*****	**0.24****	0.47***	
	(0.11)	**(0.11)**	**(0.11)**	**(0.12)**	**(0.12)**	**(0.11)**	**(0.11)**	**(0.12)**	**(0.11)**	**(0.10)**	(0.11)	
age		0.05***	0.04***	0.05***		0.05***	0.04***	0.05***		0.04***	0.05***	
		(0.01)	(0.01)	(0.01)		(0.01)	(0.01)	(0.01)		(0.01)	(0.01)	
age x age		-0.00***	-0.00***	-0.00***		-0.00***	-0.00***	-0.00***		-0.00***	-0.00***	
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	
Literate = 1		0.20***	0.17***	0.28***		0.21***	0.18***	0.29***		0.19***	0.30***	
		(0.04)	(0.04)	(0.06)		(0.04)	(0.04)	(0.06)		(0.04)	(0.06)	
Farm Size			0.00**	0.00**			0.00**	0.00**		0.00**	0.00**	
			(0.00)	(0.00)			(0.00)	(0.00)		(0.00)	(0.00)	
constant	5.68***	4.25***	4.24***	4.11***	5.70***	4.26***	4.30***	4.18***	5.70***	4.30***	4.18***	
	(0.02)	(0.14)	(0.14)	(0.20)	(0.02)	(0.14)	(0.14)	(0.19)	(0.02)	(0.14)	(0.19)	
Soil Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	
Observations	7205	7137	7137	4648	7402	7334	7334	4843	7402	7334	4843	
R-squared	0.02	0.11	0.18	0.19	0.02	0.11	0.18	0.19	0.02	0.18	0.19	
Adj. R-squared	0.02	0.11	0.17	0.19	0.02	0.11	0.18	0.19	0.02	0.18	0.19	
Prob > F	109.0	37.03	36.52	31.28	34.08	40.30	41.71	33.05	69.50	48.83	36.18	

Robust standard errors reports in brackets. Sampling weights are used. Farmers from the 1880 Cherokee Census sample and the 1880 United States Census sample are included in all regressions.

Table 2.11: Log Value of Total Income---No Fruit Included

Log Total Income No Fruit	All Farmers			Owners		
	1	2	3	4	5	6
Black	0.40***	0.34***	0.28***	0.62***	0.49***	0.42***
	(0.03)	(0.04)	(0.04)	(0.06)	(0.06)	(0.06)
Cherokee Nation	**-**0.36***	0.26***	0.18**	**-**0.49***	**-**0.01	**-**0.00
	(0.03)	(0.08)	(0.08)	(0.03)	(0.10)	(0.10)
Black x Cherokee Nation	**0.79*****	**0.76*****	**0.72*****	**1.01*****	**0.94*****	**0.89*****
	(0.08)	**(0.08)**	**(0.08)**	**(0.09)**	**(0.09)**	**(0.09)**
Age		0.06***	0.06***		0.06***	0.06***
		(0.01)	(0.01)		(0.01)	(0.01)
age x age		**-**0.00***	**-**0.00***		**-**0.00***	**-**0.00*
		(0.00)	(0.00)		(0.00)	(0.00)
Literate = 1		0.27***	0.24***		0.32***	0.29***
		(0.04)	(0.04)			(0.05)
Farm Size			0.00***			0.00***
			(0.00)			(0.00)
Constant	6.13***	4.13***	4.17***	6.26***	4.18***	4.22***
	(0.02)	(0.14)	(0.14)	(0.02)	(0.18)	(0.17)
Soil Controls	No	Yes	Yes	No	Yes	Yes
Observations	8254	8175	8175	5685	5627	5627
Adj R-squared	0.04	0.16	0.26	0.05	0.17	0.28
Prob > F	83.89	41.19	42.81	90.15	32.79	32.79

Total income calculated as the sum of crop income and livestock value. Robust standard errors reports in brackets. Sampling weights are used. Farmers f rom the 1880 Cherokee Census sample and the 1880 United States Census sample are included in all regressions.

Table 2.12: Variants of Log Value of Total Income—Mean Fruit Yields of 30 Bushels

Log Total Income with Median Fruit Yield of 30 bushels/acre	All Farmers			Owners		
	1	2	3	5	6	7
Black	-0.42***	-0.34***	-0.28***	-0.64***	-0.50***	-0.43***
	(0.03)	(0.04)	(0.04)	(0.06)	(0.06)	(0.06)
Cherokee Nation	0.06*	0.45***	0.45***	-0.07*	0.35***	0.35***
	(0.04)	(0.11)	(0.10)	(0.04)	(0.11)	(0.11)
Black x Cherokee Nation	**0.93*****	**0.85*****	**0.82*****	**1.15*****	**1.04*****	**0.98*****
	(0.08)	**(0.08)**	**(0.07)**	**(0.10)**	**(0.09)**	**(0.09)**
Age		0.06***	0.06***		0.06***	0.06***
		(0.01)	(0.01)		(0.01)	(0.01)
age x age		-0.00***	-0.00***		-0.00***	-0.00***
		(0.00)	(0.00)		(0.00)	(0.00)
Literate = 1		0.28***	0.25***		0.34***	0.30***
		(0.04)	(0.04)		(0.05)	(0.05)
Farm Size			0.00***			0.00***
			(0.00)			(0.00)
Constant	6.15***	4.15***	4.19***	6.28***	4.20***	4.23***
	(0.02)	(0.14)	(0.14)	(0.02)	(0.18)	(0.17)
Soil Controls	No	Yes	Yes		Yes	Yes
Observations	8271	8192	8192	5702	5644	5644
R-squared	0.04	0.17	0.27	0.05	0.18	0.28
Adj R-squared	0.04	0.16	0.26	0.05	0.17	0.28
Prob > F	114.9	49.16	52.12	60.27	32.24	32.28

Total income calculated as the sum of crop income and livestock value. Robust standard errors reports in brackets. Sampling weights areused. Farmers f rom the 1880 Cherokee Census sample and the 1880 United States Census sample are included in all regressions.

Table 2.13: Variants of Log Value of Total Income—Median Fruit Yield of 50 bushels/acres

Log Total Income with Mean Fruit Yield of 50 bushels/acre	All Farmers			Owners		
	1	2	3	4	5	6
Black	0.42***	-0.34***	-0.28***	-0.64***	-0.50***	-0.43***
	(0.03)	(0.04)	(0.04)	(0.06)	(0.06)	(0.06)
Cherokee Nation	-0.08**	0.25**	0.25**	-0.21***	0.15	0.15
	(0.04)	(0.10)	(0.10)	(0.04)	(0.11)	(0.10)
Black x Cherokee Nation	**0.89*****	**0.80*****	**0.76*****	**1.11*****	**0.98*****	**0.93*****
	(0.08)	**(0.08)**	**(0.07)**	**(0.10)**	**(0.09)**	**(0.09)**
Age		0.06***	0.06***		0.06***	0.06***
		(0.01)	(0.01)		(0.01)	(0.01)
age x age		-0.00***	-0.00***		-0.00***	-0.00***
		(0.00)	(0.00)		(0.00)	(0.00)
Literate = 1		0.28***	0.25***		0.34***	0.30***
		(0.04)	(0.04)		(0.05)	(0.05)
Farm Size			0.00***			0.00***
			(0.00)			(0.00)
Constant	6.15***	4.15***	4.19***	6.28***	4.20***	4.24***
	(0.02)	(0.14)	(0.14)	(0.02)	(0.18)	(0.17)
Soil Controls	No	Yes	Yes	No	Yes	Yes
Observations	8271	8192	8192	5702	5644	5644
R-squared	0.04	0.17	0.27	0.05	0.18	0.28
Adj R-squared	0.04	0.16	0.26	0.05	0.17	0.28
Prob > F	90.61	47.11	49.86	55.39	33.13	33.19

Total income calculated as the sum of crop income and livestock value. Robust standard errors reports in brackets. Sampling weights are used. Farmers f rom the 1880 Cherokee Census sample and the 1880 United States Census sample are included in all regressions.

Table 2.14: Laborers in the Non-Farming Population

Percentages	Black	Non-Black
Cherokee Nation	82.9	68.24
South	85.1	35.6

Chapter 3

The Blight and Shadow of Slavery

> We still linger in the shadow and blight of an extinct institution.
> -Frederick Douglass[96]

During the 1890s, Zack Foreman, a wealthy black cattleman in the Cherokee Nation, struck a deal with the Kansas City Southern Railroad.[97] If Foreman would prepare the roadbed, the railroad would lay the steel. He soon had his own train line, and was the "only Negro in the United States at the time who privately owned a railroad."[98] Foreman's wealth and property were exceptional during a time period when blacks' income and wealth levels lagged far behind those of whites. In 1900, blacks held only 1/23 the property of whites and had an average income that was just 7/20 that of whites (Higgs: 1977, 1982). While Foreman may have been able to partially escape the "shadow

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[96] "The Color Line in America." Frederick Douglass, *Three Addresses on the Relations Subsisting Between the White and Colored People of the United States*, Washington, 1886, pp. 3.
[97] The Cherokee Nation was located in Indian Territory. Indian Territory, which initially encompassed all United States territory west of the Mississippi (excluding Missouri, Louisiana, and Arkansas), was established in 1834. By the outbreak of the Civil War, the Territory's area had been whittled down to what is now known as the state of Oklahoma. Its western half became Oklahoma Territory in 1890, and it was here that the famous "Sooners" participated in runs for land. The eastern half remained Indian Territory until 1907, when the Oklahoma and Indian Territories merged to form the state of Oklahoma. See map 1.
[98] J.J. Cape Interview, GFPHC, 88:56-58. Quoted in Wickett, M. R. (2000).

and blight" of slavery that trapped so many blacks in the United States, his success in some measure can be attributed to an accident of his birth place. As a former slave in the Cherokee Nation, he possessed a key advantage over blacks in the southern United States: free land.

An 1866 treaty between the Cherokee Nation and the United States guaranteed the Cherokee's former slaves the right to claim and improve any unused land in the Nation's public domain. During the American Civil War, the Cherokee Nation had joined the Confederacy. The Union's victory placed the Cherokee Nation on the losing side, and, as a "domestic dependent nation," the Cherokee Nation was forced to reach its own separate peace with the North.[99] During treaty negotiations, the United States insisted that the Cherokees offer their former slaves (who were of African descent) citizenship with, "all the rights of native Cherokees."[100] According to the laws of the Nation, all citizens, including the freed slaves, were guaranteed the right to claim and improve any unused land in the Nation's public domain.[101] Armed with farming supplies provided by the Department of Interior, many Cherokee freedmen abandoned sharecropping and wage labor to start their own farms when the treaty went into effect.[102]

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[99] John Marshall famously declared the Cherokee Nation a "denominated domestic dependent nation" in *Cherokee Nation v. Georgia,* 30 U.S. 1 (1831). The practical implication of the designation is that the Cherokee Nation had a government that could enact and enforce its own laws and policies. However, all laws and policies could be overridden by the United States Congress. To do this, Congress must explicitly pass legislation contradicting a law or policy. In the absence of such legislation, the Cherokee law stands.
[100] Article 9 of the Treaty between the United States and the Cherokee Nation, July 19, 1866.
[101] Once a Cherokee citizen claimed land, the citizen had ownership rights similar to those of typical fee simple ownership. As long as the land was not abandoned, the citizen held heritable usufructuary rights, and the land could be sold, used as collateral for loans, bequeathed in wills, or improved upon. However, only Cherokee citizens were able to hold these rights. See Bloom (2002).
[102] Because the Freedmen's Bureau did not have jurisdiction in Indian Territory, the Department of Interior undertook some tasks that would have been the Bureau's responsibility and additionally served as a liaison between the Cherokee's former slaves and the rest of the Nation.

In chapter two, I exploited this plausibly exogenous variation in postbellum policy between the Cherokee Nation and the southern United States to identify the impact of free land on the economic outcomes of former slave families.[103] Using a 60% sample from the 1880 Cherokee Census, I found that the racial gap in land ownership rates was smaller in the Cherokee Nation than in the southern United States. Furthermore, black farmers in the Cherokee Nation, on average, owned farms that were closer in size to those of non-black farmers, were more likely to undertake long-term capital investments in their land, and had higher absolute levels of wealth and income than southern black farmers. These advantages translated into significantly lower levels of racial inequality in the Cherokee Nation than in the South.[104] The estimated difference in the racial wealth gap was substantial and ranged from 46% to 75%. For income, the estimated difference in the racial gap was between 20 to 56%.[105]

These results suggest that if Reconstruction era plans to provide the newly freed slaves with "forty acres and a mule" had been implemented, the level of American racial inequality could have been greatly diminished—at least in the short run. Would this initial decrease in inequality have persisted as the nineteenth century drew to a close? To explore this question, I have collected a new sample of individuals linked from the 1880 Cherokee Census to the 1900 United States Census. By locating both adults and children from the 1880 Census twenty years later, I am able to trace the how the economic circumstances of Cherokee freedmen families changed over time.

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[103] Unless explicitly stated otherwise, I define the South as Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.
[104] Wealth was measured by value of livestock owned, and income was determined as the total value of crops produced.
[105] For more detailed results and a discussion of identifying assumptions, please see the paper.

First, I focus my analysis solely on the Cherokee Nation and construct measures of intra- and inter- generational occupational mobility. I find high degrees of occupational persistence and upward mobility for Cherokee freedmen. Ninety percent of farmers remain farmers, eighty percent of people who could transition to higher occupational class did. Their children also displayed a high degree of intergenerational occupation persistence and upward mobility. 65.9 percent of all sons have the same occupation as their father, and a majority of the observed occupational mobility is upward. These high degrees of occupational persistence and upward mobility suggest that at least some of the beneficial effects of free land persisted in the first generation of Cherokee freedmen and was passed on to their children.

Next, I combine my sample of linked Cherokee freedmen with the 1% Public Use Microdata Sample of the 1900 United States Census with American Indian Oversample (IPUMS). I compare the outcomes of Cherokee freedmen to 2 control groups—blacks in the South and residents of the Oklahoma and Indian Territories. I find evidence that the Cherokee freedmen children have higher levels of human capital accumulation than black children both in the South and the Territories. Additionally, Cherokee freedmen adults tend to have higher literacy rates, are more likely to own their own homes, and are more likely to be farmers. These results all suggest that the Cherokee freedmen's income and wealth advantages persisted until 1900.

Finally, by incorporating whites and Cherokees from the IPUMS sample into the analysis, I measure the levels of racial inequality in the Cherokee Nation and the South. As in my earlier paper, I find evidence that the level of racial inequality is smaller in the Cherokee Nation than in the South.

2. Theory and Relevant Literature

An extensive empirical literature in economics suggests that the Cherokee freedmen's initial income and wealth advantages over southern freedmen could have been partially transmitted to the next generation. Solon (1999) reviews several studies that find a significant and positive correlation between the earnings and wealth of parents and those of their children. With twentieth century data, the estimated elasticity of a son's long run labor earnings with respect to his father's long run earnings is typically between 0.3 and 0.5. In other words, family background and environment explain about 40 percent of the variation in individuals' earnings.

Studies that focus on the nineteenth century corroborate the influence of parents' economic status on their children. Kearl and Pope (1981) found the intergenerational correlation to be between 0.09 and 0.21 for income and between 0.10 and 0.34 for wealth. Guest, et al. (1989) examined white men in 1900 and found a great deal of occupational inheritance. A quarter of laborers, for example, had laborers as fathers, and 59.9 percent of farmers had farmer fathers. Ferrie (2005) collected a linked census sample of fathers in 1880 and sons in 1900; he found levels of occupational inheritability similar to Guest, et al. 29.5 percent of unskilled laborers had unskilled laborers as sons, while 46.6 percent of farmers had farmers as sons. Thernstrom's (1973) community study of Boston between 1840 and 1890 found that around 40 percent of sons were in the same occupational category as their fathers.

These results suggest that the greater wealth and income of the Cherokee freedmen could have had a positive effect on their children. However, all these studies

limit their analysis to white men. An examination of the theoretical underpinnings of the intergenerational transmission of economic status suggests that the effects of parents' earnings and wealth on their children may have been more pronounced for former slaves. Lack of access to capital markets, little experience with formal schooling, restricted access to public education, and racism all impeded the economics activities of former slaves. With their higher levels of wealth and income, the Cherokee freedmen may have had the resources necessary to bypass some of these constraints faced by blacks in the South.

Becker and Tomes (1979; 1986) most famously formalized the relationship between parent and child income. In their model, parents influence the income of their children through three channels—the transmission of cultural and genetic endowments, investment in human capital, and bequests. Parents seek to maximize some weighted average of their own utility today and their children's utility tomorrow. Utility is an increasing and concave function of consumption, which in turn depends on income and wealth. A parent can choose to influence a child's future level of income by investing in the child's human capital or leaving a bequest.

With perfect capital markets, parents can borrow funds to pay for human capital investments, and the model predicts that a child's level of human capital is unrelated to the income of his or her parents. However, southern credit markets in the decades after the Civil War suffered from multiple problems, and freedmen had very restricted access to credit.[106] Parents would likely be required to self-finance human capital investment,

[106] For a discussion of capital market imperfections faced by freedmen following the Civil War, please see the previous chapter.

and the constraints of poorer parents could detrimentally affect their children's human capital acquisition. If the Cherokee freedmen's higher levels of income allowed them to increase investment in their children, then, all else equal, their children would have higher levels of human capital and income then the children of southern freedmen. Sufficiently large public educational expenditures could have offset parents' limited budgets. However, as Collins and Margo (2003) discuss, the late nineteenth century was characterized by a decline in the per pupil expenditures for black students relative to white students. Within this paradigm, the ability to self-finance children's education could have served as an important mechanism for their future income growth.

The Cherokee freedmen's high level of farm ownership may have also served to perpetuate their income and wealth advantages. First, managing a farm successfully promotes the development of a certain skill set, which then could have been taught to children as a form of human capital developed outside of formal schooling. While southern freedmen farm owners may have also had a similar skill set, the majority of black southerners were not farm owners. Instead, they tended towards occupations that provided a higher degree of supervision and a less advanced skill set, such as laborers or sharecroppers. Second, farm ownership may have promoted changes in what Becker and Tomes refer to as the "cultural endowment" a parent passes along to a child. During slavery, many blacks had not been exposed to the formal schooling, standard farming management practices, business contacts and other aspects of the southern economy that would encourage agricultural success. If land ownership provided the Cherokee freedmen with a crash course in life as a southern farm owner, then their children may have inherited this beneficial cultural change. Third, farmland and equipment could have

been bequeathed to one or all of a family's children. The value of such a transfer could have been quite substantial and served to greatly increase the wealth and income generating ability of the next generation.

Both economic theory and empirical studies suggest that the parents' economic status can influence that of their children. Therefore, the Cherokee freedmen's access to land may have positively influenced not just the first generation of former slaves, but also subsequent generations. If true, blacks in the Cherokee Nation may have possessed higher levels of income and wealth than southern freedmen as the nineteenth century drew to a close. Additionally, there may be evidence of higher levels of parental investment in children in the Cherokee Nation than in the South.

3. Construction of the Linked Sample of Cherokee Freedmen

In 1880, the Cherokee Nation collected a census that enumerated all citizens living in the Nation. Because only people counted in the census were granted the rights of Cherokee citizenship (including the right to both live in and claim land in the Cherokee Nation), every citizen had an incentive to insure that he or she was listed in the census.

Because the 1880 Cherokee Census listed all citizens of the Nation, the United States government later referenced it when compiling a complete list of all Cherokee citizens in preparation for the establishment of the state of Oklahoma. During the last decades of the nineteenth century, public demand for land began to focus on Indian Territory as a potential supply. With the passage of the Curtis Act in 1898, the U.S.

Congress established a plan to abolish the Cherokee government, allot land to each Cherokee citizen, and open all remaining land to settlement.[107]

Between 1899 and 1907, Cherokee citizens applied to the Dawes Commission to be classified as official citizens of the Cherokee Nation.[108] These people were then sorted into different lists (now commonly referred to as Dawes Rolls) according to race and eligibility for citizenship.[109] Besides listening to applicants' claims, the Dawes Commission was also charged with locating every single person eligible for Cherokee citizenship and accounting for all people included on the 1880 Cherokee Census. Their task was facilitated by the incentive structure in place—inclusion on the list guaranteed each person land. Only people on these lists would receive an allotment of land when Indian Territory became the state of Oklahoma.[110] Furthermore, those who already owned land had to enroll to *keep* their land.

When an individual was placed on a list, information about the person and his or her family was recorded on a separate card. Figure 1 provides an example of such a card. For freedmen, this information included name, age, sex, familial relationship to others on the card, year of tribal enrollment, and current location. Additionally, the names of the person's former slave owner, mother's former slave owner, and father's former slave owner were noted.

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[107] The Curtis Act, as it is commonly referred, was officially called the "Act for the Protection of the People of Indian Territory." Besides the Cherokee Nation, four other Indian nations (Choctaw, Chickasaw, Creek, and Seminole) were affected by the Act. An earlier act, the 1887 Dawes Severalty Act, applied to the remaining tribes in Indian Territory and legislated the extinguishment of their governments and the allotment of their lands.

[108] The Dawes Commission and Dawes Rolls were named after the Commission's first chairman, Henry Dawes, who also lent his name to the Dawes Act.

[109] Freedmen were included on a separate roll from Cherokees by blood. Additionally, there was also a roll of freedmen who had doubtful Cherokee citizenship.

[110] The amount of land allotted and the terms of allotment varied with race and percentage of Cherokee blood.

The card's unique identification number was then recorded next to the individual's entry on the original 1880 Cherokee Census. People who were proven to have died in the intervening years were denoted "DEAD" on the census rolls. Of the 1,812 freedmen in my sample of the 1880 Census, only 12 were not located by the Dawes Commission. 579 were confirmed to have died. 27 people had card numbers that were illegible on the 1880 census, and an additional 157 were classified as "doubtful" Cherokee citizens and had their information recorded on a different list. For the remaining 1,065 Cherokee freedmen, the detailed demographic and family member information provides an invaluable asset in locating that person in the 1900 United States Census.

The linking procedure had three basic steps. First, the 1880 Census provided the card number for each Cherokee freedmen. Second, microfilm versions of the cards were located and copied. These cards provided the name and family members of the person in 1900. Third, this information was used to find the individual in the database index of the 1900 Census available at www.ancestry.com. When the person was located in the 1900 Census, all census and Dawes card information for the person and each household member in the 1900 Census was recorded. Information from the 1900 Census is listed in Table 1. The dataset currently includes 789 freedmen from the 1880 Cherokee Census, 2,664 total individuals, and 470 households. Further details about the data collection procedure are in chapter four.

Table 2 provides a summary of the census linking results. 1,065 individuals had census card information. Census searches occurred for 932 of these people.[111] 788 were located, giving a successful linkage rate of 84 percent. Of those found, 359 were men, and 394 were women. The linkage rate was nearly identical for men and women, 42 percent and 43 percent, respectively, suggesting that the linked census sample in not biased with respect to gender.[112]

Table 3 provides summary statistics of 1880 characteristics by census linking category. Approximately half of each category is male, which again suggests that the sample is not biased with respect to gender. Age does differ somewhat between most of the categories. Figure 2 plots the cumulative age distributions for each category. Reassuringly, the mean 1880 age of people who died is significantly older than that of living population. Although mean age differences exist between the found, not found, and problem categories, the large standard deviations make these difference significantly insignificant. Figure 2 demonstrates the distributional similarities between these categories.[113]

4. Black Mobility Within the Cherokee Nation

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[111] 133 people's Dawes Card information was unavailable during archive visits. Their Dawes Cards were located on microfilms that were unavailable during archive visits.

[112] There were 35 people for whom census card information was available who had missing or illegible sex information in the 1880 Census. All of these people were found. According to the 1900 census data, 14 were men, 14 were women, and 7 remained of unknown gender.

[113] It also serves to highlight the difference between the 133 people who have yet to be searched for due the microfilm unavailability (labeled as "In Progress") and the rest of the sample. They are younger, on average, than the rest of the sample. Given their younger ages, they are also less likely to be married and have lower literacy rates. However, much of the literacy rate difference disappears when the literacy for very young people (less than 10 years of age) is excluded. Why would this group be younger? People appear on the Dawes Roll microfilms in order of their Dawes Card numbers. Dawes Card number assignment is likely related to the order in which people applied to the Dawes Commission. Therefore, anything that affected the order in which people applied to the Commission would affect the people who were on the microfilm that was not available.

An examination of the occupational mobility experiences of freedmen in the Cherokee Nation can provide insight into the longer term effects of free land access.[114] The linked sample of Cherokee freedmen contains information that can be used to quantify two types of mobility. First, how did an individual's occupational category change between 1880 and 1900? If individual Cherokee freedmen were able to maintain their occupational statuses or experience upward mobility, then the beneficial effects of free land likely did not significantly dissipate during the course of their lifetimes. Second, data on the occupations of a parent in 1880 and that of their children in 1900 can be used to gauge the extent to which intergenerational occupation persistence occurred. If the children of the first generation of Cherokee freedmen were largely engaged in unskilled occupations and did not own farms, this would suggest that free land would have had little effect on racial inequality in the long run.

Intragenerational occupational mobility can be examined for people who were of working age in both 1880 and 1900.[115] I restrict my analysis to people who were male household heads in both years.[116] Table 4 presents the results in a mobility table. Each

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[114] An analysis of income or wealth mobility would also be interesting. However, while the 1880 Cherokee Census does include measures that can be used to proxy for income and wealth, the 1900 United States Census does not. Therefore, the analysis in this section will be restricted to occupation for reasons of data availability.

[115] People who died between 1880 and 1900 are, by construction, excluded from the analysis. This may be a concern in evaluating mobility if death was somehow correlated with mobility experience. For example, perhaps people who worked harder, manual labor jobs died younger and had lower levels of upward mobility. It is difficult to evaluate such possibilities given the data. However, based on observed occupations in 1880, people who died and lived shared a similar occupational distribution. 67.4% of found household heads were farmers in 1880. 66.8% of dead heads were farmers. 29.7% of found heads were some form of laborer, while 26.3% of dead heads performed some sort of laborer. When combined with the average difference in ages, this suggests that found heads were similar to dead heads, with the exception that dead heads were much older in 1880.

[116] I restrict my analysis to male household heads for several reasons. First, almost all household heads have occupations listed, while most non-heads do not. Therefore, a large proportion of the sample would be heads regardless of the restriction. Second, non-household heads with occupations tend to be younger members of the household (e.g., teenage sons). Their occupation could change as they age, making their

column represents an 1880 occupation category. The prestige of occupation falls from left to right on the table: farmer, cow driver, minister, cook, and laborer.[117] 1900 occupational categories are represented in the rows, and occupational prestige falls from the top to bottom rows. A cell in the *x*th column and *y*th row in the table represents the number of people employed in occupation *x* in 1880 who were employed in occupation *y* in 1900. Hence, the diagonal represents occupational immobility, upward mobility is found above the diagonal, and downward mobility appears below the diagonal.[118]

In 1880, 78.4 percent of the household heads were members of the highest occupation class of farmer. By 1900, it had grown by 10 percent to 88.1. Not only did farmers constitute a large occupational share, but there was also a large degree of persistence among the farming class—90 percent of farmers remained farmers. This result suggests that contemporary concerns that former slaves would be unable to successfully manage their farms were unfounded. The total level of upward mobility also seems quite high. Of those who could transition to a higher occupational class, 82.8 percent did. Only 8.2 percent of household heads were of a lower occupation class in

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younger occupation a poor reflection of their "permanent" occupation. Third, this restriction does preclude women from the analysis. While an understanding of women's intra- and inter-generation mobility during this time period could be quite informative, such an analysis deserves a more in depth analysis than can be provided within the scope of the current chapter.

[117] I use IPUMS 1950 median annual occupational income data to assist in determining this ranking. While this ranking can be problematic if rank order of occupation incomes changed between 1900 and 1950, most people in the Cherokee Nation were either farmers or laborers. There is much evidence to support that farmers were, on average, of a higher socioeconomic status than laborers at the turn of the century. Cow drivers are not cowboys—they are people who own large herds of cattle. Laborers include general laborers, farm laborers, and day laborers. For ministers, the situation is slightly complicated. Although their incomes tended to place them in a lower class, they also tended to be highly respected within a community. One person who was in jail in 1900 was excluded from the table.
A great degree of variance could exist within each occupational class—there were both incredibly rich farmers and subsistence farmers who barely earned a living—and farmers could have changed their position with the class. However, the data do not allow for such changes to be measured.

[118] This style of mobility table is used in other work, such as Ferrie (2005).

1900 than 1880. The Cherokee freedmen, then, seemed to do quite well in either maintaining or improving their own occupational status

Table 5 contains intergenerational mobility rates for fathers in 1880 and sons in 1900. Fathers' occupations are represented in the rows, while sons' are in the columns. The columns correspond to occupational categories for fathers in 1880, while the rows represent the occupations of their sons in 1900. Occupations are divided into three classes: farmers, laborers (both general and farm), and other.[119]

Like Guest, et al. (1989) and Ferrie (2005), who reported large degrees of intergenerational *im*mobility, I find that most Cherokee freedmen remain in the same occupational class as their fathers. 65.9 percent of all sons have the same occupation as their father. Occupational persistence is higher for farmers— 77.5 percent of farmers have sons who remain farmers. 24 percent of laborers have sons who are also laborers. A majority of the mobility that does occur is above the diagonal and represents upward mobility. 73 percent of laborers have sons who achieve the rank of farmer. There are two caveats when interpreting these results. First, they do not control for any lifecycle effects. If fathers experienced an upward occupational trajectory and were at the start of their careers in 1880, then their sons' upward mobility may simply reflect the fact that each was observed at a different point in their career trajectory. Second, there is the potential for great income and status variation within the class of farmers, which will not be captured by the mobility table.

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[119] The 'other' category contains occupations of various levels of prestige. The father-son pairs that have been included in 'other' are: minister to laborer (2), blacksmith to farmer, blacksmith to painter, farmer to landlord, insane to farmer, and unemployed to farmer. Of these, minister to laborer would likely have been considered a decline in status. Blacksmith to painter and insane to farmer both embody an unknown change is status. The remainder represent an increase in status.

The Cherokee freedmen's high degrees inter- and intra- generational occupational persistence and upward mobility suggest that any convergence between Cherokee and southern freedmen will not be the result of the Cherokee freedmen's initial occupational advantages dissipating over time. Instead, any potential convergence would likely be the result of southern freedmen improving their socioeconomic status.

5. Potential Convergence Between Cherokee and Southern Freedmen

To examine the potential convergence in outcomes between Cherokee and southern freedmen in 1900, I combined the linked sample of Cherokee freedmen with a sample of southern households drawn from the 1900 IPUMS with Indian oversample.[120] Table 6 provides summary statistics for the black populations in the South and Cherokee Nation.[121] These raw means suggest that the Cherokee freedmen continued to have significant advantages over southern freedmen. The top half of the table provides information only for children ages 6 to 18. Young Cherokee freedmen displayed higher average levels of human capital accumulation than southern freedmen. Not only were black children in the Cherokee Nation more likely to attend school (38 percent vs. 33.71 percent), but they also attended school for more months (5.2 months vs. 3.9 months).[122] The higher level and duration of school attendance were associated with increased literacy rates (44.71 percent vs. 34.04 percent).

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[120] IPUMS provides two samples for 1900—a standard 1-in-100 sample and 1-in-100 sample that includes 1-in-5 sampling of the American Indian Schedules. Because the Cherokee Nation's population was relatively small in 1900, I opt to use the Indian oversample.

[121] Because all of the Cherokee Nation was considered rural, the southern IPUMS sample is restricted to include only people living in rural areas. Only a relatively few blacks lived in urban areas.

[122] The census enumerators asked if children of school age had attended school between June 1, 1899 and June 1, 1900. If they attended school, then the numbers of months attended in that same time period was recorded.

This evidence on schooling in the Cherokee Nation is notable for several reasons. First, public education was funded differently in the Cherokee Nation than in the South. While schools in both places were segregated, a larger share of the financial burden for education fell on the local freedmen communities in the Cherokee Nation. The Cherokee government provided only teachers for schools.[123] The local black community needed to raise funds for all other school related expenses (e.g., school building, books). Additionally, a minimum enrollment policy restricted public school access in remote areas with small populations. In contrast, funding for black schools in the South was not directly reliant upon the local community. Because it was relatively more costly for blacks in the Cherokee Nation to educate their children, the higher rates of school attendance are particularly impressive. Additionally, black parents in the Cherokee Nation bore another implicit cost of education. Their children attended school for 1.3 more months, on average, that black children in the South. Although children were not as productive as adults, they still provided needed labor on many family farms. The average Cherokee family bore a higher opportunity cost for this lost labor.

Second, investment in children is, according to the Becker and Tomes' model, one mechanism by which parents transmit economic status to their children. The schooling advantages of black Cherokee children suggest that their parents were able to devote more resources to education than their southern counterparts—e specially given the higher costs of education in the Cherokee Nation, as discussed above. This suggests

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[123] There is evidence that the teachers provided to the freedmen schools were of poor quality. The Cherokee Nation rated its teachers. Each school year, the location of a school, the race of its attendants, and the level of its teacher was published in the official Cherokee newspaper, *The Cherokee Advocate*. An analysis of the teachers provided to black schools in the years 1878-1882 revealed that the teachers appointed to black schools were consistently of the lowest quality.

that the Cherokee freedmen continued to have higher levels of wealth and income than the southern freedmen. Furthermore, the educational differentials between the two groups of young people could have allowed these differences to persist as the children aged.

The lower half of table 6 focuses on adults. Again, these uncontrolled means suggest that the Cherokee freedmen exhibit higher levels of human capital and socioeconomic status than southern freedmen. At 54 percent, the Cherokee adult literacy rate is 17 percentage points higher than that of southern freedmen. Additionally, the Cherokee heads of household are more likely to be farmers (72 percent vs. 56 percent). Although the definition of farmer in the census was very broad, there was a large practical distinction between farmers who worked others' land (as sharecroppers or tenants) and farmers who worked their own land. While a direct measure of farm tenancy does not appear in the population schedules of the 1900 U.S. Census, home ownership is likely highly correlated with land ownership. Using this measure suggests that the Cherokee freedmen farmers were much better off than southern farmers. 90.23 percent of adults in farming households owned their homes, while only 28.34 percent of farming southern blacks households did. In general, all black adults in the Cherokee Nation are much more likely to live in an owned house that a rented house (77 percent vs. 24 percent).

These sample statistics support the hypothesis that the Cherokee freedmen's access to free land improved their outcomes and those of their children for several decades following slavery. To further explore these results, I will estimate three sets of regressions. First, I will restrict the analysis to blacks in the Cherokee Nation and the

South to check the robustness of the Cherokee freedmen's advantages in both human capital and home ownership. Next, I will utilize the IPUMS sample of the Oklahoma and Indian Territories to compare the outcomes of the Cherokee freedmen to other people living the Territories. Finally, after expanding the analysis to all people in the Cherokee Nation and the South, I will use difference-in-difference estimation to gauge the relative levels of racial inequality in the Cherokee Nation and the South.

a. Blacks in the Cherokee Nation and the South

I estimate the difference in several outcomes for blacks in the Cherokee Nation and the South. Only blacks are included in these regressions, and this basic specification takes the form

$$Y = \beta_0 + \beta_1 CN + \gamma X + \varepsilon$$

Y is the outcome of interest and some measure of economic well-being, such as home ownership or children's school attendance. X is a vector of covariates that could potentially influence Y, and γ is its vector of estimated coefficients. The CN dummy variable is 1 if an individual lives in the Cherokee Nation. Its coefficient, β_1, provides an estimate of a simple difference in means between blacks in the locations, controlling for other factors.[124]

The estimate value of β_1 would be positive if the Cherokee freedmen had an advantage over southern freedmen in outcome Y. If the root of the Cherokee freedmen's advantage over southern freedmen was their access to free land, then the estimated value

[124] In all regressions with measures of children's human capital as the dependent variable, the standard errors are clustered at the household level.

of β_1 should remain positive and significant with the inclusion of demographic controls. However, when the depended variable is a measure of parental investment in children, β_1 should decrease when economic proxies are included if the difference in these investments is due to the greater wealth and income from free land.

Table 7 focuses on human capital investment in children aged 6 to 18. The dependent variable in columns 1 through 3 in an indicator variable equal to 1 if the child attended school at all in the past year, and 0 otherwise. Column 1 estimates the uncontrolled mean and includes no covariates besides the Cherokee Nation indicator variable. As the raw means reported in Table 6 would suggest, the estimate is positive and marginally significant at the 10% level. The results in column 2 include controls for age, sex, and family size to test if the difference in school enrollment is due to a difference in the composition of children in the Cherokee Nation and the South. While the coefficient remains positive, it is no longer significant. The new covariates have the expected signs. School attendance is influenced by age in a quadratic fashion. Boys are less likely to attend school than girls. If boys were more productive at home work (such as in manual labor on the farm), then a family's opportunity cost to send a boy to school would be higher than the cost for permitting a girl to attend school. The covariate for household size's predicted sign is ambiguous, and its estimated value is negative

Column 3 introduces three variables meant to proxy for the household's economic status. The first is an additional indicator variable for the literacy of the household head. A literate head might value literacy more than an uneducated head, and hence be more inclined to send a child to school. Additionally, if literacy is associated with higher earnings, then a literate head might have greater resources to devote to childhood

education. These scenarios both suggest that coefficient on the variable would be positive, and it is estimated as such. The second is an indicator variable equal to 1 if the head of the child's household owns their home. The third indicates if the household head is a farmer. In general, a 1 value for both variables suggests that the household is of a higher economic status than a 0 value. As discussed above, if the measured human capital advantages of the Cherokee freedmen children are a result of their parents' or grandparents' access to free land (and the accompanying increase in wealth and income), then the estimated effect of being in the Cherokee Nation on a measure of human capital should fall when economic status controls are included. This is exactly what happens in column 3; β_1 actually becomes negative (although insignificant) when the economic controls are present.

Columns 4 through 6 estimate the effect of the covariates on the months of schooling for those children who reported any school attendance. The effect of being in the Cherokee Nation is positive and significant for all 3 regressions. It is also quite large, and ranges from 34 to 43 percent of the constant term. As expected, the inclusion of the economic status regressors does decrease the estimated magnitude of β_1.

Results for regressions on literacy appear in columns 7 though 9. In column 7, being in the Cherokee Nation has a significant and positive effect on literacy. The effect does not significantly dissipate with the inclusion of age, sex, and family size. However, when the economic indicators are included, the estimated coefficient decreases dramatically and is no longer significant. This change is consistent with the hypothesis that the higher levels of education and literacy of the Cherokee freedmen children is due

to their parents' greater levels of wealth and not any inherit difference in the educational system in the Cherokee Nation.

Table 8 focuses on the literacy of black adults in the Cherokee Nation and the South. The adults are separated into two categories for the purpose of analysis—18 to 35 year olds and greater than age 35. The 18 to 35 years all were born after slavery ended. In the Cherokee Nation, they would have been of school age after former slaves were allowed to claim free land. If their parents had used their relatively higher income from free land to invest in education, then this age group might experience a literacy advantage over southern freedmen for potentially the same reasons that the Cherokee freedmen children have higher literacy rates than southern freedmen children. The older group would have been of the ages when literacy is traditionally acquired during slavery. Because the Cherokee Nation and all southern states had laws restricting the education of slaves, this group's literacy rates will likely be much lower.

Columns 1, 3, and 5 report results for the 18 to 35 year olds. The 35 and over group is represented in columns 2, 4, and 6. Columns 1 and 2 report results of the baseline regression. Columns 3 and 4 add regressors for age, sex, and family size. Columns 5 and 6 include the economic indicators. Several interesting patterns emerge in the results. For each pair of regressions, the estimated vale of is β_1 lower for the older age group. That is, the effect of being in the Cherokee Nation is larger for the younger people. This is consistent with higher levels of parental investment by Cherokee freedmen parents who had access to free land. Furthermore, there is almost no change in the estimated value of β_1 in the second pair of regressions. However, there is a large drop in its value once the economic indicators are included. This is again consistent with the

Cherokee freedmen's advantage in measures of human capital being a result of parents' relatively higher ability to invest in children. However, any conclusions drawn from this last set of regressions must be tempered with the acknowledgement of a potential simultaneity problem. While higher income or wealth levels may contribute to higher levels of literacy, literacy could also lead to higher income or wealth levels.

Table 9 presents results for wealth measures for heads of household. The dependent variable in columns 1 and 2 is an indicator variable that is positive when the head owns his or her home. In columns 3 and 4, the indicator is positive if the head is a farmer. As the raw means would suggest, Cherokee freedmen are significantly more likely to both own their own homes and to be farmers. These results are robust to the inclusion of covariates for age, sex, family size, and literacy.

The comparison regressions between blacks in the Cherokee Nation and the South suggest that the Cherokee freedmen remain better off than the southern freedmen. This is true not only of adults, who are more likely to own their homes and be farmers, but also true of children, who exhibit higher levels of human capital accumulation. These results suggest that the Cherokee freedmen remain better off than southern freedmen. Additionally, because the magnitude of the estimated effect of being in the Cherokee Nation tends to fall when economic controls are included, this analysis supports the hypothesis that the Cherokee freedmen's advantages are due to free land and its accompanying higher levels of wealth and income.

b. Blacks in the Indian and Oklahoma Territories

Next, I restrict my analysis solely to Oklahoma and Indian Territories by augmenting my sample of linked Cherokee freedmen with the IPUMS sample of those areas. If the Cherokee freedmen fare better than other blacks in the Territories, this would support the hypothesis that their advantages came from access to free land and are not due to other factors unique to the Territories. Some additional context is required before proceeding with the analysis. The turn of the century was a transitional time for the Territories. Great swaths of land had been open for settlement during the past decade, and a large influx of people had established farms on new homesteads. In 1900, 49 percent of blacks in the Oklahoma and Indian Territory IPUMS sample had been born elsewhere and were immigrants to the area. The number of white migrants was particularly striking. Over 80 percent of whites were born outside of the Territories. Migrants tend to be different than non-migrants, and this fact will influence any interpretation of the results. Additionally, around 8 percent of blacks in the Territories were born in states that did not permit slavery. They may have been either free blacks or the descendents of free blacks. As Sacerdote (2005) documents, free blacks continued to have higher literacy levels and more prestigious occupations than freed blacks into the twentieth century. Again, their presence will influence the reading of the regression estimates. Finally, the political situation in the Territories was complex. Oklahoma had its own territorial government, and Indian Territory was divided into different Indian nations with different forms of government.

The general form estimated will include indicator variables for the various racial classifications in the Territories:

$$Y = \beta_0 + \beta_1 Cherokee\ black + \beta_2 Cherokee\ Indian + \beta_3 Other\ Indian + \beta_4 Other\ Black + \gamma X + \varepsilon$$

Cherokee black is a person in the linked freedmen sample. A Cherokee Indian is person whose race was identified as "Indian" and who reported his or her tribal affiliation to be Cherokee.[125] Other Indians include all other people who were identified as "Indian." Other blacks are all blacks except those in the linked sample. The omitted racial classification is white. Therefore, the coefficients estimated for the various races will be measured relative to whites in the Oklahoma and Indian Territories. If blacks (either Cherokee or non-Cherokee) are worse off than whites for a particular outcome of interest, then the estimated β 's will be negative. When such a situation arises when comparing the two groups of blacks, the largest estimated β (i.e., then one closest to zero) will correspond to the group that is relatively better off. If the Cherokee blacks are relatively better off than other blacks in the Territories, then their estimated value of β should be larger than the estimated coefficient for other blacks.

I first look at children in the Territories. Table 10 reports the results of these regressions. The dependent variable in columns 1 through 3 is an indicator for attending any school. The main coefficients of interest are β_1, the estimated effect of being a Cherokee freedman on school attendance, and β_3, the effect of being a non-Cherokee black. The first column includes only controls for race. While Cherokee freedmen

[125] People are Indians with Cherokee race if they were identified as such on the Census. Although the 2000 Census is widely reported as being the first census to allow people to identify multiple races, the 1900 Indian Schedules actually provide information on multiple-raced Indians. Indians were asked to identify their tribe, their father's tribe, and their mother's tribe. If the mother or father was a non-Indian, "white" would sometimes be noted as their tribe. Additionally, their percentage of white blood was also recorded. This information reveals the over 60 percent of all Cherokees in the IPUMS sample reported having 25 percent of more white blood.

children are less likely to attend school than whites, they are significantly more likely to attend school than other blacks in the Territories. The difference between the two groups is robust to the inclusion of age, sex, and family size controls. These estimates suggest that there is not something inherently different in the Territories that cause blacks to invest more heavily in their children. Furthermore, once the economic indicators are included in column 3, the differences between the Cherokee and non-Cherokee blacks shrink substantially. This again supports the hypothesis the higher levels of school attendance by black Cherokee children may be due to their parents' economic status.

Columns 4 through 6 report the results with months of school attended as the dependent variable. Only those children who attended school are included. The same general pattern holds for months of school at attendance. Cherokee freedmen children attend school for significantly more months than the other black children, and the gap between the two groups shrinks with the inclusion of the economic controls. At first, the very large estimated coefficient for other Indians may seem surprising. However, all Indian children in sample are included in these regressions—including children in Federally run Indian boarding schools. Although there is some difficulty identifying which children are in Indian boarding, almost 30 percent of all Indian children (excluding Cherokees) who attend school do not live with their parents. These children attended school for an average of 9.35 months a year, which is quite higher than any other group.[126]

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[126] There was no Federal Indian boarding schools in the Cherokee Nation. There were two boarding schools—the male and female seminaries—that served as the Nation's high schools and were run by the Cherokee Nation's government. Black students were not allowed to attend.

Columns 7 through 9 include all children and examine literacy rates. The estimated coefficient for Cherokee freedmen children is slightly larger than that of the other group of black children. This difference persists with the inclusion of the first set of controls, and then completely disappears when the economic variables are included.

Results for adults in the Territories can be found in Tables 11 and 12. The first table examines adult literacy. Columns 1 and 3 include 18 to 35 year olds, while 2 and 4 include those over 35. The estimates indicate that the Cherokee freedmen have lower literacy rates than other blacks in the Cherokee Nation. This result may be surprising until one recalls the high proportion of migrants in the non-Cherokee black group. The migrant black adults have a literacy rate of 60 percent. This is very high and almost twice that of black adults in the South, whose rate was 34 percent. When migrants are excluded from the sample in columns 5 and 6, the familiar patter emerged. The Cherokee freedmen have a slight advantage in literacy until the economic controls are included.

Occupation and home ownership results are in Table 12. The Cherokee freedmen have a clear advantage in home ownership. The results are robust to a variety of included control variables. The result for the farming occupation regressions are not surprising, considering that many migrants settled in the Territories to start farms on homesteads. Many household heads were farmers, and there is no significance difference in the farming rates of Cherokee freedmen, Cherokee Indians, non-Cherokee blacks, and whites.

In general, the comparison of the Cherokee freedmen and other blacks in Oklahoma supports the claim that the Cherokee freedmen were better off than other

blacks. Their advantages in children's human capital and home ownership are not shared by all blacks within the Territories and seem to be unique to them. These finding support the hypothesis that the access to free land positively affected the Cherokee freedmen.

c. Relative Status of Blacks in the Cherokee Nation and the South

To estimate the relative status of blacks in the Cherokee Nation and the South, I combine the IPUMS sample of the South and Cherokee Nation with my linked sample of Cherokee freedmen. Whites, blacks, and Cherokees are included in the sample. I then estimate

$$Y = \beta_0 + \beta_1 \cdot Black + \beta_2 \cdot CN + \beta_3 (Black \cdot CN) + \gamma X + \varepsilon$$

Black is a dummy variable equal to 1 if an individual is a black. β_1 measures the location invariant effect of being black on outcome Y. The CN dummy variable is 1 if an individual lives in the Cherokee Nation. Its coefficient, β_2 , measures the effect of living in the Cherokee Nation relative to living in the South for a non-black. β_3, the coefficient on the interaction term, measures the difference in the gaps. Since the omitted category is non-black in the South,

$\beta_3 =$ E[Y| non-black in the South, X] – E[Y| black in the South, X] -
E[Y| non-black in Cherokee Nation, X] -E[Y|black in Cherokee Nation, X].

A positive and significant estimate of β_3 supports the hypothesis that access to free land may have reduced racial inequality within the Cherokee Nation.

Table 13 focuses on children. The coefficient on the interaction term is positive and significant in all 9 regressions, suggesting that the racial gap in schooling is smaller

in the Cherokee Nation than in the South. Additionally, the inclusion of the economic indicator variables again decreases the magnitude of the coefficient, which suggests that the Cherokee freedmen children's higher levels of human capital accumulation may be due to higher levels of parental income and wealth.

Table 14 examines adult literacy. There is little difference in the racial literacy gaps for the older group. This suggests that any differences in the literacy gaps of younger adults and children are not due any pre-emancipation differences in the literacy rates of blacks in the Cherokee Nation. The younger group does have a large and significant positive difference in the racial literacy gap. Additionally, the size of this difference declines with the inclusion of the economic indicator variables.

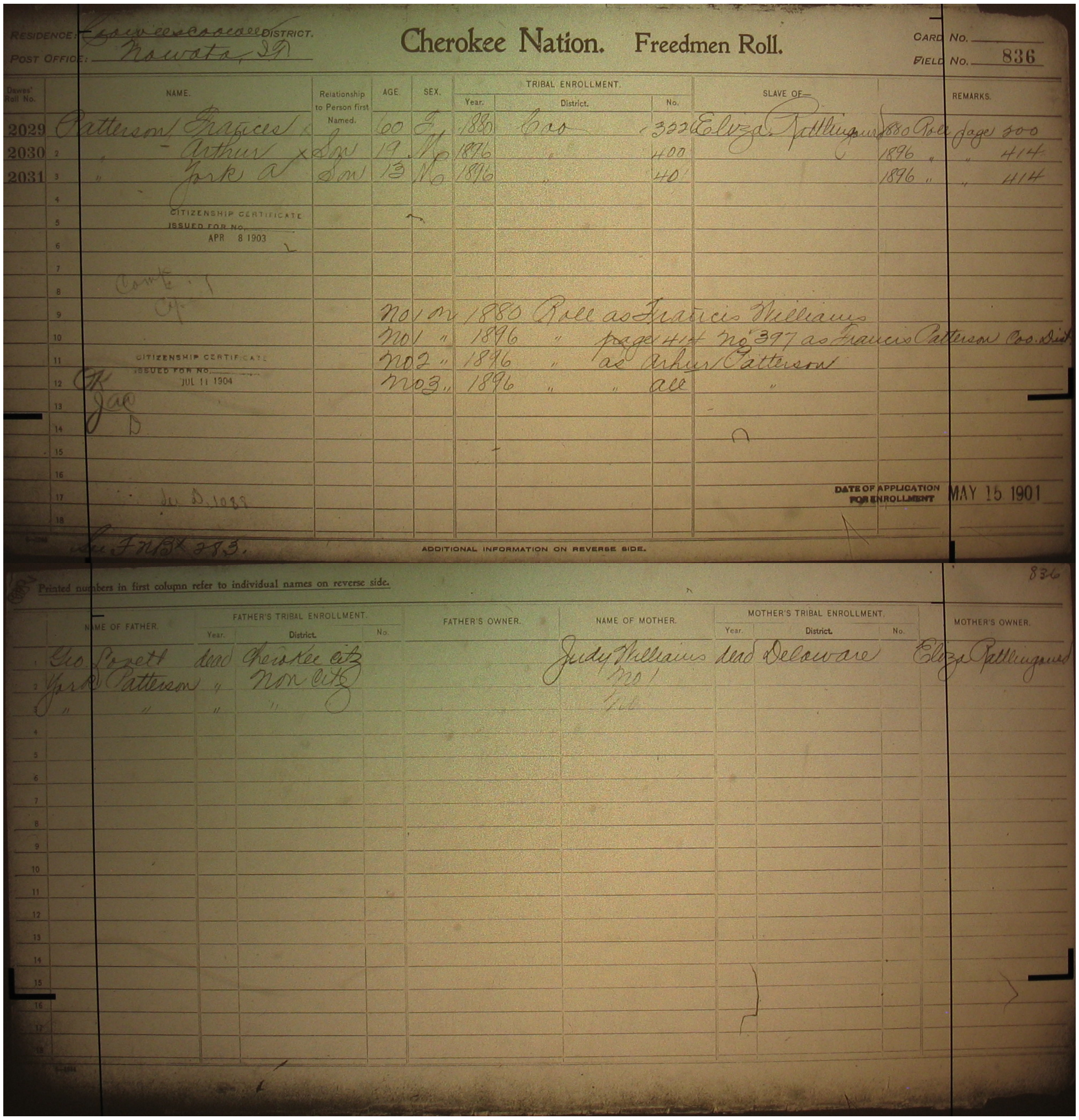
Estimates for difference in the gap for measures of economic status appear in Table 15. The analysis is restricted to heads of households. There is no statistically significant difference in the gap for being a farmer. However, there is a very large and significant difference in the rates of home ownership. This suggests that, although the farming gap is the same in both locations, the relative status of people who farm may be higher among Cherokee freedmen then southern freedmen.

V. Conclusion

The linked census sample of Cherokee freedmen provides additional insight into this unique group of former slaves who received access to free land. Analysis of intra- and inter- generational occupational persistence and upward mobility, human capital investment in children, and the economic status of adults all suggest that the Cherokee

freedmen's access to free land continues to benefit them at the turn of the century. Comparisons of blacks in the Cherokee Nation to both black in the southern states and other blacks in the Oklahoma and Indian Territories demonstrate that the Cherokee freedmen were relatively better off. Additionally, a comparison of the relative degrees of racial inequality in the Cherokee Nation and the South suggests that Cherokee freedmen's access to land may have lowered racial gaps in education and home ownership. These results are striking and suggest that movements to provide former slaves with free land could have potentially have had long lasting and beneficial effects on former slaves.

Figure 3.1: Example of a Dawes Card from the Freedmen Roll


RESIDENCE: Cooweescoowee DISTRICT.
POST OFFICE: Nowata, I.T.

Cherokee Nation. Freedmen Roll.

CARD No.
FIELD No. 836

Dawes' Roll No.	NAME.	Relationship to Person first Named.	AGE.	SEX.	TRIBAL ENROLLMENT. Year.	District.	No.	SLAVE OF	REMARKS.
2029	Patterson, Frances		60	F	1880	Coo	3226	Eliza Rollingwood	1880 Roll page 500
2030	" Arthur	Son	19	M	1896	"	400		1896 " " 414
2031	" York A	Son	13	M	1896	"	401		1896 " " 414

CITIZENSHIP CERTIFICATE ISSUED FOR NO. APR 8 1903

No1 on 1880 Roll as Francis Williams
No1 " 1896 " page 414 No 397 as Francis Patterson Coo. Dist
No2 " 1896 " as Arthur Patterson
No3 " 1896 " " all "

CITIZENSHIP CERTIFICATE ISSUED FOR NO. JUL 11 1904

DATE OF APPLICATION FOR ENROLLMENT MAY 15 1901

ADDITIONAL INFORMATION ON REVERSE SIDE.

Printed numbers in first column refer to individual names on reverse side.

	NAME OF FATHER.	FATHER'S TRIBAL ENROLLMENT. Year.	District.	No.	FATHER'S OWNER.	NAME OF MOTHER.	MOTHER'S TRIBAL ENROLLMENT. Year.	District.	No.	MOTHER'S OWNER.
1	Geo Rozett	dead	Cherokee citz			Judy Williams	dead	Delaware		Eliza Rollingwood
2	York Patterson	"	Non citz			No1				
3	"	"	"			No1				

Figure 3.2: Cumulative Distribution of Age by Link Status

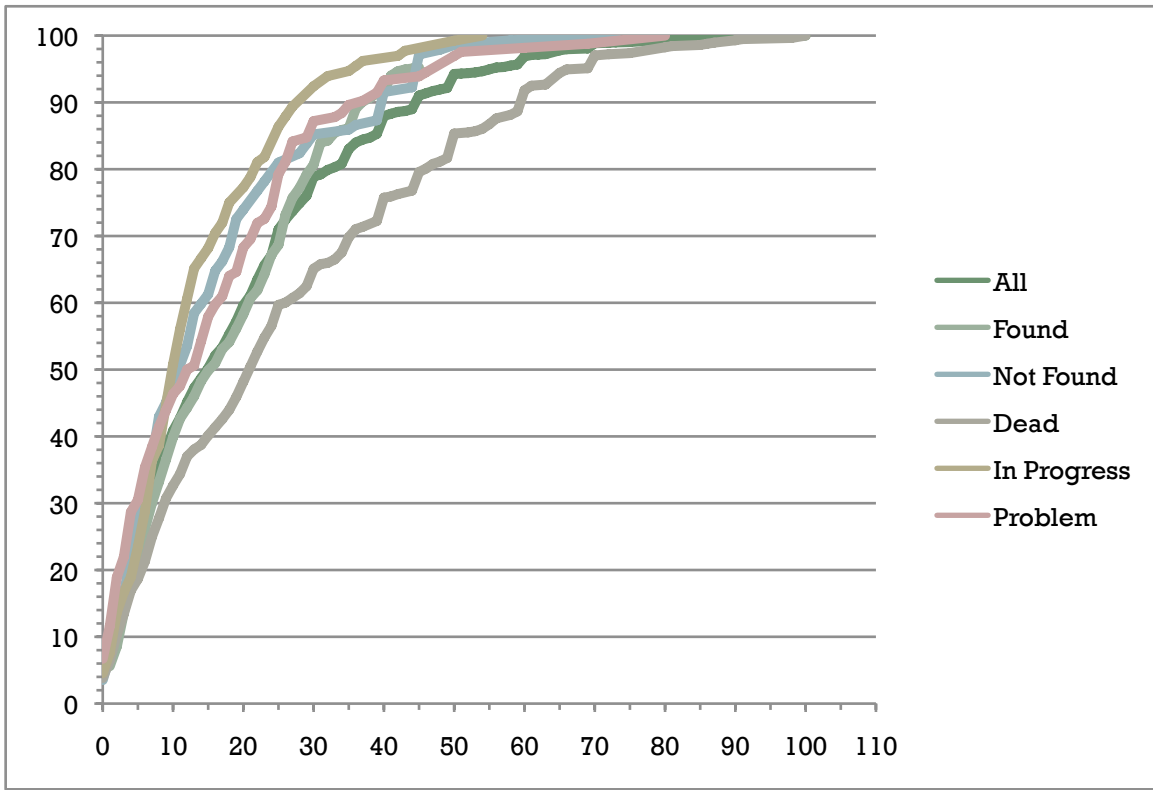


Table 3.1: Information Recorded in the 1900 U.S. Census

Geographic	State	County	Township	
Name	First	Last		
Demographic	Relationship to head of household	Color	Sex	Birth Month
	Birth Year	Age	Marital Status	Years Married
	Mother of how many children	Father of how many children		
Nativity	Place of Birth	Father's Place of Birth	Mother's Place of Birth	Year of Immigration
Employment	Occupation	Months not employed		
Education	Attended school in months	Can read	Can write	Can speak English
Ownership	Home Own or Rented	Owned Free of Mortgage	Farm or House	Number of Farm Schedule

Table 3.2: Summary of Census Linking Results

	All		Women Only		Men Only		Sex Unknown in 1880	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total
Found	789	0.44	394	0.43	360	0.42	35	0.83
Not Found	144	0.08	68	0.07	76	0.09	0	0.00
Dead	579	0.32	301	0.33	275	0.32	3	0.07
In Progress	133	0.07	66	0.07	66	0.08	1	0.02
Problem	167	0.09	83	0.09	81	0.09	3	0.07
Total	1813	1.00	912	1.00	859	1.00	42	1.00

Table 3.3: Summary Statistics of 1880 Characteristics by Link Status

	All	Found	Not Found	Dead	In Progress	Problem
Percent Male	48	48	52	48	50	50
Mean Age in 1880	19.7	17.3	15.8	26.4	13.4	16.2
	17.7	13.9	14.5	22.12	11.2	15.6
Percent Married in 1880	28.6	30.8	20.1	34.8	15.9	14.5
Family Size	5.41	5.74	5.33	5.21	6.56	3.62
	3.08	3	2.99	3	3.65	2.65
Percent Literate (all)	14.27	17.62	13.89	12.32	9.84	9.69
Percent Literate (those over 10 in 1880)	19.08	23.68	18.67	15.17	18.46	35.52

Table 3.4: Intragenerational Mobility for People who were Heads of Household in 1880 and 1900

				1880 Occupation			
		Farmer	**Cow Driver**	**Minister**	**Cook**	**Laborer**	**Total**
	Farmer	95	1	0	0	22	118
	Cow Driver	0	1	0	0	0	1
1900 Occupation	**Minister**	0	0	0	0	0	0
	Cook	0	0	0	0	1	1
	Laborer	10	0	1	0	3	14
	Total	105	2	1	0	26	134

Table 3.5: Intergenerational Mobility Rates for Fathers in 1880 and Sons in 1900

			Fathers in 1880		
		Farmer	**Laborer**	**Other**	**Total**
	Farmer	*55*	8	4	67
Sons in 1900	**Laborer**	15	*3*	1	19
	Other	1	1	*0*	2
	Total	71	12	5	88

Table 3.6: Black Populations in the Cherokee Nation and the South, 1900

				Children 6-18		
		Cherokee Nation			South	
	N	Mean	Std. Dev.	N	Mean	Std. Dev.
Attended Any School (%)	841	38	0.5	16405	33.71	0.47
Months Attended (if positive)	320	5.39	2.3	5530	3.89	1.96
Literate (%)	841	44.71	0.5	16405	34.04	0.47
Age	841	12.25	3.4	16405	12.19	3.45
Household Size	841	7.67	2.7	16405	7.37	2.85
Male (%)	841	47.44	0.5	16404	50.18	0.5
Female Headed Household (%)	841	15.2	0.4	16404	15.59	0.36
Head is Farmer (%)	841	76.21	0.4	16404	65.56	0.48
Head Owns Home (%)**	841	83.59	0.4	16404	25.9	0.44
				Adults over 18		
		Cherokee Nation			South	
	N**	Mean	Std. Dev.	N**	Mean	Std. Dev.
Literate (%)	1374	54.11	0.5	26007	36.64	0.48
Age	1241	35.88	15	24347	36.62	15.21
Male (%)	1334	53.14	0.5	26007	50.5	0.5
Female Headed Household (%)	1368	12.94	0.3	26007	11.15	0.31
Head is Farmer (%)	1374	71.9	0.5	26007	55.88	0.5
Farmer own home (%)	901	90.23	0.3	14823	28.34	0.45
Head Owns Home (%)	1374	77.37	0.4	26007	24.02	0.43
Head Owns Home Free of Mortgage (%)***	683	100	0	6250	78.16	0.41
	** Difference is sample sizes is due to missing data.					
	*** Heads with no response to this question are excluded					

Table 3.7: Black Children (Age 6 to 18) in the Cherokee Nation and South

	Attended School=1			Monthes Attended (exclude non-attenders)			Literacy=1		
	1	2	3	4	5	6	7	8	9
Cherokee Nation = 1	0.05*	0.03	-0.04	1.43***	1.39***	1.20***	0.12***	0.09***	0.02
	[0.03]	-0.03	[0.03]	[0.20]	[0.20]	[0.20]	[0.02]	[0.02]	[0.02]
Age		0.25***	0.24***		0.18**	0.18**		0.20***	0.20***
		[0.01]	[0.01]		[0.07]	[0.07]		[0.01]	[0.01]
Age*Age		-0.01***	-0.01***		-0.01***	-0.01**		-0.01***	-0.01***
		[0.00]	[0.00]		[0.00]	[0.00]		[0.00]	[0.00]
Male = 1		-0.04***	-0.04***		-0.17***	-0.16***		-0.07***	-0.08***
		[0.01]	[0.01]		[0.06]	[0.05]		[0.01]	[0.01]
Household Size		0.01***	0.01***		-0.05***	-0.01		0	0
		[0.00]	[0.00]		[0.02]	[0.02]		[0.00]	[0.00]
Head is Literate = 1			0.04***			0.30***			0.13***
			[0.01]			[0.08]			[0.01]
Head Owns Home			0.03***			0.47***			0.12***
			[0.01]			[0.09]			[0.01]
Head is Farmer			0.11***			-1.08***			-0.01
			[0.01]			[0.10]			[0.01]
Constant	0.33***	-1.09***	-1.09***	3.88***	3.20***	3.49***	0.34***	-1.25***	-1.25***
	[0.01]	[0.05]	[0.05]	[0.04]	[0.43]	[0.42]	[0.00]	[0.04]	[0.04]
N	16680	16680	16680	5589	5589	5589	16680	16680	16680
R-squared	0	0.07	0.08	0.02	0.04	0.11	0	0.24	0.25
Adjusted R-squared	0	0.07	0.08	0.02	0.04	0.1	0	0.24	0.25

Table 3.8: The Literacy of Black Adults in the Cherokee Nation and the South

Dependent Variable: Literacy=1	**1**	***2***	**3**	***4***	**5**	***6***
Cherokee Nation = 1	0.23***	*0.13****	0.22***	*0.12****	0.12***	*0.06***
	[0.02]	*[0.02]*	[0.02]	*[0.02]*	[0.02]	*[0.02]*
Age			0.01	*-0.03****	0.02*	*-0.03****
			[0.01]	*[0.00]*	[0.01]	*[0.00]*
Age*Age			-0.00*	*0.00****	-0.00***	*0.00****
			[0.00]	*[0.00]*	[0.00]	*[0.00]*
Male = 1			0.06***	*0.16****	0.06***	*0.17****
			[0.01]	*[0.01]*	[0.01]	*[0.01]*
family size			0.01***	*0*	0.00*	*0*
			[0.00]	*[0.00]*	[0.00]	*[0.00]*
Head Owns Home					0.18***	*0.11****
					[0.01]	*[0.01]*
Head is Farmer					0.02**	*-0.02***
					[0.01]	*[0.01]*
Constant	0.51***	*0.19****	0.44***	*1.17****	0.31**	*1.17****
	[0.01]	*[0.00]*	[0.14]	*[0.07]*	[0.14]	*[0.07]*
N	13904	*12326*	13904	*10635*	13904	*10635*
R-squared	0.01	*0*	0.02	*0.1*	0.05	*0.11*
Adjusted R-squared	0.01	*0*	0.02	*0.1*	0.05	*0.11*
Age	18 - 35	*35+*	18 - 35	*35+*	18 - 35	*35+*

Standard errors are clustered on the household. Sampling weights are used.

Table 3.9: Black Heads of Household in the Cherokee Nation and the South

	Own House = 1			Occupation is Farmer=1		
	1	2		3	4	
Cherokee Nation = 1	0.62***	0.59***		0.20***	0.16***	
	[0.02]	[0.02]		[0.02]	[0.02]	
Age		0.01***			0.01***	
		[0.00]			[0.00]	
Age*Age		-0.00***			-0.00***	
		[0.00]			[0.00]	
Male = 1		0.01			0.26***	
		[0.01]			[0.01]	
family size		0.01***			0.04***	
		[0.00]			[0.00]	
Constant	0.21***	-0.23***		0.53***	-0.27***	
	[0.00]	[0.03]		[0.00]	[0.04]	
N	10459	10431		10563	10533	
R-squared	0.08	0.13		0.01	0.13	
Adjusted R-squared	0.08	0.13		0.01	0.13	

Sampling weights are used.

Table 3.10: Children in the Indian and Oklahoma Territories

	School Attendance = 1				Months in School				Literacy = 1		
	1	2	3		4	5	6		7	8	9
Cherokee freedmen	-0.14***	-0.15***	-0.19***		0.79***	0.90***	0.64***		-0.16***	-0.17***	-0.15***
	[0.03]	[0.03]	[0.04]		[0.21]	[0.22]	[0.24]		[0.02]	[0.02]	[0.03]
Cherokee Indian	-0.02	-0.02	-0.10***		1.01***	1.04***	0.80***		-0.11***	-0.10***	-0.12***
	[0.03]	[0.03]	[0.03]		[0.17]	[0.17]	[0.19]		[0.02]	[0.02]	[0.02]
Other Indian	-0.06**	-0.05*	-0.08**		2.92***	2.72***	2.28***		-0.14***	-0.16***	-0.13***
	[0.03]	[0.03]	[0.03]		[0.16]	[0.16]	[0.20]		[0.02]	[0.02]	[0.02]
Other Black	-0.22***	-0.22***	-0.22***		0.22	0.42	0.38		-0.19***	-0.19***	-0.15***
	[0.07]	[0.07]	[0.06]		[0.86]	[0.88]	[0.86]		[0.06]	[0.05]	[0.05]
age		0.33***	0.33***			0.01	0.05			0.45***	0.45***
		[0.02]	[0.02]			[0.16]	[0.16]			[0.02]	[0.02]
age * age		-0.01***	-0.01***			0	0			-0.01***	-0.01***
		[0.00]	[0.00]			[0.01]	[0.01]			[0.00]	[0.00]
male		-0.03	-0.03*			-0.12	-0.12			-0.05***	-0.05***
		[0.02]	[0.02]			[0.13]	[0.12]			[0.01]	[0.01]
family size		0	0.01			-0.14***	-0.07*			-0.01***	-0.01**
		[0.01]	[0.01]			[0.04]	[0.04]			[0.00]	[0.00]
head is literate			0.07*				0.07				0.15***
			[0.04]				[0.26]				[0.03]
head is a farmer			0				-1.54***				-0.01
			[0.03]				[0.22]				[0.02]
head owns home			0.20***				0.50***				0.11***
			[0.03]				[0.19]				[0.02]
constant	0.52***	-1.35***	-1.54***		4.60***	5.43***	5.57***		0.61***	-2.44***	-2.65***
	[0.02]	[0.14]	[0.14]		[0.10]	[0.96]	[1.00]		[0.01]	[0.09]	[0.09]
N	6680	6678	6678		3147	3146	3146		6680	6678	6678
R-squared	0.01	0.11	0.15		0.08	0.1	0.19		0.01	0.51	0.54
Adjusted R-squared	0.01	0.1	0.15		0.08	0.1	0.18		0.01	0.51	0.54

Table 3.11: Adult Literacy in the Indian and Oklahoma Territories

Literacy = 1	1	2	3	4	5	6
Cherokee freedmen	-0.19***	-0.47***	-0.21***	-0.55***	0.44***	-0.11***
	[0.02]	[0.02]	[0.02]	[0.03]	[0.02]	[0.03]
Cherokee Indian	-0.17***	-0.29***	-0.20***	-0.31***	0.47***	-0.04
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.03]
Other Indian	-0.33***	-0.54***	-0.36***	-0.62***	0.31***	-0.23***
	[0.02]	[0.02]	[0.02]	[0.02]	[0.01]	[0.03]
Other Black	-0.14***	-0.45***	-0.14***	-0.51***	0.39***	-0.11***
	[0.04]	[0.05]	[0.04]	[0.06]	[0.02]	[0.03]
age			0.01	0.01		-0.01***
			[0.01]	[0.01]		[0.00]
age * age			0	0		0
			[0.00]	[0.00]		[0.00]
male			-0.02	0.04***		0.06***
			[0.01]	[0.01]		[0.01]
family size			0	0		0
			[0.00]	[0.00]		[0.00]
head is a farmer			-0.01	0.01		0.01
			[0.01]	[0.02]		[0.01]
head owns home			0.06***	0.08***		-0.03
			[0.01]	[0.02]		[0.02]
constant	0.93***	0.79***	0.85***	0.77***	0.12***	1.11***
	[0.01]	[0.01]	[0.20]	[0.17]	[0.01]	[0.05]
N	6066	5692	6066	4892	5606	4875
R-squared	0.08	0.13	0.09	0.26	0.17	0.13
Adjusted R-squared	0.08	0.13	0.09	0.25	0.17	0.13
Age Range	18-35	35+	18-35	35+	Over 18	Over 18
Mover Restriction	None	None	None	None	Non-Migrants	Non-Migrants

Table 3.12: Household Head Ownership and Farmer Status for the Indian and Oklahoma Territories

	Own Home =1				Farmer = 1	
	1	2	3		4	5
Cherokee freedmen	0.28***	0.38***	0.29***		0	0
	[0.02]	[0.03]	[0.06]		[0.06]	[0.06]
Cherokee Indian	0.38***	0.44***	0.38***		0	0.02
	[0.02]	[0.02]	[0.04]		[0.05]	[0.04]
Other Indian	0.40***	0.50***	0.45***		-0.12***	-0.10***
	[0.02]	[0.02]	[0.04]		[0.03]	[0.03]
Other Black	-0.02	0.05	0.03		-0.04	-0.01
	[0.05]	[0.05]	[0.05]		[0.03]	[0.03]
age		0.04***	0.04***			0
		[0.01]	[0.01]			[0.00]
age * age		-0.00***	-0.00***			0
		[0.00]	[0.00]			[0.00]
male		-0.02	-0.02			0.22***
		[0.05]	[0.05]			[0.03]
family size		-0.03***	-0.03***			0.03***
		[0.01]	[0.01]			[0.00]
head is literate		0.21***	0.21***			
		[0.03]	[0.03]			
mover			-0.08			
			[0.05]			
Constant	0.50***	-0.45***	-0.37***		0.70***	0.38***
	[0.01]	[0.12]	[0.13]		[0.01]	[0.07]
Observations	4529	4510	4510		4529	4510
R-squared	0.04	0.1	0.1		0	0.05
Adj. R-squared	0.04	0.1	0.1		0	0.05

Table 3.13: Difference-in-Difference Estimates for the South and Cherokee Nation

	School Attendance = 1			School Months			Literacy = 1		
	1	2	3	4	5	6	7	8	9
Cherokee freedmen	0.21***	0.21***	0.11***	1.63***	1.67***	1.26***	0.17***	0.16***	0.08**
	[0.04]	[0.04]	[0.04]	[0.31]	[0.31]	[0.30]	[0.04]	[0.03]	[0.03]
Cherokee Nation	-0.18***	-0.19***	-0.16***	-0.18	-0.22	-0.1	-0.08***	-0.08***	-0.06**
	[0.03]	[0.03]	[0.03]	[0.24]	[0.24]	[0.23]	[0.03]	[0.03]	[0.03]
Black	-0.21***	-0.21***	-0.12***	-0.74***	-0.75***	-0.34***	-0.25***	-0.25***	-0.13***
	[0.01]	[0.01]	[0.01]	[0.05]	[0.05]	[0.06]	[0.01]	[0.01]	[0.01]
Age		0.31***	0.31***		0.22***	0.24***		0.36***	0.36***
		[0.01]	[0.01]		[0.04]	[0.04]		[0.00]	[0.00]
Age * Age		-0.01***	-0.01***		-0.01***	-0.01***		-0.01***	-0.01***
		[0.00]	[0.00]		[0.00]	[0.00]		[0.00]	[0.00]
male		-0.03***	-0.03***		-0.19***	-0.16***		-0.05***	-0.05***
		[0.00]	[0.00]		[0.03]	[0.03]		[0.00]	[0.00]
family size		0.01***	0.01***		-0.03	0.02		0	0
		[0.00]	[0.00]		[0.02]	[0.02]		[0.00]	[0.00]
head is literate			0.10***			0.67***			0.20***
			[0.01]			[0.06]			[0.01]
head is farmer			0.01			-1.54***			-0.01***
			[0.01]			[0.06]			[0.01]
head owns home			0.12***			0.47***			0.08***
			[0.01]			[0.05]			[0.01]
constant	0.54***	-1.25***	-1.38***	4.62***	3.59***	3.30***	0.59***	-1.94***	-2.14***
R-squared	[0.00]	[0.03]	[0.03]	[0.03]	[0.26]	[0.26]	[0.00]	[0.03]	[0.03]
Observations	46347	46345	46345	21434	21433	21433	46347	46345	46345
R-squared	0.04	0.13	0.15	0.02	0.03	0.14	0.06	0.41	0.45
Adj. R-squared	0.04	0.13	0.15	0.02	0.03	0.14	0.06	0.41	0.45

Table 3.14: Difference-in-Difference Estimates of Adult Literacy in the South and Cherokee Nation

Literate = 1		1	2	3	4	5	6
Cherokee freedmen		0.22***	0.05	0.21***	0.09***	0.13***	0.03
		[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.02]
Cherokee Nation		-0.01	0.01	-0.01	-0.02	0	0.01
		[0.02]	[0.03]	[0.02]	[0.02]	[0.02]	[0.02]
Black		-0.36***	-0.51***	-0.36***	-0.58***	-0.15***	-0.21***
		[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
Age				0.01**	-0.01***	0	0
				[0.01]	[0.00]	[0.00]	[0.00]
Age * Age				-0.00***	0	0	0
				[0.00]	[0.00]	[0.00]	[0.00]
male				0.02***	0.10***	0.02***	0.08***
				[0.00]	[0.00]	[0.00]	[0.00]
family size				0.00***	0	0.00***	-0.00***
				[0.00]	[0.00]	[0.00]	[0.00]
head is literate						0.49***	0.68***
						[0.01]	[0.01]
head is farmer						0	-0.02***
						[0.00]	[0.00]
head owns home						0.06***	0.03***
						[0.00]	[0.00]
constant		0.87***	0.71***	0.74***	1.02***	0.50***	0.33***
		[0.00]	[0.00]	[0.07]	[0.04]	[0.06]	[0.03]
Observations		39984	38804	39984	33882	39984	33882
R-squared		0.16	0.23	0.16	0.33	0.39	0.66
Adj. R-squared		0.16	0.23	0.16	0.33	0.39	0.66
Age		18-35	35+	18-35	35+	18-35	35+

Table 3.15: Difference-in-Difference Estimates for Heads of Households in the South and Cherokee Nation

		Own Home = 1			Farmer = 1	
		1	2		3	4
Cherokee freedmen		0.72***	0.69***		0.11	0.09
		[0.10]	[0.10]		[0.10]	[0.10]
Cherokee Nation		-0.17***	-0.16***		0.06*	0.06*
		[0.03]	[0.03]		[0.03]	[0.03]
Black		-0.34***	-0.32***		-0.13***	-0.10***
		[0.01]	[0.01]		[0.01]	[0.01]
Age			0.02***			0.01***
			[0.00]			[0.00]
Age * Age			-0.00***			-0.00***
			[0.00]			[0.00]
male			-0.02**			0.25***
			[0.01]			[0.01]
family size			0.01***			0.03***
			[0.00]			[0.00]
constant		0.55***	-0.09***		0.66***	0.06**
		[0.00]	[0.02]		[0.00]	[0.02]
Observations		30016	29978		30016	29978
R-squared		0.11	0.18		0.02	0.09
Adj. R-squared		0.11	0.18		0.02	0.09

Chapter 4

A Sample of Former Slaves and their Descendents Linked from the 1880 Cherokee Census to the 1900 United States Census

"Why are there forty million poor people in America?"
- Martin Luther King, Jr.[127]

Following the Civil War, blacks earned just one-quarter the average income of whites (Higgs, 1982). Despite almost a century and half of freedom, the black-white income gap remains large, and blacks, on average, earn just 62 percent of whites (Margo, 2004). The causes of this secular inequality have long concerned policy makers and social activists. While some have posited that initial conditions at emancipation could have contributed to the United States' racial inequality, an empirical examination of the effect of former slaves' poverty on their descendents had previously been impossible for a simple reason: there was no data on a comparison group of former slaves who had been treated at emancipation with measures to alleviate their poverty. [128] In this paper, I describe the collection of a new linked census sample that provides detailed demographic and economic information on the Cherokee freedmen and their

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[127] Martin Luther King, Jr. "Where Do We Go from Here?" Speech delivered at the 11th Convention of the Southern Christian Leadership Conference, 16 August 1967. Available at http://www.stanford.edu/group/King/publications/

[128] See, for example, Engerman (1982), DeCanio (1979), and Ransom and Sutch (2001).

descendents. Due to a quirk of law dating to the Middle Ages, this group of former slaves received access to free land shortly after emancipation.

In 1861, the Cherokee Nation aligned itself with other slave-owning jurisdictions and joined the Confederacy.[129] In 1865, the Nation had to resume relations with the victorious North. Because of its unique status as "domestic dependent nation," the Cherokee Nation had to negotiate a peace treaty with the United States separately from the southern states.[130] As part of this treaty, the U.S. required that the Cherokees grant their former slaves citizenship with "all the rights of native Cherokees."[131] According to the laws of the Nation, all citizens, including the newly freed slaves, were guaranteed the right to claim and improve any unused land in the Nation's public domain.[132]

To study this unique group of formers slaves' who received access to free land, I have collected a 60 percent sample from the 1880 Cherokee Census. This was the first

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[129] The Cherokee Nation was located in Indian Territory. Indian Territory, which initially encompassed all United States territory west of the Mississippi (excluding Missouri, Louisiana, and Arkansas), was established in 1834. By the outbreak of the Civil War, the Territory's area had been whittled down to what is now known as the state of Oklahoma. Its western half became Oklahoma Territory in 1890, and it was here that the famous "Sooners" participated in runs for land. The eastern half remained Indian Territory until 1907, when the Oklahoma and Indian Territories merged to form the state of Oklahoma. See map 1.

[130] In 1452, Pope Nicholas V issued a papal bull sanctioning Portugal's invasion and occupation of West Africa on the grounds that the inhabitants were non-Christians. This bull was the origins of the Doctrine of Discovery, a legal tenet that conveniently allowed Europeans countries to claim the lands in Africa, the Americas, and Asia. The distillation of the Doctrine's practical implications in the Untied States was written by John Marshall, who famously declared the Cherokee Nation a "denominated domestic dependent nation" in *Cherokee Nation v. Georgia,* 30 U.S. 1 (1831). The Cherokee Nation was declared to have a government that could enact and enforce its own laws and policies. However, all laws and policies could be overridden by the United States Congress. To do this, Congress must explicitly pass legislation contradicting a law or policy. In the absence of such legislation, the Cherokee law stands. For more a more detailed discussion, see Getches at al. (2004).

[131] Article 9 of the Treaty between the United States and the Cherokee Nation, July 19, 1866.

[132] Once a Cherokee citizen claimed land, the citizen had ownership rights similar to those of typical fee simple ownership. As long as the land was not abandoned, the citizen held heritable usufructuary rights, and the land could be sold, used as collateral for loans, bequeathed in wills, or improved upon. However, only Cherokee citizens were able to hold these rights. See Bloom (2002).

census to collect comprehensive information about these former slaves.[133] The sample contains 11,899 people. Of these, 1,784 are freedmen. I also use a novel technique to locate people on the 1880 census in later, U.S. census data. To do this, I take advantage of auxiliary information recorded on the original census manuscripts between 1899 and 1907. As part of an effort to generate a complete list of Cherokee citizens, a Federal government commission was charged with locating every person on this 1880 census. Once a person was found, the commission recorded information about the person and his or her family members on a separate card and noted the card's number next to the person's name on the original 1880 census manuscripts. If a person had died in the intervening time period, this information was also noted on the census. I utilized this supplementary information to search for 932 living Cherokee freedmen in the 1900 United States Census. 84 percent were found, and their households provide a new sample of 2,664 freedmen whose families had access to free land following emancipation.

This new linked samples provides detailed, multigenerational information on this unique group of former slaves who received land and is the first linked census sample to include non-white people. Furthermore, the use of the subsidiary card information allows me to link all blacks in the Cherokee Nation—both men and women. This is the first linked census sample to link women across census years.

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[133] Because the Cherokee Nation's citizens were considered "Indians not taxed," they were not included in U.S. Census at this time period. There was an earlier census in the Cherokee Nation that collected limited information on the freedmen, but it did not contain the breadth of information available in the 1880 Census and may have omitted a large percentage of freedmen (Littlefield, 1978).

2. The 1880 Cherokee Census

On December 3, 1879, the Cherokee National Council enacted, "An Act for taking a census of the Cherokee Nation, in the year 1880."[134] The census' purpose was to,

> Make an authentic schedule or enumeration of the owners of the Cherokee country embraced in the Patent from the United States Government. The persons so to be enrolled constitute the *"Cherokee People"* and the owners of the Cherokee soil, and none others.[135]

This portion of the Act highlights two key differences between the 1880 Cherokee Census and the standard United States census. First, to be one of the "*Cherokee People,"* that is, a citizen of the Cherokee Nation, a person had to be included on the census rolls. Second, only citizens of the Cherokee Nation—"and none others"—were entitled to own land in the Nation. Together, these two provisions provided a very concrete incentive for all citizens to be listed in the census. If they were not, they would be unable to claim land within the Cherokee Nation.

The act specified that two enumerators were to be appointed for each of the Nation's nine districts (the Cherokee Nation's equivalent to a state or county). They were tasked with taking the census between March 1, 1880 and May 1, 1880, and were required to make "full and complete returns of all persons residing or sojourning in their district," including their "chief productions of agriculture, including number of horses, cattle, hogs, sheep, etc., during the year ending in May 1st 1880."

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[134] Complete text of the Act appeared in the *Cherokee Advocate,* 28 January 1880. This Act was intended to comply with Article III, Section 3 of the Constitution of the Cherokee Nation, which called for a census to be taken every 10 years.
[135] *Cherokee Advocate,* 25 May 1881

Although most of the instructions for and information collected in the census were typical for their time period, some aspects deserve additional clarification. The census enumerators were to divide residents of the nation into different categories and create a separate schedule for each category. I have drawn my sample from the first schedule of the census, which lists population and agricultural information for all citizens of the Cherokee Nation with the exception of orphans under sixteen, who were enumerated on a separate schedule. The remaining four schedules list non-citizens of the nation who were present at the time of the census. If an individual was inadvertently excluded from the census, he or she could submit a statement declaring citizenship to the Principle Chief, who would then submit a list of additional citizens to the National Council for inclusion on the official roles.

While this census recorded information that was typically found on the population and agricultural schedules of the United States' Censuses, this census is unique in that both the Cherokee population and agricultural information were recorded on the same schedule. This provides an advantage over U.S. Census information. When linking population and agricultural schedules, the match rate is inevitably lower than 100 percent. If the reasons that a match cannot be made are non-random, selection bias can be introduced into the data. This type of selection bias is not present in the Cherokee data.

I collected a 60 percent sample of the Census by copying alternating pages of microfilmed copies of the original handwritten census manuscripts. The microfilms are available from the National Archives and Records Administration (NARA), microfilm 7RA07, roll 4. A handful of census pages that were damaged beyond legibility were not included. There were two important exceptions to this sampling rule. I included every

page with a citizen listed as "col," an abbreviation for colored, because the primary goal in collecting this sample was to gather data on the Cherokee freedman. I also sampled the entirety of the Canadian district—the heart of the Cherokee cotton agriculture, its inclusion allows for more precise examination of cotton agriculture in the Cherokee Nation. All information for the copied census pages was entered into a machine-readable format. The census data was recorded exactly as it appeared on the original manuscripts. A codebook for my sample is in Appendix 2.

To verify that my sample is representative of the Cherokee Nation as a whole, I compared my sample to the official, aggregate statistics of the 1880 Cherokee Census that were submitted to the U.S. Senate.[136] Overall, as shown in Table 1, the sample is remarkably similar to the nations as whole—with the exception of the oversampling of freedmen. 192 freedmen, or just under 10 percent of the total black population of the Cherokee Nation, are not included in my sample. Some of these freedmen may have been listed on damaged census pages, while others I may have simply missed while looking. Both reasons likely to be random, and, hence, should not influence the representativeness of the sample.

3. The Linked Sample

Because the 1880 Cherokee Census listed all citizens of the Nation, the Dawes Commission, which had been appointed by the United States government, later referenced it when compiling a complete list of all Cherokee citizens in preparation for the extinguishment of Indian Territory and the formation of the state of Oklahoma. People on this list would receive an allotment of land, while those who already owned

[136] The 351 orphan citizens who appear on the Orphan Schedule are not included.

land in the Cherokee Nation had to enroll to *keep* their land. Between 1899 and 1907, Cherokee citizens applied to the Dawes Commission to be classified as official citizens of the Cherokee Nation and included on the list.[137] These people were then sorted into different lists (now commonly referred to as Dawes Rolls) according to race and eligibility for citizenship.[138] Besides listening to applicants' claims, the Dawes Commission was also charged with locating every single person eligible for Cherokee citizenship and accounting for all people included on the 1880 Cherokee Census. Their task was facilitated by the incentive structure in place—inclusion on the list guaranteed each person land.

When an individual was placed on a list, information about the person and his or her family was recorded on a separate card. For freedmen, this information included name, age, sex, familial relationship to others on the card, year of tribal enrollment, and current location. The names of the person's former slave owner, mother's former slave owner, and father's former slave owner were noted.

The card's unique identification number was then recorded next to the individual's entry on the original 1880 Cherokee Census. Although the card numbers were originally recorded to assist the Dawes Commission in tracking which Cherokee citizens had enrolled, their detailed demographic and family member information provides an invaluable asset in locating that person in the 1900 United States Census. Additionally, people who were proven to have died in the intervening years were denoted

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[137] The Dawes Commission and Dawes Rolls were named after the Commission's first chairman, Henry Dawes, who also lent his name to the Dawes Act.

[138] Freedmen were included on a separate roll from Cherokees by blood. Additionally, there was also a roll of freedmen who had doubtful Cherokee citizenship.

"DEAD" on the census rolls. This information can be used to determine who cannot be found in the later census records.

Of the 1,812 freedmen in my sample of the 1880 Census, only 12 were not located by the Dawes Commission. 579 were confirmed to have died. 27 people had card numbers that were illegible on the 1880 census, and an additional 157 were classified as "doubtful" Cherokee citizens and had their information recorded on a different list. The remaining 1,065 Cherokee freedmen all have Dawes Card information available on NARA microfilm series M1186, rolls 23 through 27.

The linking procedure had four basic steps. First, the 1880 Census provided the card number for each Cherokee freedmen. Second, microfilm versions of the cards were located and copied. These cards provided the name and family members of the person in 1900. Third, this information was used to find the individual in the database index of the 1900 Census available at www.ancestry.com. Fourth, when the person was located in the 1900 Census, all census and Dawes card information for the person and each household member in the 1900 Census was recorded. Information from the 1900 Census is listed in Table 2. A codebook for my linked sample appears in Appendix 3. The dataset currently includes 789 freedmen from the 1880 Cherokee Census, 2,664 total individuals, and 470 households.

Segal Whitmire, who was a 14-year-old Cherokee freedman in 1880, provides an excellent illustration of some of difficulties faced when linking. Without subsidiary Dawes Card information, the search for Segal Whitmire would have been for naught—there was no one by that name in the 1900 U.S. Census index. Whitmire's Dawes card, F863, revealed an important name change—his first name was recorded as Zeke. A

Search for Zeke or Ezekiel Whitmire, however, still produced no matches. Zeke's Dawes Card provided useful subsidiary information. He had five children—William, Lettie, Mose, Edward, and Sequoyah. Their mother was recorded as Lucinda Whitmire. A search for Mose Whitmire found one possible match in the 1900 index. A five-year-old boy named "Mose Whitmire" lived in Indian Territory. His race, however, was listed as "white." The names of his parents, also recorded as white, were suggestive—Lucinda and Elizabeth. The marriage of two women was unlikely in this time period, and the name Elizabeth bears a certain resemblance to "Zeke." Inspection of the original census manuscript revealed that "Ezekiel Whitmire" had been transcribed incorrectly as "Elizabeth." Additionally, all five of Zeke's children and his wife were listed in the household. The entire family's race was denoted as "n" (for "negro") in the census and had been incorrectly transcribed as white in the census index.

Without the additional information provided by the Dawes Card, Segal Whitmire, a black boy born in 1867, would have likely never been linked to the individual indexed as Elizabeth Whitmire, a white woman born in the same year. This example highlights how the information recorded on an individual's Dawes Card can ameliorate problems that traditionally arise when linking individuals across censuses. These problems include name changes, data errors in the original census manuscripts, and transcription errors.

Linking an individual across censuses can be impossible if his or her name has changed in the intervening years. The problem of name change is particularly critical for women, who were likely to marry and adopt their husbands' last names. As a result, analyses of linked census data traditionally exclude women. Women can be and are included in my linked sample. Although men's names tend to stay fairly constant over

time, they may, like Segal/Zeke Whitmire, abandon childhood nicknames for more formal adult names. Furthermore, throughout the linking process, I have discovered that men's last names change more often than would be expected. Such a situation occurs, for example, when a woman remarries and her children adopt her new husband's name.

People with non-unique names also pose problems for linking. Because an individual's card includes information on family members, individuals with like names can be differentiated by the names and ages of their family members listed on their Dawes Card. The family member data eliminates any guesswork when determining which commonly named individual is the correct one.

Index transcription error proved to be a significant problem when searching for individuals. Recording a race as "white" when it was denoted "n" in the census was an unfortunately common occurrence. Names were often transformed into a version that had little semblance to their true spelling. At times, this was due to simple typing errors during the indexing process. However, barely legible handwriting on the original census manuscripts was also a culprit. The Dawes Cards proved invaluable in dealing with this problem by providing additional search terms. While the name of the person from the 1880 Cherokee Census may have been mangled, their children's name may not have been. If the last name of the entire family's last name was altered beyond recognition, then a unique first name provided an alternate search parameter, or a father-son first name combination could provide a list of potential families. Of all the individuals located in the census data, over one-third would not have been found without auxiliary family information due to incorrectly spelled names in the census index.

Table 2 provides a summary of the census linking results. 1,065 individuals had census card information. Census searches occurred for 932 of these people.[139] 788 were located, giving a successful linkage rate of 84 percent. Of those found, 359 were men, and 394 were women. The linkage rate was nearly identical for men and women, 84 percent and 82 percent, respectively, suggesting that the linked census sample in not biased with respect to gender.[140]

Table 3 provides summary statistics of 1880 characteristics by census linking category. Approximately half of each category is male, which again suggests that the sample is not biased with respect to gender. Age does differ somewhat between most of the categories. Figure 2 plots the cumulative age distributions for each category. Reassuringly, the mean 1880 age of people who died is significantly older than that of living population. Although mean age differences exist between the found, not found, and problem categories, the large standard deviations make these difference significantly insignificant. Figure 2 demonstrates the distributional similarities between these categories. It also serves to highlight the difference between the "In Progress" individuals and the rest of the sample. Given their younger ages, they are also less likely to be married and have lower literacy rates. However, much of the literacy rate difference disappears when the literacy for very young people (less than 10 years of age) is excluded.

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[139] 133 people's Dawes Card information was unavailable during archive visits because the microfilm roll was on loan.

[140] There were 35 people for whom census card information was available who had missing or illegible sex information in the 1880 Census. All of these people were found. According to the 1900 census data, 14 were men, 14 were women, and 7 remained of unknown gender.

The reason for the different characteristics of the "In Progress" people cannot be known for certain. People appear on the Dawes Roll microfilms in order of their Dawes Card numbers. Dawes Card number assignment is likely related to the order in which people applied to the Dawes Commission. Therefore, anything that affected the order in which people applied to the Commission would affect the people who were on the microfilm that was not available. It is possible, for example, that people of a similar age may have grouped together in line for socialization purposes.

4. Conclusion

This new linked census sample spans twenty years of the lives of a unique group of former slaves and their descendents. Unlike former slaves in the southern states, the Cherokee freedmen received access to free land after they were emancipated. This free land allowed them to leap to the top of the agricultural ladder and become farmers, while blacks in the South were still mainly restricted to toiling as laborers and sharecroppers. Additonally, this new linked sample includes women, and is the first sample to do so. While the inter- and intra- generational mobility of white men in this time period has been oft studied, data on women has been much more scarce. The information in this sample has the potential to remedy this problem

Appendix 4.1: Article 9 of the Treaty between the United States and the Cherokee Nation, 19 July 1866.

The Cherokee Nation having, voluntarily, in February, eighteen hundred and sixty-three, by an act of the national council, forever abolished slavery, hereby covenant and agree that never hereafter shall either slavery or involuntary servitude exist in their nation otherwise than in the punishment of crime, whereof the party shall have been duly convicted, in accordance with laws applicable to all the members of said tribe alike. They further agree that all freedmen who have been liberated by voluntary act of their former owners or by law, as well as all free colored persons who were in the country at the commencement of the rebellion, and are now residents therein, or who may return within six months, and their descendants, shall have all the rights of native Cherokees: Provided, That owners of slaves so emancipated in the Cherokee Nation shall never receive any compensation or pay for the slaves so emancipated.

Source: http://www.firstpeople.us/FP-Html-Treaties/TreatyWithTheCherokee1866.html

Appendix 4.2: Codebook for the 1880 Cherokee Nation Census

District — District in which the person resides. There are 9 districts, which are listed under the description of *Id Number*

Id Number — ID number that is unique for each person in the data set. The first 3 digits identify the person's district. The Last 4 digits identify the person within the district. The number of individuals in the sample of each district is in parenthesis.

100	Canadian	(1,456)
200	Cooweescowee	(2,190)
300	Delaware	(1,253)
400	Flint	(773)
500	Going Snake	(899)
600	Illinois	(1,986)
700	Saline	(781)
800	Sequoyah	(827)
900	Tahlequah	(1,734)

Family Number — The ID Number of the Head of Household for the household in which an individual resides. Sometimes, the HoH is uncertain. Then, the first person in the family group is given to the rest of the family. There are 3,982 family groups.

Last Name — Person's last name.

First Name — Person's first name.

Race — Race of person. 83 people have no race listed.

Race	Abbreviation	Population
Adopted Chickasaw	A Chic	1
Adopted Choctaw	A Choc	5
Adopted Creek	A Creek	15
Adopted Jew	A Jew	1
Adopted Mexican	A Mex	2
Adopted Peoria	A Peoria	1
Unknown	C C	4
Native Delaware	N Del	2
Native Shawnee	N Shaw	6
Adopted Colored	A Col	1,784
Adopted Delaware	A Del	375
Adopted Shawnee	A Shaw	267
Adopted White	A White	564
Native Cherokee	N Cher	8,579
Total		11,816

Age Age of person. 119 people have missing no age listed in the census date.

Population	Mean	Std. Dev.	Min	Max
11780	20.76027	16.8564	0	115

Sex 1 if male. 0 if female. 26 people do not have sex data, 5,877 are female, 5,5991 are male.

Census Roll and card number of person in Dawes Rolls. Dead if dead when rolls compiled.

Married 1 if married. 0 if not married. The census enumerators largely entered 'y' for married and left a blank for no. 3,949 people are married.

Remarks Comments on census or notes for that person.

Occupation Occupation of person, normally listed only for head of household.

Can Read 1 if can read. 0 if not. The census enumerators largely entered 'y' if could read ad left a blank otherwise. 6,894 people could read.

Can Write if can write. 0 if not. The census enumerators largely entered 'y' if could write and left a blank otherwise. 3,919 people could write.

Dwellings Number of dwellings owned by household. Was left blank on census if no dwellings owned.

Dwellings Owned	Number of Households Owning
1	1,282
2	551
3	161
4	48
5	19
6	4
8	3
16	1
Total	2,069

Other Structures Number of other structures owned by household. Was left blank if no dwellings owned.

Other Structures Owned	Number of Households Owning
0	10,247
1	581
1.5	1
2	450
3	295
4	153
5	76

6	40
7	14
8	18
9	4
10	9
11	2
12	3
13	1
15	2
20	1
22	1
25	1
Total	1,652

Number of Farms Number of farms owned by household.

Number of Farms	Numbers of Households Owning
1	1,599
2	271
2.5	1
3	49
4	11
5	8
6	5

7	2
Total	1,946

Total Number of Acres Enclosed Total acres that the household has enclosed and is using. Mean includes only households with positive value.

Observations	Mean	Std. Dev.	Min	Max
1800	53.69066	108.684	0.25	1560.5

Corn Acres Acres planted in crop. Mean includes only households with positive value.

Observations	Mean	Std. Dev.	Min	Max
1650	19.48576	24.29293	0.5	400

Wheat Acres Acres planted in crop. Mean includes only households with positive value.

Observations	Mean	Std. Dev.	Min	Max
321	14.69315	14.54165	1	100

Oats Acres Acres planted in crop. Mean includes only households with positive value.

Observations	Mean	Std. Dev.	Min	Max
275	10.19909	13.08373	0.25	140

Cotton Acres Acres planted in crop. Mean includes only households with positive value.

Observations	Mean	Std. Dev.	Min	Max
503	10.21511	45.43768	0.2	1000

Fruit Tree Acres Acres planted in crop. Mean includes only households with positive value.

Observations	Mean	Std. Dev.	Min	Max
1194	42.50683	111.5321	0.125	1500

Potatoes, Irish Acres Acres planted in crop. Mean includes only households with positive value.

Observations	Mean	Std. Dev.	Min	Max
658	0.621117	1.023932	0.125	17

Potatoes, Sweet Acres Acres planted in crop. Mean includes only households with positive value.

Observations	Mean	Std. Dev.	Min	Max
557	0.6416068	2.114475	0.125	40

Corn Bushels Yield of crop. Mean includes households with positive value.

Observations	Mean	Std. Dev.	Min	Max
1386	294.2206	663.1523	0.25	18000

Wheat Bushels Yield of crop. Mean includes households with positive value.

Observations	Mean	Std. Dev.	Min	Max
244	148.5123	673.8904	1	10350

Oats Bushels Yield of crop. Mean includes households with positive value.

Observations	Mean	Std. Dev.	Min	Max
234	135.5897	162.73	1	1000

Potatoes, Irish Bushels Yield of crop. Mean includes households with positive value.

Observations	Mean	Std. Dev.	Min	Max
414	24.64082	28.44143	0.5	200

Potatoes, Sweet Bushels Yield of crop. Mean includes households with positive value.

Observations	Mean	Std. Dev.	Min	Max
353	18.66771	22.19591	0.2	300

Turnip, Bushels Yield of crop. Mean includes households with positive value.

Observations	Mean	Std. Dev.	Min	Max
174	29.18966	63.92683	1	700

Seed Cotton, Pounds Yield of crop. Mean includes households with positive value.

Observations	Mean	Std. Dev.	Min	Max
356	5167.171	12093.01	1	140000

Hay, Tons Yield of crop. Mean includes households with positive value.

Observations	Mean	Std. Dev.	Min	Max
480	12.63385	30.16505	0.25	400

Cattle Number of the livestock owned by the household.

Observations	Mean	Std. Dev.	Min	Max
1820	23.46484	61.68381	1	1800

Hog Number of the livestock owned by the household.

Observations	Mean	Std. Dev.	Min	Max
2163	30.71382	36.28704	1	625

Sheep Number of the livestock owned by the household.

Observations	Mean	Std. Dev.	Min	Max
416	22.13942	33.87247	1	350

Mules Number of the livestock owned by the household.

Observations	Mean	Std. Dev.	Min	Max
353	2.348442	3.084115	1	32

Horses Number of the livestock owned by the household.

Observations	Mean	Std. Dev.	Min	Max
2181	3.849152	4.584646	1	100

Appendix 4.3: Codebook for Linked 1900 United States Census Sample

General Information

1900 ID Number	A unique identifying number for each person in the linked sample.
1880 ID Number	The 1880 ID Number of any person who was in the 1880 Cherokee Nation Census. This can be used to merge person records with their 1880 Census data.
Dawes Card Number	The Dawes Card number for any person who was in the 1880 Cherokee Nation Census
Notes	Any notes relating to the entry of the person
Link Status	The link status of each person. Can be Found, Not Found, In Progress, Problem, Dead, or New. See text for explanation.
Household Id Number	The 1880 ID Number for the first person listed in the 1900 household who was also in the 1880 Cherokee Census. This can be used to merge any person in 1900 with the 1880 information of a person in their household who appeared in the 1880 Census.
Secondary Household ID	The 1880 ID Number for any other people in the 1900 household who were also in the 1880 Cherokee Census.
Information from the Dawes Cards	
On Card	1 if the person appears on the Dawes Card. 0 if not.
Dawes Last Name	Last name on the Dawes Card
Dawes First Name	First name on the Dawes Card
Slave of	Slave owner of person on Dawes Card
Father's Name	Name of father on Dawes Card
Father's Owner	Slave owner of father on Dawes Card
Mother's Name	Name of mother on Dawes Card
Mother's Owner	Slave owner of mother on Dawes Card

District of Residence	District of residence on Dawes Card
Blood	Percentage of Indian blood
Information from the 1900 U.S. Census	
On Census	1 if the person appears in 1900 Census. 0 if not.
Census Page	Census page number
Census Line Number	Census page
Does Name Match 1880 Cherokee Census?	1 if the person's name in the 1900 Census matches the person's name on the 1880 Census. 0 if not.
State	State of residence. Postal code abbreviations are used.
County	County of residence. Denoted "CN" if the person lives in the Cherokee Nation.
Township Information	Township of residence
1900 First Name	First name in 1900 U.S. Census
1900 Last Name	Last name in 1900 U.S. Census
Relationship to HoH	Relationship to head of household. Transcribed as written in census data.
Color	Race. W=white, b=black, i=indian, n=nego, m=mulatto
Sex	f for female. M for male.
Birth Month	Birth month, first 3 letters
Birth Year	Birth year
Age	Age
Single, Married, etc.,	Marital status. s=single, m=married, w=widow
# of Years Married	Number of years married
Mother of How	Number of children ever born to a woman

Many Children

Number of these children living	Number of those children still living
Place of Birth	Place of birth, postal code abbreviations used for states.
Father's Place of Birth	Father's place of birth, postal code abbreviations used for states.
Mother's Place of Birth	Mother's place of birth, postal code abbreviations used for states.
Year of Immigration	Year immigrated to the United States
Occupation	Occupation. Transcribed as written in 1900 Census.
Months Not Employed	Months not employed in previous year.
Attended school (in months)	Months of school attended in previous year.
Can Read	Y is can read. N if cannot read.
Can Write	Y if can write. N if cannot write.
Can Speak English	Y if can speak English. N if cannot.
Home Own or Rented	o if home is owned. r if home is rented.
Owned Free of Mortgage	f is home is owned free of mortgage. m if home has a mortgage.
Farm or House	f is a farm. h if is a house.
Number of Farm Schedule	Number of farm schedule if there is one.

Information from 1900 U.S. Census Indian Schedule

Is there an Indian Schedule?	y if the census page has an Indian schedule. n if there is no Indian schedule.

Is person on Indian Schedule?	y if the person is one the Indian Schedule. n if not.
Tribe of Indian	Tribe of the person
Father's Tribe	Tribe of the person's father
Mother's Tribe	Tribe of the person's mother
% of White Blood	Percentage of white blood
Is this Indian Taxed	y if the person is taxed. n if not.

Chapter 5

Conclusion

I find that the Cheroke freedmen were significantly better off than southern freedmen in both 1880 and 1900. Their large wealth and income advantages seem to leave little doubt that, for at least this one group of slaves, forty acres (if no mule) had a long lasting and beneficial impact on their economic well-being. Contrary to the opinions of some contemporary opponents of land distribution, the Cherokee freedmen successfully managed to maintain ownership of their land. Additionally, within fifteen years of emancipation, they also were able to invest in their farms and thrive in the agricultural society of the South. Their children's high rates of literacy and school attendance in 1900 indicate that their higher levels of wealth contributed not only to their economic well-being, but also to the Cherokee freedmen's abilities to improve their human capital.

These results strongly suggest that if plans to distribute "forty acres and a mule" to former slaves at emancipation had been implemented, then the material conditions of southern freedmen could have dramatically improved. The extent to which these potentially higher levels of wealth in 1865 could contribute to the economic well-being of former slaves and their descendents is unknown. However, the success of the Cherokee freedmen certainly races the possibility that racial inequality today could have been reduced if different policies had been implemented following the Civil War.

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