The effect of slavery on southern farmland values in the antebellum and postbellum era

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The Effect of Slavery on Southern Farmland Values in the Antebellum and Postbellum Era

by

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Introduction

In the past 30 years, the legacy of African-American slavery has experienced a transformation in historical perspective. Morality aside, several historians have suggested that the accepted views regarding slavery need revision, particularly in an economic sense. Utilizing cliometrics, census records, diaries, and first-hand accounts of slavery in the South, economic historians such as Robert Fogel and Stanley Engerman have made a compelling case for the viability and profitability of slavery by exposing the nuances of the system that historical generalities often ignore. Of course, words like “viable” and “profitable” do not necessarily mean “virtuous” or even “preferable”, but it does imply that the previous understanding of slavery is inaccurate and incomplete.

This debate drove me to study slavery and its effects on Southern farmland values. Fogel and Engerman re-ignited the interest in American slavery and forced people to reexamine the realities of African bondage in their 1974 book, *Time on the Cross*. I was struck by the counter-intuitive conclusions of the book; how could slavery function as a “superior” agricultural system to that of the North, or be more efficient than other farming methods? Had I not learned in grade school that slavery would have died out eventually because of the evolution to free labor in the United States and the Abolition movement? These things puzzled me, but more importantly, I recognized the nuances of the slave system. There is a great deal of uncertainty surrounding slavery, in how profitable it was...
for plantations, how cruel the punishments were, or how its abolition affected the Southern economy after the Civil War.

The following study reflects this ambiguity. I started with a broad historical narrative similar to that of prior historical analysis. When I began my study of land values, I saw a clear relationship between rising land values and the growth of slavery in the antebellum era. After the war, conversely, the abolition of slavery handicapped Southern economic growth and contributed to its plight. The initial map study directly supports these relationships. Slave-reliant counties grew the most in percentage monetary value between 1850 and 1860 and decreased the most between 1860 and 1870. Yet when I began a limited cliometric study of Virginia, Kentucky, Alabama, and Louisiana, many of the same ambiguities Fogel and Engerman exposed became clear to me. Much like in *Time on the Cross*, as I continued to explore the specifics of slavery, I recognized that it was not that simple; there were too many nuances to the system and to the South to create one single Southern paradigm. The statistics revealed that it is impossible to blanket the South with a general statement; true, slave-dense counties did increase in land value during the 1850s, but it essentially depended on which region of the South you examined. For the map analysis, I divided the South into three regions: the Border States, the Appalachian and Atlantic States, and the Gulf States. The South demonstrated considerable homogeneity in land value gains across specific regions, such as urban areas and river counties, but on average the largest increases occurred in slave-dense regions such as the Mississippi Delta and Cotton Belt. Due to different geographies, demographics,
and aggregate regional wealth, however, slavery affected the distinct regions of the South to differing degrees. Ultimately, by studying slavery and its economic consequences for the South, the revision that began with Fogel and Engerman will continue to reshape America’s understanding of the “peculiar institution”.
I.

For the residents of Crittenden County, Arkansas, the decade leading up to the Civil War represented a time of agricultural growth and prosperity. Farmers benefited from their proximity to the Mississippi River that provided a growing market for their bales of cotton, the main cash crop of northeast Arkansas. Nurtured by the river, the land of the county proved ideally suited for agriculture. Similar to other counties on the Mississippi Delta, the planters in Crittenden County increased their number of slaves as their wealth increased. By 1860, thirty percent of all the residents in the county were slaves. The land prices in Crittenden County reflected the burgeoning wealth of the area; starting at a modest $6 per arable acre in 1850, land values leaped to $22 by 1860. Crittenden farmers must have been pleased by such an impressive return on their land. And yet by 1870, despite remaining relatively untouched by the invading Union forces, county land values had plummeted to $4 an acre. The economy was in shambles with fallow fields and lower crop production than the 1850 yields. Many of those same farmers who had celebrated their good fortune ten years earlier were left poor and desperate.

In many ways, Crittenden County represents a microcosm of the entire South. The 1850s proved to be a profitable decade for American agriculture as a whole. The United States was growing economically, demographically, and geographically. The overwhelming majority of counties in the U.S. increased in land value because of improved agriculture methods, additional arable acres and a growing working-age population. But it was the rural South that benefited the
most from America’s growth. During these days of westward expansion, land-hungry farmers continued to bring new Southern lands under cultivation, adding production to the American economy. The economic expansion was two-fold: first the growth of cotton as a viable cash crop; second, a southwestern extension of the plantation system into Mississippi, Arkansas, and Texas. And so it was counties like Crittenden that experienced the most economic success. Flush with land, labor and capital, the South’s overall per capita agricultural output was higher than their Northern counterparts. Southern planters could bank on high cotton prices throughout the decade to boost production and increase land values.

The above statements have been verified and confirmed by historians. Critics would be hard-pressed to find evidence to the contrary. What is open to debate are the decades following the Civil War, when the South remained mired in economic troubles and the entire nation struggled to define clearly what freedom meant for African-Americans. The South did not entirely emerge from its postbellum crisis until after World War II. For eighty years the Southern economy lagged behind the rest of the nations. Some Southern cynics were quick to blame the North for their problems. Yankee destruction, carpetbaggers and scalawags, they asserted, combined to leave the South destitute and hopelessly behind the rest of the United States.

Yet such a view ignored the economic realities behind the South’s problems. Historians have studied the South’s postbellum struggles for decades. While no clear consensus has emerged from their debates, there are several

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explanations available to account for the problems, some competing and others complementary. Jeremy Atack and Peter Passell organize the differing schools of thought in *A New Economic View of American History*. Claudia Goldin and Frank Lewis propose the "Destruction Theory," arguing that the South’s difficulties are a direct result of extensive damage to the land and infrastructure.²

Towards the end of the war, Generals such as Phillip Sheridan and William Tecumseh Sherman embraced a policy of scorched earth to pound the Confederacy into submission. The Yankee army destroyed Confederate cities along the eastern seaboard such as Charleston, and the war left cities such as Atlanta and Richmond in ruins. Union troops demolished railroads, livestock, crops, and households. By General Robert E. Lee’s surrender at Appomattox, the South was an exhausted nation. Goldin and Lewis estimate that the Civil War cost the South $1.5 billion in capital.

But there are problems with this argument. Many contemporaries of Reconstruction note that by 1870 the South had physically recovered a great deal. Most of the transportation system had been repaired. Several critics believe that the nominal amount of capital loss promoted by Goldin and Lewis overstates the physical destruction to the land. Southern manufacturers were actually producing 5 percent more output as well. Further, destroying things like cattle, cotton, or railroads does little long-term harm to an economy. Crops grow back, animals reproduce, and laborers can rebuild infrastructure. Agriculture, the bedrock of the South’s economy, seems to have suffered no large loses in capital input. Instead

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of prices rising after the war because of shortages (labor and draft animals), they actually fell after adjustments for inflation. The "Destruction Theory" only works if the South had smaller amounts of capital and labor after the Civil War, which it did not.

If the history of conquered nations proves any example, further, the Southern states could have redeveloped economically after a short period. After all, during World War II Germany and Japan suffered far greater damage than the Confederacy, yet they emerged stronger and with little long-term malaise. Even before the American Civil War, observers of the Thirty Years War in the Holy Roman Empire noted the paradox of their conquered nation surviving widespread hardships only to grow economically after the war ended. In his book *On Liberty*, economist John Stuart Mill attributed this growth to a stable pool of German workers who rebuilt the infrastructure in the principalities after the fighting ceased.³ Most importantly, he noted a close relationship between a preserved labor force and the opportunity for fast economic growth after a war. So long as countries had the workforce, they could withstand the destruction of warfare. Conversely, any drop in the labor force would hinder economic recovery.

Further explanations for Southern economic decline focus more on economic theory than historical anomalies. On the demand side, historians propose that the Southern depression in output reflects a major loss in the cotton exporting business. The Antebellum South had a virtual monopoly on worldwide cotton supply. It benefited greatly from the Industrial Revolution, both in the

North and in Europe, which kept cotton prices high. The combination of the cotton gin, fertile land, plentiful rivers, and ideal climate gave the South a comparative advantage in cotton production over Europe and fueled their economic growth for decades. Within the Southern economy, farms using slave labor were 29 percent more productive than those without slaves. Robert Fogel and Stanley Engerman attribute this productivity to economies of scale, which allowed for specialization and large gang systems.\(^4\) Crops such as sugar cane and cotton could be harvested more effectively with large groups of people organized in a gang system fashion, with an organized division of labor. This allowed Southern farms to collect the crops more effectively and efficiently than Northern farms, which did not have the advantage of the gang system. The South actually achieved greater economic output than the North in the 1850s. Fogel and Engerman estimate that the South was 41 percent more efficient than Northern farms, meaning that the South could have produced 41 percent more output than the North given the same factors and inputs. Indeed, in 1860 the Southern slaveholding states actually produced an output worth 3 percent more than the North. The Union naval blockade during the Civil War, however, forced nations like France and England to look elsewhere for their cotton needs. After 1865, many European textiles used cotton from Brazil, Egypt and India. Thus, the South could never regain its hegemony in the cotton market. With fewer buyers and a general depression in worldwide cotton prices, the South suffered severely. Further quantitative analysis by Gavin Wright indicates that the supply curves for Egyptian, Brazilian, and Indian cotton were indeed shifting outwards. He also

\(^4\) Fogel and Engerman
notes, nonetheless, that worldwide demand for cotton was decreasing between 1866 to 1895, meaning the South would have faced an economic downturn with or without the Civil War.\(^5\)

While both theories partially explain the economic woes of the postbellum South, they fail to pinpoint exactly why land values fell in much of the former Confederacy. Many studies note that land values decreased throughout the South, but none specifically ask why prices dropped so precipitously. My thesis explores the link between land values and the abolition of slavery in the United States. It takes its shape and form from the Ransom and Sutch supply-side model of labor. Roger Ransom and Richard Sutch stress the drop in labor force as the main reason for Southern declines in output. Specifically, they argue that emancipation reduced man-hours in the South. Before the war, African Americans had no choice but to work more hours and more days per year than most Northern laborers. But after it, these now free laborers now exercised the option between work and leisure, meaning that man-hours were bound to fall in the South after 1865. Ransom and Sutch estimate that women and children put in only half as many work hours per year and men cut their work time by one-fifth. One of the reasons for the South's impressive economic growth before 1860 could be that slaves worked longer hours than free laborers. Since before the war slaves contributed 70 percent of regional labor, the drastic decline in working hours after the war would have enormous effects. Ransom and Sutch estimate that by 1870 physical productivity fell to 52 percent of the 1859 level because of this decline in hours. This reduction in labor, particularly of women, reduced the region's

\(^5\) Atack and Passell, pp.375-385
production possibilities. My analysis quantifies their findings more narrowly to deal exclusively with land value.

The first question it raises is what exactly are land values and what do they represent? I have utilized land values derived from census records compiled by Thomas Pressly. These statistics illustrate the average market value of farmland and buildings per acre for each county in the United States from 1850 to 1870. The calculations do not include the monetary value of machinery, livestock, or crops produced on the land. The land values are also not adjusted for inflation, because of the difficulty of finding a relevant inflation rate exclusively for land values. If inflation were a major concern during the 1850s, however, surely there would be records of such a phenomenon. Given the lack of such documentation, we can assume that land value inflation was not a chief concern during the Antebellum period. The estimates fall under the category of “arable” or “improved” acreage per farm, meaning the figure does not describe fallow land without an owner, or any wooded land that remains dormant during the growing season. The numbers describe actual farmland used in the production of crops. While this explains the quantitative aspect of the farm values, there is a further qualitative aspect to the numbers as well. The nominal land values are in essence indicators of land productivity – the more crops a farmer can produce on the land, the more valuable the land. The farmers buy land they believe they can resell at a higher price at a later time. It is a rational assumption to make considering the high growth of slave labor in the South and demand for cotton increasing in 1850.

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at a rate of 5 percent per annum. With an abundance of slaves and a growing demand, Southern planters could afford to pay the higher land prices.

The opening section of this study uses color maps to examine large, macro-level issues. Four maps in the appendix 1, referred to as Figure A and B, provide an overall guide to antebellum slavery. They illustrate both slave populations and slaves as a percentage of total population in the South between 1850 and 1860. Slave population and density mirrored the growth in white population; as more farmers settled in an area, the number of slaves grew proportionally on average. Those counties that contained the highest number of slaves also increased the most in land value during the decade. In a way, the individual state maps provide an in-depth focus of these four maps. I divided the entire slaveholding states into three categories: Border, Atlantic/Appalachian, and the Gulf States. On average, these three sections share many similar characteristics in topography and economics that make them a natural grouping.

The initial study defines the antebellum South up to 1860 and reveals the importance of slave labor to increasing land values. These maps can be found in Appendix 2, while the maps of 1860/1870 can be found in Appendix 3. The maps in Appendix 3 prove how slave-reliant counties suffered the greatest drop in land values.

The second segment uses quantitative analysis to go into further detail on the statewide county level. I have chosen four states – Virginia, Kentucky, Louisiana, and Alabama – as a sampling of the South between 1850 and 1870. The study contains substantial amounts of raw economic data to assess how the
amount slaves density per acre affected the land value in different parts of a state between 1850 and 1860. It exposes the nuances of slavery by making it a function of different variables such as urban proximity and farm acreage. The regression analysis proves that, on average, slaveholding counties did better overall in this period. I have calculated a monetary amount for how much each individual slave increased the farmland value in a state. Slave labor contributes to overall rural land values in each state, it is just they do so in different amounts, subject to the state-level economic conditions. The data exposes an assortment of intrastate economies that vary according to specific demographic factors and geographic locations in each state. Next I take the subsequent farmland values for each county in 1870. Those rural counties with the highest slave densities suffered, on average, the largest loses in land values. Again, the overall effects of emancipation differ depending on the particular state and the unique characteristics of a state’s economy and landscape.

1850 to 1860 Map Analysis

1a.

As previously mentioned, this study divides the South into three geographic regions. The first grouping, named the Border States, contains Maryland, Delaware, Kentucky, and Missouri. The second grouping, the Atlantic/Appalachian states – Virginia, North Carolina, South Carolina,
Tennessee, and Georgia, will be referred to this group as Atl/App. The last grouping is the Gulf States – Florida, Alabama, Mississippi, Louisiana, Texas, and Arkansas.

The map analysis in Appendix 2 affirms four main principles of antebellum land value increases. First, those counties with the highest number of slaves increased the most in farmland value during the period, suggesting that the presence of slaves indicated more productive farming. Second, urban counties and those counties in close proximity to cities increased in value at a rapid rate due to their immediacy to large markets for their goods. Third, counties along a river increased in value due to the superiority of soil and perhaps because of their closeness to markets. And finally, land values in Appalachian counties were worth less than farmland in river basin and flatter counties. This is the result of less fertile soil, fewer slaves, and a lack of plantation farming. There are several notable exceptions to the fourth conclusion, particularly in Virginia and North Carolina, but on average these counties were less valuable overall.

Figures 1a, 2a, and 3a display the percentage change in arable acreage in the Border States between 1850 and 1860. These areas contained a mix of slaveholders and free farmers, and all decided not to secede from the Union. Except for Kentucky, they remained relatively untouched during the war years as well. Starting on the east coast, land values in Delaware and Maryland increased throughout every county in ten years. While all the counties increased in value by 1860, those counties with the highest number of slaves gained the most in value. Intuitively, it makes sense that a farmer would pay more for land that he assumed
would be worth more in later years than other available farmland. It would also be a sound investment since the land would accordingly be worth more than the current asking price. If slave-reliant counties increased fastest in farm values, it implies that they were the most efficient in agricultural production. In particular, the Chesapeake region of both states grew immensely in value, in most areas over 50 percent. This area contained the highest concentration of slaveholders, in and around the Washington D.C. and Baltimore area. As with most counties in the U.S, those closest to a city increased in value at the highest rate due to the amount of commerce in urban areas and their proximity to markets.

Kentucky did not benefit from large urban areas or harbors to foster trade, unlike Delaware and Maryland. Figure 2a maps out Kentucky. A substantial portion of its counties lie in the Appalachian Mountains while the western section consists of the Ohio River Valley, ideal for farming. As with most Southern states, Kentucky counties increased in land value throughout the 1850s, particularly in the western half of the region. That segment of the state forms an almost-solid block of slaveholding counties that benefited from rapidly rising land values before the war. In fact every county along the Ohio River increased in percentage terms, many of them over 100 percent in ten years. Unsurprisingly, those counties also contained the largest percentage of the slave population. This pattern of large land value increases in counties near rivers continues throughout the Southern states, since many slave owners and plantations resided on or near large rivers and the coasts. Counties that surrounded Kentucky’s two urban areas, Louisville and Cincinnati, also grew in value, though not at the same impressive
rate as the western slave-dense areas. The Appalachian counties in eastern Kentucky did not share in the statewide economic growth; many of them in the southeast corner decreased or remained the same. This is the first example of a repeating pattern in Appalachian states of mountainous counties failing to benefit from increasing land values. There are two plausible explanations for such an occurrence. The first attributes their poor land value growth to climate and geography. The Appalachian counties simply did not have the same quality soil, rivers, or temperatures as the rest of the state to grow cash crops. Because of their disadvantage farmers were unwilling to pay a premium for mountain farmland.

The second explanation focuses on the yeoman farmers in the Appalachian Mountains, a group of independent producers who relied on local markets and shunned large slave plantations. Although these small freehold farmers have been largely ignored in the slavery debate and general portrayal of the antebellum South, family farms still dominated American agriculture. Even in the Cotton Belt, nearly 50 percent of all farms had no slaves.8 With thinner soil and fewer hands to till the soil, yeoman produced a wide range of crops for private consumption and for sale in local markets. They typically avoided growing cash crops like cotton and tobacco, largely because of the risk involved and the lower yields. According to Ransom and Sutch, yeoman farms were less productive than farms with slaves, and no more productive than their counterparts in the North.9

Thus, the Appalachian land values remained constant because of less efficient

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8 Atack and Passell, p.307
farming methods and poorer quality farmland. As the map illustrates, farmland values tended to slow down in percentage growth as they approached the mountains and finally settle into stagnation.

Missouri (figure 3a) rounds out the last of the Border States. Like Kentucky, Missouri's borders are defined in part by a large river, the Mississippi. The Mississippi and Missouri Rivers partition Missouri into two distinct parts. Most of the slave population resided in the north-central portion of the state along the Missouri and along the banks of the Mississippi. As with Maryland and Kentucky, counties with the largest slave populations also experienced the largest percentage increase in land values. This indicates that Missouri farmers were probably investing heavily in slave-reliant counties given the land's productivity and future value. The largest cities in Missouri, Kansas City, Jefferson City, and St. Louis, also happen to be located on the Missouri River, further increasing those counties' land values. Counties below the Missouri River Valley continue to increase up to 1860, but the increases were less dramatic. The Southern edge of Missouri's borders actually lost value during the decade, a rarity in the antebellum South. This is expected, however, since the Southern half contained fewer plantations and slaves per acre than the northern half. Family farmers produced most of the agricultural output in this portion of Missouri, and much like the yeoman planters in eastern Kentucky, the farms were small and relatively less efficient than the plantations along the Mississippi and Missouri.

In summation, the Border States establish a pattern of increasing land values in counties with large slave populations. Economies of scale and the
potential for efficient plantations made their farmland an attractive investment for planters. Since farmers expected the price and demand of cash crops like cotton to continue to increase, they could afford to pay a higher premium for the land. Proximity to large rivers such as the Mississippi, Missouri, Ohio also increased the rapidity of land value growth. River counties benefited from better soil than landlocked communities, which explains why plantations usually developed around these areas. City areas benefited from large markets and economic growth, which drove up land values at a rapid rate. Finally, the Appalachian Mountains had an adverse effect on land values, since it discouraged economies of scale and contained relatively few slaves per acre.

1b.

Of the five states included, the Atl/App states were all members of the original thirteen colonies, meaning that they were well-established agriculturally and relatively populated compared to the lower South. The Atlantic coastline had an abundance of large plantations in the 1850s meaning the eastern shores of these states (excluding Tennessee) thrived economically with a large density of slaves. All of the states also share the Appalachian Mountains, which contained a modest population of yeoman farmers. These farmers rarely relied on slave labor or plantation lifestyle and on average did not support secession in 1861. Atl/App States enjoyed the overall highest land and farm values. The Atl/App States also saw the most military action during the Civil War. Virginia, shown in figure 4a,
had the longest association with slavery. Starting in the north, Virginia counties benefited from their proximity to Washington D.C. and Alexandria. Many of them increased anywhere from 40 to 90 percent in the decade. Although these counties contained a reasonable number of slaves and plantation farming, it is likely that their closeness to urban areas made the land values increase more so than slave labor. The principal area of land value growth occurred along the Chesapeake region, Atlantic coast, and south-central portion of Virginia. This area included the two major rivers in Virginia, the James and Rappahannock. According to the map of slave populations in Figure A, slaves reached their highest number and density in the southeastern corner of coastal Virginia and spread west until Roanoke. In this area, the overwhelming majority of the counties increased between 60 to 90 percent in the antebellum period. The increases were less uniform than most of the Border States. For example, Goochland County, directly west of Richmond, increased slowly during the 1850s, while its neighbor Fluvanna County rose dramatically at over 100 percent increases. For the most part, however, these counties conform to the general pattern set by the previous four states; those counties with the highest number of slaves and overall population increased the most in percentage terms. It is interesting to see how most of the counties that lie on the James and Rappahannock Rivers also grew in value during the 1850s, particularly those northwest of Richmond and around Charlottesville. While the James River is arguably less important to Virginia agriculture than the Mississippi, Missouri and Ohio rivers, the pattern of water sources continues to hold in the Atl/App states.
The one area of inconsistency is in the Appalachian Mountains and Shenandoah Valley region of Virginia. While the western areas conforms to the same pattern as the Kentucky mountainous counties, the majority of mountainous regions in Virginia increased in land value throughout the 1850s. In fact, many of them increased at a quicker rate than the slaveholding counties to the east. On the surface this contradicts the findings in Kentucky. Further inspection reveals, however, that while the land values were increasing in Appalachian Virginia, the land values were much smaller on average than farm prices in the Richmond and Fredericksburg vicinity. For those mountainous counties, it is easier to show impressive percentage gains since their land values were inherently lower than the eastern counties.

The pattern of increasing values in slaveholding counties values continues unabated in Tennessee. Figure 5a depicts the impressive land value gains in Tennessee during the 1850s, as all but ten counties increased by over 100 percent. Tennessee was arguably one of the most economically expansive states in the Union in the decade before the Civil War. Mountainous counties shared with slaveholding counties in land value growth. Urban areas such as Nashville and Memphis along with counties along the Tennessee and Cumberland Rivers did well in farmland increases, but then again all Tennessee counties did well. While it is true that these slave-dense areas multiplied in land values, the increases were more of a statewide phenomenon than a direct result of slave plantations. Thus, Tennessee counties have a weaker correlation between slave populations and increasing land values than those in other Southern states. With
that said, counties with high slave populations enjoyed a tripling and quadrupling of their land value prices in the 1850s. For example, Wilson and Davidson counties, located just west of Nashville, saw their land values shoot up from $8 to $30 and $19 to $56, respectively. These counties also contained tens of thousands of slaves in 1850. It is reasonable to conclude that farmers were willing to pay a much higher price for slave-dominated counties in Tennessee during the antebellum period, although areas that were sparse in slave labor fared very well.

North Carolina (Figure 6a) follows the land tendencies of Virginia rather than Tennessee. Throughout the state, land values as a whole grew at an impressive rate in the 1850s regardless of slave or Appalachian region. Yet there remains a strong correlation between slave densities, urban communities, and impressive land value growth. Starting in the western mountain regions, the Appalachian counties increase at a notable amount, gaining anywhere from 20 to 200 percent in the 1850s. These gains make little sense in comparison to the other Atl/App states, where mountainous regions tended to increase very little during the 1850s. The increases are less impressive in the aggregate, however; since western region counties on the whole were less expensive in 1850, doubling or even tripling is not as difficult a feat as in the eastern, wealthier districts.

The eastern coast of North Carolina features barrier islands and a coastline that contained a large number of plantations that farmed peas, beans, corn, and potatoes. Map A illustrates how eastern Carolina counties had a high percentage of slaves in the total population, anywhere from 30 to 50 percent down the entire coast. Figure 6a gives the colored county map of North Carolina during the same
decade. Unsurprisingly, those same coastal counties show high increases in land values, anywhere from 50 to 100 percent. The major rivers in North Carolina, the Neuse, Cape Fear, and Roanoke, also pass through the eastern areas and provided the counties with fertile farmland to support large plantations.

North Carolina contained two moderately sized urban areas, Charlotte and Raleigh, in 1850. Of the six counties that increased over 200 percent in land value in the 1850s, two of them surround Raleigh while the other two are in the coastal plantation region. Charlotte did not fair as well, although counties in the immediate region still increased anywhere from 20 to 100 percent.

In 1850, South Carolina (Figure 7a) consisted of 29 counties that were substantially larger than most other Southern counties. As a whole, every county increased in land value during the decade. Whereas other states had areas of high slave populations and others few, South Carolina contained thousands of slaves spread throughout the state, giving it a high slave density per acreage. Given this high number of slaves, it makes sense that South Carolina enjoyed high land prices per acreage by 1850. The already high land prices make the state’s percentage growth in land values even more impressive. Unlike the previous three states discussed in the Atl/App grouping, most of the counties in South Carolina are not located in the Appalachian Mountains. This could explain the high density of slaves, and the large cotton production across the state. South Carolina marked the beginning of heavy cotton production in the South, with farmers producing tens of thousands of bales in the 1850s.10 The principle cotton

producing counties were located in the middle of the state. An economic reliance on cotton could explain their large increases in land values. The eastern seaboard and western borders contained high slave populations, and these counties also increased in land values. Four of the seven counties along the Atlantic Ocean increased over 100 percent in land value during the 1850s. In the western half of the state, increases were more modest at 50 to 99 percent, but the increases were nonetheless impressive. There are few large rivers in South Carolina except for the Savannah River, which marks the border with Georgia. Even without a mighty water source such as the Mississippi or Ohio River, counties that sat on or near the smaller Santee and Pee Dee Rivers still increased over 100 percent, suggesting the link between rivers and land values still exists on a smaller scale.

Although South Carolina shares many similarities with other Atl/App states, its main city of Charleston did not increase at the same pace as other urban areas in the South. The farmland surrounding Charleston increased at a tepid pace of 1 to 49 percent. Charleston's increases pale in comparison to the impressive growth of 100 to 200 percent in other cities such as Richmond, Raleigh, and Nashville. Farms bordering an urban market tended to increase at a notable rate in the antebellum South. While urban areas such as Columbia did increase over 100 percent, Charleston's slow growth in acreage value goes against the trend of other Southern cities.

The one consistency with South Carolina's neighbor, Georgia (Figure 8a), is its inconsistent increases in percentage farmland values. The middle portion of the state contained the largest concentration of farms, slaves, and overall
population, which started in the northeast corner and moved diagonally towards the middle southwest part. The far northern and Southern reaches were sparsely populated and even less cultivated before the Civil War. Unlike the other Atl/App states, Georgia does not show a strong relationship between river counties and increasing land values. The mountainous terrain in the northern tip of Georgia made plantation agriculture next to impossible and gave rise to dispersed family farms similar to those in western Virginia and eastern Kentucky. Yet unlike those mountainous areas, counties in Appalachian Georgia ran the gamut from doubling in farmland value in some areas to declining in others. For example, the first three counties on the far eastern side of the northern tip increased at a rate well over 100 percent. Yet directly west of these counties, farmland values decreased over the decade. Similar incidents occur throughout Southern Georgia, with one county prospering while its neighbor lags behind. Because of this phenomenon, it is difficult to draw any strong conclusions about Georgia's farmland values in these two regions. According to Figures A and B, slaves composed more or less an insignificant proportion of the total population in the northern and Southern portions of Georgia. While Figure 8a illustrates the increases in land value between 1850 and 1860, the increases are fairly unimpressive given that these regions sold land for $1 to $4 per acre, far lower than the middle of the state.\footnote{Pressly, p. 49}

If we discount the far northern and Southern regions, however, the midsection of Georgia shows a consistent pattern of land values increasing at 50 to 99 percent. Although several midsection counties decrease or remain constant, the majority of them experienced moderate farm value growth. Included in this
mid-region is Atlanta, which at the time was a minor city. Despite its small size, Atlanta increased over 100 percent over the decade. By the 1850s, this section of Georgia produced a significant amount of cotton, forming the eastern edge of what is known as the "Cotton Belt". In fact, the majority of counties had a cotton production between 15 to 45 bales per square mile in 1860.\(^ {12} \) The combination of slave labor and cotton production fueled the increasing farmland values, as farmers were willing to pay more for the mid-section regions than in the northern or Southern areas.

Although the Atl/App region demonstrates a considerable amount of variation between the states, most of the counties still conform to the general pattern set by the Border States. This included large land value increases in slave-dense counties, river counties, and those counties in proximity to urban areas. Unlike Kentucky, however, many Appalachian counties in the Atl/App states shared in the land value growth of the coastal regions. While this appears contradictory to the thesis that mountainous counties did not increase as much as even-plain slave labor counties, those increases in the Appalachian regions should be tempered by the fact that they began at a much lower land value.

1c.

The Gulf States category finishes the grouping of antebellum states. Their slave populations were rapidly increasing in 1850. The Gulf States contained the Black Belt, a section of the lower South with the highest concentration of slaves.

\(^ {12} \) Hilliard, p. 71
stretching across Alabama and Mississippi (and parts of Georgia). Land values in the Gulf States were increasing proportionally more than any other sections, although their nominal amounts were much lower than the Atl/App States. The Gulf States also suffered little physical damage during the war, with the urban exceptions of New Orleans and Mobile. All but Arkansas borders the Gulf of Mexico and these states were the main antebellum cotton producers. Some of the states such as Louisiana, Florida, and Texas, have a significant number of their counties located directly on the Gulf, while Mississippi and Alabama have only five between them. Unlike the Border and Atl/App States, the Gulf States were relatively unsettled in 1850. Texas had been a part of the United States for barely five years in 1850, while Arkansas received statehood in 1836. None exceeded thirty-five years of statehood. This lack of population and farming meant the Gulf States could increase at a quicker growth rate than the more established Upper South. An influx of slaves and farmers into the Gulf States further fueled their economic expansion in the 1850s.

While the Gulf of Mexico surrounds western Florida (Figure 9a), it shared little in common with the other states in the region. At the dawn of the Civil War, relatively few people lived in Florida. For the sake of this study, only the northern counties have statistical relevance. These counties produced a modest amount of sugar cane, hemp, and cotton and had a minimal population of farmers and slaves. Even with their small plantations, the region remained stagnant during the decade. Six counties stayed constant in farmland value while eight actually dropped in price. Because Florida’s two main communities, Jacksonville
and Tallahassee, were hardly cities in the same sense as Richmond or Atlanta, it is hard to draw any urban correlations with land values. Overall, Florida does not fit into the model given its low population, sparse plantations, and lack of urban areas.

Alabama (Figure 10a) returns to the pattern of cotton plantations and increasing land values. Fueled by a strong cotton export and growing land cultivation, Alabama's agricultural economy grew at a notable rate in the 1850s. The largest city in Alabama, Montgomery, grew at a rate of over 100 percent in land value during the 1850s, while other urban areas such as Tuscaloosa and Birmingham increased as well. Particularly in the middle section of the state, where land values were highest in Alabama, many counties grew by 50 to 100 percent in land value over the decade. The majority of the plantations sat on the major rivers including the Alabama, Conecuh, and Mobile. The Tuscaloosa and Alabama Rivers ran directly through the cotton counties and provided fertile soil for crops. Figure 10a clearly illustrates that land values in the Cotton Belt grew at a strong rate of over 100 percent throughout the decade. Farmers were willing to pay a higher price for the Cotton Belt county land, indicating that they expected it to be either more productive than other counties and that the farmland values would continue to increase in the future. The northwest corner of Alabama contains the tail ends of the Appalachian Mountains, and much like northeast Georgia and southeast Tennessee the area housed small family farms using little slave labor. Southern Alabama possessed a small population comparable to that of northern Florida, and grew at a similar slow pace. Land values in the northern
and Southern half of Alabama were the lowest in the state and grew at a sluggish pace in comparison to the Cotton Belt region. Both sections suffered in farm prices from a lack of productive slave labor and a smaller overall population.

Of all the Southern states, farmland values in Mississippi (Figure 11a) grew at the fastest pace. By 1860, the state had a large overall population and enormous cotton plantations along the eastern borders and middle section. Mississippi produced more cotton in the 1850s than any other Southern state except Alabama and Georgia. The Mississippi River attributed to this success as it fertilized the river counties with a fine silt. (Figure B) Along the rivers, slaves accounted for more than 70 percent of the total population. Several counties experienced land value growth similar to that in Tennessee, where counties tripled and quintupled in prices. Coahoma County, which sat directly on the Mississippi in the northern part of the state, leapt from $9 in 1850 to $32 in 1860. South of Coahoma, Issaquena County jumped from $11 to $40. In fact, nearly every county that had a high number of slaves increased in land value over 100 percent during the 1850s. Figure 11a documents the impressive gains in land values, as nearly every Mississippi county increased over 100 percent. These increases emphasize the farmer's faith in the booming cotton market and their expectations for future farmland prices. Every urban area in Mississippi grew at over 100 percent in the 1850s, including Vicksburg and Jackson, and counties along the smaller Yazoo and Pearl Rivers also made impressive gains. Counties along the Gulf of Mexico increased at a slower pace than those further north, continuing the trend exhibited in Southern Alabama and Florida.
Moving westward, Louisiana (Figure 12a) profited from sizeable sugar plantations in the Southern coastal counties and cotton farms in the north along the Mississippi. The majority of Louisianans (slaves and whites) resided in the Mississippi basin and Texarkana area, and it was these two geographic regions that saw the largest increases in land values. Louisiana farms sat in low-lying river basins as the state contained virtually no foothills or mountains, making the farmland ideal for slave labor and large plantations. Counties that bordered the Mississippi had a high number of slaves, with slaves making up over 70 percent of the total population. As with Mississippi, these counties increased over 100 percent in farmland value during the period. Curiously, New Orleans and Baton Rouge did not increase as much in value as other Southern cities, despite their proximity to the Mississippi and high-value farmland. It should be noted, however, that land values in these areas were among the highest in the South (Orleans and Iberville counties had an acreage value of $55 and $34, respectively), which could explain the lower growth rates.

Unlike the previous three Gulf States, counties that bordered the Gulf of Mexico showed large increases in land values and had a moderate overall population. The principle cash crops of the counties included sugar, hemp, and cotton, which spurred economic growth due to high domestic and international demand. The Sabine River forms the western border of Louisiana with Texas, and counties along this smaller river also increased in value from 20 to 100 percent. The Texarkana area produced a large amount of cotton as well, as evident by its high farmland values and increases during the period. Overall,

13 See Figures A and B
Louisiana conforms to the model of increasing river district values, urban values, and especially cotton areas. The majority of counties with large slave populations increased over 100 percent in value, while those with little to no slaves remained relatively modest in their growth.

Farmland values in Arkansas (Figure 13a) grew at a moderate rate despite a small slave and white population. Unlike the other Gulf States, where one or two geographic regions supported the majority of the residents, Arkansans were dispersed rather evenly. Arkansas contained few towns or urban centers besides the nondescript Little Rock and Ft. Smith, further dispersing the population. Cotton farming developed primarily along the banks of the Mississippi River, where the majority of slaves resided. This area also produced the bulk of Arkansas's agricultural output. In river counties with a high number of slaves, the farmland prices increased over 100 percent. Farmers considered these areas more productive and hence more valuable to the sparsely populated western counties.

Moving west from the Mississippi, counties continued to increase in land value but at a much smaller rate, usually growing about 50 percent. By the far western counties, economic growth became stagnant and remained constant or actually decreased in land values. Overall, counties that lie on the lesser Arkansas and White Rivers did not show a particularly strong relationship with increasing land values. While Arkansas corresponds with other Gulf States in the eastern river counties, the remaining counties are too under-populated with slaves and underdeveloped to draw any strong conclusions.
The final Gulf State, Texas (Figure 14a), saw substantial increases in farmland values during the 1850s. The majority of counties in the eastern half of Texas grew in value at a rate of over 100 percent. Texas's western prairie land was so unsettled in the mid 19th Century that its counties are not worth analysis. Texas's main urban centers of Houston, Dallas, and San Antonio increased over 100 percent during the period. Most of the counties surrounding these towns also prospered, perhaps due to their urban proximities. Texas's main cash crops included wheat and cotton, which were cultivated in the northeast Texarkana area and the Southern counties between Houston and Galveston. Farmers lived on huge plots of land hundreds of acres from their nearest neighbors. The average farm size exceeded 800 acres along the eastern coast through Houston and San Antonio, while the majority of homesteads further inland did not exceed 50 acres. Texas land values rose throughout the state, however, regardless of small or large farms. The main determinant in land value increases was slave labor. In the 1850s, Texans used slaves sparingly in the border areas with Louisiana and Arkansas. According to Figures A and B, the number of slaves in Texas grew steadily throughout the decade, as farmers took advantage of the climate and soil in eastern Texas to produce cotton and wheat. Southeastern Texas possesses several moderate-sized rivers, including the Sabine, Trinity, Brazos, Colorado, and San Antonio. Counties along these five rivers increased between 20 and 100 percent in farmland value during the 1850s, although most exceeded 100 percent in gains. The river counties also possessed the highest concentration of slaves in Texas. While slaves never became a majority of the total population as they had

14 Hilliard, pp.41-42
in eastern Louisiana or Western Mississippi, they did encompass anywhere from 30 to 70 percent of the residents in eastern Texas by 1860. As more slaves entered Texas, the land values began to increase accordingly.

Of all the Southern states, counties in the Gulf States grew at the highest overall percentages in land values during the antebellum period. Their success is a direct result of high cotton prices, fertile farmland, and investing in slaves. Farmers invested in Gulf State counties due to the high demand for cotton and the ability to have large plantations on low-lying terrain. The high land values indicate a strong faith in the future value of the land and suggest that plantations were the most productive farms in the South. This conclusion coincides with Ransom and Sutch’s theory of plantation productivity. Most of the gains occurred along the Mississippi Delta and further up the river. As with the other two groupings, those counties near a river increased at the highest percentage, while counties in close proximity to towns or cities grew substantially in value as well.

1860 to 1870 Map Analysis

The Civil War not only ended slavery, but disbanded a profitable business venture for Southern planters and concluded a traditional way of plantation life.
During the antebellum era, the slavery system allowed for economies of scale, higher productivity, lower total costs, and a higher overall yield for cotton than the traditional family farm method. Based on these benefits, Southern planters invested in slaves and paid a premium for farmland in slave-dense counties. Given the rapidly increasing land values in the South before the Civil War, farmers clearly expected cotton demand and slave labor to increase.

Four years of war erased those illusions. Even on farms that avoided destruction during the conflict, planters still lost their investments in slaves as a capital commodity. These declines in the labor supply, as advanced by Ransom and Sutch, affected the Southern economy two-fold. One consequence of emancipation, as discussed in the opening section, was a reduction in overall labor hours in the South. Slavery forces a bondsman to work longer hours than they would choose on their own volition, as the freedmen could now choose between work and leisure. The second reduction was subtler. Emancipation forced Southern farmers to adjust their farming methods from slavery-driven to either family farms, sharecropping or tenant farming. While it is true that the plantation lifestyle remained intact on sugar and rice plantations in Louisiana, it is generally agreed upon that during Reconstruction the number of small family farms in the South increased dramatically. By nature, smaller farms produce a smaller yield than larger farms. As previously noted, Ransom and Sutch suggest that family farms in the antebellum South were no more productive than those in the North and less productive than plantation farming. Furthermore, certain historians have alleged that sharecropping was an inefficient system of farming because it
reduced the incentives to maximize production and profits.\textsuperscript{15} Since the farmer who rents his land from an owner has to give up half his crop yields to the landowner, he will have half the incentive to produce as much under a sharecropping economy. In other words, sharecropping placed an implicit tax on a farmer’s production, thus reducing his motivation to work. A combination of reduced labor hours and less efficient farming styles reduced overall output in the postbellum South. Intuitively, farmers would now pay a lower price for farmland, given that sharecropping, renting, and family farming are all less productive than the former plantation method. Thus the shift from slave-reliant agriculture to sharecropping and wage labor caused Southern land values to fall between 1860 and 1870. While this is a bold statement to make, proof is provided in the county maps of Southern states.

If the “Destruction Theory” explains the South’s malaise, then only those counties and states that saw significant devastation should decrease in land values. If Wright’s cotton demand proposal is correct, then only those counties that produced high cotton yields should decrease. Yet neither was the case. In fact, counties that relied on slavery for economic output suffered the greatest percentage lose in land values. The decreases cut across Union and Confederate lines; those states that did not join the Confederacy but permitted slavery saw major land value losses in counties that relied on slave labor. While Goldin and Wright’s respective theories help explain drops in GDP or output, we must add emancipation to account fully for the considerable slump in slave-holding county land values. It binds the slaveholding territory of the U.S. together with economic

\textsuperscript{15} Atack and Passel, pp. 375-385
principles and historical facts. With the conceptual base for the South's agricultural economy before the Civil War in place, we can examine the effects of emancipation during the 1860s. The following section examines the three state categories as an aggregate and confirms that slave labor was an overwhelming determinant in whether or not a county's land value fell.

2.

Appendix 3 contains the fourteen maps detailing the 1860 to 1870 percentage land value changes in the South. On average, counties with a high number of slaves before the Civil War either decreased in land value or remained constant throughout the decade. While several slave counties actually increased in value, their growth rates were substantially lower than before the war. Yet attributing the entire loss of farmland value growth to emancipation would be erroneous. As previously noted, worldwide demand for cotton was decreasing during the 1860s and probably would have lowered overall land values and land value growth without the economic effects of the Civil War. The loss of life during the war cannot be fully discounted either – farms need workers to plant and harvest. But the loss of slave labor and overall drop in hours worked contributed to these losses and made them more severe. Counties along the Chesapeake region decreased in farmland value, while the rest of Maryland and Delaware show modest gains in land value. Counties in Kentucky were a mixed bag of land value growth and decline, as land in the slave-dense eastern Ohio River valley decreased on average while the Appalachian region stayed constant
or increased in overall value. Perhaps mountainous counties avoided the decreasing land values because of their reliance on family farming. The effects of emancipation on farmland values would not have been felt as severely in those counties.

Land value in Missouri seems to have suffered relatively little during the 1860s, as the majority of counties increased in overall value. Most of the counties, however, did not rely on slave labor for production. Excluding the Missouri River region, the state contained a fraction of the slave population in comparison to Maryland and Kentucky.

The Atlantic States contained a much higher density of slaves than the Border States, which contributed to their county land values decreasing at a higher overall percentage than the previous grouping. Starting in Virginia, the main concentration of slaves stretches from the eastern Blue Ridge Mountains to the Atlantic Coast. Nearly all of the counties in this region decreased in value. The majority of the counties decreased over 30 percent during the 1860s. It should be noted, however, that this area also saw the heaviest fighting during the Civil War, which might have contributed to losses in land value. Cities such as Richmond, Roanoke, and the Alexandria/Washington D.C. area did not suffer from decreasing land values, which indicates that urban counties avoided the declining effects of emancipation. Intuitively, this makes sense considering that urban areas have several different economic markets as opposed to rural areas that relied solely on an agricultural livelihood. As with Kentucky, Appalachian counties avoided the declining land values that afflicted slave-reliant areas. With
few exceptions, those counties that bordered Kentucky increased or remained constant during the decade, adding further weight to the notion that yeoman farmers suffered little to no direct losses due to emancipation.

While Tennessee had one of the most expansive and diverse regional economies in the South before 1860, it did not continue this rate of growth in the next decade. In fact, many Tennessee counties decreased precipitously, over 30 and 50 percent, after the Civil War. The heaviest concentration of slaves in Tennessee resided in the central and western portions of the state, the cotton producing areas. These areas showed significant drops in value. Conversely, many of the eastern Appalachian counties remained constant or increased in value, while others dropped on 1 to 19 percent during the 1860s.

The land value decreases in cotton producing slave counties continues into North Carolina. All but fourteen counties decreased in value over the decade, but the slave-dense eastern portion of the state decreased at the highest rate. Several of these counties decreased in value over 50 percent, although the Raleigh area increased in farmland value similar to Richmond, Virginia. As with the previous Atl/App States, a number of mountainous counties increased in overall value and evaded the decreases of slave-reliant counties.

The 1860s proved ruinous for farmland values in South Carolina. All but five counties in South Carolina decreased by over 50 percent. Since South Carolina contained the highest population of slaves and the largest cotton economy of the Atl/App States, it is unsurprising that this state would suffer the greatest losses as well. By 1870, the plantation lifestyle of the antebellum era had
ended and left South Carolina worse off economically. These losses are reflected in the declining farmland values in areas that could not produce as much cotton as before and were not as productive. Also, South Carolinians could have still been feeling the effects of the Civil War on their farmland values. General William T. Sherman’s March to the Sea in 1864 caused severe property damage to South Carolina’s infrastructure and farms, which may have exacerbated the declines in land values. This would relate the “Destruction Theory” together with emancipation as an explanation for Southern declines after the war.

Counties in Georgia show a greater variation in land values than South Carolina. As in 1850, land values fluctuations were inconsistent throughout the state, with neighboring counties increasing, decreasing, and remaining constant with little consistency. As with the previous Atl/App States, the overwhelming majority of counties decreased in land values, with southern counties decreasing at the highest rate of over 50 percent. On the other hand, northern and southern counties were sparsely populated, had lower over land values, and contained few or no slaves. Counties in central Georgia declined anywhere from 1 to 50 percent during the decade. These areas contained the highest density of slaves. While central Georgian counties produced impressive gains in output and land values during the antebellum period, these advances were erased after the Civil War. Ultimately, the slave-reliant counties that demonstrated impressive gains in value before the war shrunk in nominal value the most after the war had ended.

The following section examines the final grouping, the Gulf States. Alabama and Mississippi decreased the most in land value of any Southern states.
The majority of counties declined by over 50 percent during the 1860s. As previously noted, these two states benefited from large cotton plantations and substantial slave populations. In Alabama, all but two counties along the western border with Mississippi lost half their value or more. The declining land values struck particularly hard across the Cotton Belt central section. On average, those counties where slaves were 50 percent or more of the population decreased the most in land value, intimating that there is a connection between high African-American populations and dropping land values.

The heavy losses continue into the coastal plain region of Mississippi. Recall that in the 1850s, Mississippi farmland value grew at the fastest overall pace in the South. The state also produced more cotton than any other state, and contained a large overall population and enormous plantations. Yet except for South Carolina, Mississippi suffered the largest reduction in land values over the 1860s. Nearly every county in the eastern half of Mississippi decreased over 50 percent, while river counties suffered serious declines as well. Similar to Alabama, counties in Mississippi where slaves composed over 50 percent of the population fell by 20 to 50 percent. Most of these types of counties were found along the Mississippi River. The antebellum plantation lifestyle had been replaced by small family farms and sharecropping, which proved ruinous for the cotton producers.

Louisiana also suffered a similar decline in farmland real estate value. During the 1850s, the Mississippi River basin and Texarkana areas increased at the highest rate in Louisiana. The years following the Civil War dropped
farmland values significantly, with some counties dropping below their 1850 price levels. Virtually every county on the Mississippi decreased over 50 percent, while Texarkana counties declined precipitously as well. While urban areas such as Shreveport and Baton Rouge maintained their high land values, these cities were not immune to the effects of decreasing land values. Only New Orleans remained unscathed. While most land values decreased somewhat in prices, counties along the Mississippi contained the highest percentage of slave density per acre. By 1860, these counties produced an extremely large cotton yield per annum as well. Unsurprisingly, these counties dropped the most in overall value. In summation, Louisiana conforms to the general pattern established by previous Gulf States of decreasing farmland values in farmland counties and cotton producing areas.

Counties in Arkansas also declined in price during the 1860s. While the majority of central and northern counties fell in farmland prices as well, these counties remained relatively unsettled, meaning that any conclusions drawn from these counties are suspect at best. Southern Arkansas held the highest number of slaves and whites, and similar to other Gulf States this region demonstrated the largest decreases in land value. Particularly around the Mississippi, Arkansas counties decreased anywhere from 30 to over 50 percent in a ten year period.

Moving southward to Texas, slave-reliant counties continued to decline in overall real estate value. An overwhelming majority of counties decreased over 50 percent throughout the decade, meaning they lost all of their land value gains of the 1850s. In eastern Texas several areas dropped below their 1850 level,
meaning that the land was valued below the price set 20 years prior. The river counties that showed the highest increases in pricing during the 1850s suffered severe losses after the Civil War. There were quite a few counties, however, that actually increased in total farmland price. Since most farms in Texas exceeded 800 acres, both population and slave density were lower than in other Gulf States. With a lower overall African-American population, farmers did not rely as heavily on slave labor for agricultural output. This might explain why emancipation did not affect Texas as acutely. While it does not show the same reduction in farmland prices as the Cotton Belt region, Texas does conform to the overall model of other Southern States.

Analyzing land value variation throughout the 1860s indicates that slave labor, or rather the amount of slave labor per county, was a crucial determinant as to whether or not an area decreased in pricing. On average, counties that improved the most in farmland value during the 1850s used slave labor for agricultural production. After the Civil War, many of these same counties lost over 50 percent of total value, while some decreased below their 1850 Census level. While wartime destruction and decreases in aggregate cotton demand certainly played a factor in these declines, they do not explain the fall in value as comprehensively as does slave labor. The Civil War did not affect most Southern counties in a military sense, yet these unscathed slave-dense counties still dropped in land pricing. Further, counties that did not produce large quantities of cotton but utilized slave labor also decreased in value. But these counties did switch from plantations to sharecropping, which would have decreased overall output
and farming productivity. In conclusion, the maps of 1860 verify that emancipation had an adverse effect on Southern land values in specific areas of high African-American populations. The final section examines four individual states in a regression analysis of county land values from 1850 to 1870.

Statistics

II.

By now it should be apparent that a kind of phenomena occurred in Southern land values between 1850 and 1870. This occurrence is even more impressive considering the vast territory that Southern land encompassed, literally millions of acres. In this thesis, the word “South” has been used loosely to describe any region from the Chesapeake Bay to the Missouri River valley, from the Texarkana area over to the Atlantic Coast. The generality of the word underscores the significance of this growth. That such a large expanse of the United States showed so much conformity in land value growth suggests a shared uniformity in agricultural and farming methods that went beyond state borders and geographical particulars. All Southern states used slavery in varying degrees, and the maps indicate that slave labor drove the growth in Southern farmland values in the antebellum period and eventually contributed to its decline.

Nonetheless, the maps alone do not solidify the link between slavery and Southern land values. While they are useful as a macro induction to the trends in Southern agriculture, they serve more as a guide to the study of the slave and
farming system than a definitive connection between the two. There are too many mitigating factors that occurred during the period, such as the Civil War and overall decreases in worldwide cotton demand, to pin the rise and decline of land values solely on slave labor. The exact link between slavery and Southern land values necessitates an in depth statistical analysis in the form of cliometrics.

I have utilized cliometrics in order to strengthen the association of slavery with changes in farmland values. I have chosen four Southern states for the analysis, Virginia, Kentucky, Alabama, and Louisiana. These states represent four very diverse sections of the American South. Virginia and Kentucky characterize the Upper South, a more established region in the U.S. in the 1850s. Land in these two states was accordingly more expensive, and the overall population was higher as well. Alabama and Louisiana epitomize the Lower South, the region that experienced the largest growth in percentage terms during the antebellum period. Both states underwent an influx of white farmers and slaves that spurred land value growth. It could also be argued that, given the economic data from the census records, the Lower South relied more on slave labor for agricultural output than the Upper South. The division between Upper and Lower South is important because of the innate differences between the regions. While Kentucky and Virginia shared the Appalachian Mountain range, no such mountains existed in the Lower South. Rather, river basins and low-level plains characterized Louisiana and Alabama. A substantial portion of Virginia and Louisiana’s counties lie along the Atlantic Ocean and Gulf of Mexico, respectively. Alabama contained the large cotton plantations while Louisiana
relied on sugar cane and cotton for its economic viability. In other words, while all four states shared the title of "Southern", large variances in geography, population, and economies functioned to make them extremely diverse and to offer an interesting statistical comparison.

For each state, I used the United States Census records of 1850, 1860, and 1870 to find county records for white populations, slave populations, land values per acreage, aggregate farmland values, and the amount of arable acres. These four quantities form the basis of the cliometric model. Ultimately, the cliometrics suggests two main conclusions. First, despite more warfare destruction in the Upper South, the Lower South suffered a far greater economic destruction comparatively. Second, the data indicates that there were economic unities at the state level. This implies that each of the four states had unique interregional similarities that differentiated them from other Southern states. The final section of my thesis explores the quantitative results of these four states and the implications of the statistics regarding land values and slave densities in the American South.

Table One of Appendix 4 contains the descriptive statistics of each state. The regression model analyzes 286 counties in total. Each state is initially analyzed separately and then as an entire grouping. I analyze Louisiana twice, once using every county and then using only rural counties, since a significant portion of southern Louisiana contained many slaves in the New Orleans and Baton Rouge but few plantations. Since the thesis observes rural land values,
these cities could skew the data if they are inadvertently counted as rural areas with large farms.

In the antebellum period, Virginia and Kentucky had land values nearly double those of Louisiana and Alabama. On the eve of the Civil War, the Lower South states had considerably narrowed the gap in average land values, implying that these states grew tremendously in farmland value prior to the war. Yet by 1870, the disparity in land values between Upper and Lower South had returned with the Lower South land values almost half as valuable as the Upper South. Although both areas of the South had thousands of slaves and suffered economic setback after the Civil War, the Upper South’s agricultural land value had recovered and expanded by 1870, while the Lower South remained stagnant. According to the descriptive statistics, the Lower South also had a substantially higher slave population and ratio of slaves as well. To be more precise, Louisiana and Alabama had a much higher slave population than Kentucky and Alabama, and their land values suffered a greater loss after the Civil War. The initial descriptive statistics support the map study conclusions.

The final tables include the regression results for Southern land values from 1860 to 1870. From a conceptual standpoint, the regression model asks one question: can we predict land values in the South given the amount of slaves in a state, the ratio of slaves to white people, and the previous decade’s land values? In each case, the predicted land values represent a dependent variable while the amount of slaves, ratio of slaves, and previous land values denote independent variables. The regression conclusions indicate that for all four states slave
populations as a whole and as a ratio of total population are excellent predictors of future land values. For each regression result, the F statistic remains relatively high, which is an indicator of a precise model. Further, the R squared results range anywhere from .58 to .96, meaning that 58 to 96 percent of the variation in land values for a given period can be predicted from the independent variables.

Table 2 predicts the value of farmland in 1860 using aggregate farm prices in 1850 and county slave populations in 1860. Virginia, for example, had a constant value of $62,551.1, which would be the value of Virginian farmland regardless of slave populations or previous land values. The unstandardized regression weight of slave populations in 1860 equals 40.05, meaning that each slave in Virginia increased land values by $40.05. According to the map analysis of part One, Virginian counties with large slave populations had higher land values. The regression model explains these higher prices, as more slaves would increase the total value of county farmland by $40.05. The high R squared value of .935 indicates the high correlation between slaves and future land prices. In Kentucky, slaves increased the land value even more, at an average of $183.67 per county.

The Lower South states of Alabama and Louisiana show greater benefits from the effects of slave labor on their farmland values than those of the Upper South. In Alabama, each slave increased land value by $120.63 from a constant of -$225834. The R squared value of .917 in Alabama means that land values in 1850 and the total number of slaves could explain 92 percent of the variation in land values in 1860. Since slaves increased land value by $120.63 and the 1850
land values only increased them by $1.05, however, it is clear that a majority of
the variation is due to slave populations. In Louisiana the unstandardized
regression weight was even higher at $186.56, with a constant of -$378283 and a
lower R squared of .58.

At first the concept of the term “constant”, or intercept, appears puzzling.
The intercept represents the mean land value for a given county when the number
of slaves equals zero and regardless of previous decade’s value.\textsuperscript{16} From an
empirical perspective this makes little sense; almost every Southern county
contained at least one slave in 1850 and 1860, making it unrealistic to assume
otherwise. From an Analysis of Variance standpoint, however, the constant
simply asks, what is the marginal contribution of the increase or decrease of slave
populations on predicted land value? Further, if we eliminate the intercept and
simply use the standardized coefficient, or the mathematical component of the
unstandardized coefficient, the number of slaves and previous land values remain
statistically significant when computing future land values. This leads me to the
conclusion that the number and relative ratio of slaves, coupled with prior
aggregate farmland values, are reliable predictors of land prices in 1860 and 1870.

The final column of Table 2 regresses the South as an aggregate. In
analyzing total land values in 1860 for all 289 counties, the average
unstandardized regression weight for 1850 land values comes to 1.44, with the
regression weight for number of slaves equaling 78.4, an average constant of

\textsuperscript{16} Since the constant is a function of the chosen independent variables, the
number will vary significantly in value depending on which predictors are
selected. While the constant is helpful in analyzing land values, its existence is a
13850, and an R squared of .897. This means that as a total for all four states, beginning at a farmland value of $13,850, each slave increased the aggregate farmland value in a county by $78.4. Further, the number of slaves in a county and the value of the farmland can explain a full 89.7 percent of the variation in 1860 farmland values in the previous decade.

The remaining three tables predict land values in 1870. Table 3 uses 1860 county farmland values and the number of slaves in 1860 as its independent variables. In Virginia, the unstandardized regression weight of land values in 1860 amounts to 1.42, while that of the number of slaves in 1860 is –81.75. The R squared value remains high at .816. According to the model, as the ratio of slaves to whites increased by one, the aggregate value of the farmland fell by $81.75. The results in Virginia suggest that slaves had an adverse effect on the economy in 1870.

In Kentucky, however, slaves actually increased the land value. With an R squared value of .843 and constant value of 465817.5, each slave increased the aggregate value of land per county by $454.97. Since the map study clearly denotes that slave-dense counties actually decreased the most, this result leads me to the conclusion that Kentucky remained overwhelmingly agrarian in 1870. In such an economy, the former slaves could contribute to land value growth if they were the chief producer of crops in a county. This holds true in the Lower South as well, where the number of slaves in 1860 increases overall land values.

direct consequence of the two independent variables and does not represent a factual monetary amount.
For the final three tables I have also added two new variables to the charts, the bivariate relationship and standardized coefficient. The bivariate relationship represents the effects of a single independent variable on the dependent variable without controlling for the second independent variable. For example, it would be the amount of effect that land values in 1860 had on land values in 1870 without controlling for the effects of slave populations. Every bivariate relationship in Table 3 is positive, meaning that both 1860 land values and slave populations increased the value of the land in all four states.

The standardized coefficient examines the effects of a single independent variable while controlling for the second. The standardized coefficient is a more specific and exact measurement than the bivariate relationship because it isolates each independent variable and shows its sole effects on 1870 land values. Much like the bivariate figure, a positive standardized coefficient indicates the given variable increases 1870 land values, while a negative coefficient implies a decrease in 1870 values. In Table 3, all except Virginia’s standardized coefficient for number of slaves is positive.

Yet positive bivariate relationship and standardized coefficients contradict the hypothesis that slaves depressed Southern land values. While I cannot fully explain the results, positive bivariate and standardized coefficients could indicate an agrarian based economy with little to no diversification in production. In an economy that relies solely on farming as their means for output, such as Alabama and Louisiana, the former slaves became the farmers that grew and harvested the crops. In this situation, free blacks could actually increase land values if they
helped produce agricultural output. This could explain the negative standardized coefficient in Virginia, which had diversified its economy beyond agriculture with burgeoning cities and increasing industries in Richmond and the Washington D.C. area. Again, this is merely speculation to possibly explain the contradictory positive standardized coefficients.

Table 4 predicts 1870 land values again using farmland prices in 1860 but substituting slave populations in 1870 for those in 1860. The term "slave" is inaccurate, of course, since African-Americans were freed in 1863. For the sake of posterity in the model, however, the term remains in place. Nevertheless, the results are fairly similar to table 3. With an R squared value of .799, aggregate farmland values in Virginia decreased by $13.07 for each additional slave per county. The unstandardized regression weight for 1860 land values remains close to Tables 2 and 3, at 1.34. Similar to Table 3, Virginia has a positive bivariate relationship for both independent variables. In fact, all four states display a positive bivariate relationship for 1860 land values and the number of slaves in 1870. The remaining three states produce results comparable to those in Table 3. Overall, substituting the number of slaves in 1870 for slave populations in 1860 does not change the regression results in the Upper or Lower South.

Table 5 concludes the statistical study of the South by predicting 1870 land values. Instead of analyzing aggregate slave populations, the regression utilizes the ratio of slaves per county in 1870. This ratio is a more precise measurement of slaves per area than simply regressing the total population of slaves in a county. Rather than studying hundreds of thousands of slaves strewn
across a given county, this measurement gives a true indication of how many
slaves inhabited specific regions. In Virginia, the unstandardized regression
weight of land values in 1860 amounts to 1.309, while that of slave ratios in 1870
is -3.4. The R squared value remains high at .818. According to the model, as
the ratio of slaves to whites increased by one, the aggregate value of the farmland
fell by $3.40. There existed a negative relationship between African-Americans
and land values. Thus an area with a high black density such as the Chesapeake
and Tidewater regions decreased the most in percentage terms, as evidenced by
the map study. On average, these areas contained the most plantations before the
Civil War and stood to lose the most economically after African-American
emancipation in 1863. With the end of the war came sharecropping, which has
already been proven to be less efficient at farming tobacco and cotton than the
slave system. The remaining Upper South state, Kentucky, demonstrates results
comparable to those of Virginia, with a similar R squared, F value, and
unstandardized regression weights for previous land values and slave ratios. A
further examination of the standardized coefficients of Virginia and Kentucky
reveals a negative relationship between predicted land values in 1870 and the ratio
of slaves in both states.

The economic effects of slave ratios were much more pronounced in the
Lower South than in Virginia or Kentucky. Whereas slaves in the Upper South
decreased values by a few dollars, in Alabama and Louisiana the slave ratios
devastated values by thousands of dollars. This model does not reflect actual land
values, merely trends in price variations. Yet given the enormous negative effect
of slave ratios on land values, I suspect that the economic devastation of the Civil
War and emancipation proved ruinous to land values in the Lower South.

While the regression model is less precise in predicting 1870 land values
(as evidenced by the low R squared values of .759 in Alabama and .392 in
Louisiana), the results indicate that high densities of slaves had a tremendous
effect on declining land values. Beginning in Alabama with a constant of
417565.6, the unstandardized regression weight of land values is .542, while the
weight of slave ratios is an impossible -1743607. In Louisiana, the constant value
is 714163.1, while the unstandardized regression weight for 1860 land values and
slave ratios are .506 and -142040, respectively. As with the Upper South, both
Alabama and Louisiana have negative standardized coefficients for slave ratios,
meaning that after controlling for previous land values in 1860, slave ratios had a
direct negative consequence for 1870 land values.

The unusually large unstandardized regression weights result from
inadequate and unavailable data for the Lower South in the 1860s and 1870s. As
previously mentioned, the value of the constant is only helpful in an Analysis of
Variance context. In this sense, the regression values are appropriate; apparently
slaves had an enormous negative effect on Alabama and Louisiana farmland
values.

A large portion of these decreases in aggregate land prices, however,
could be explained by declining worldwide cotton prices. Given the economic
dependence of states like Alabama and Louisiana on cotton production, these
states should have suffered the largest declines in value. Yet on a macro-level,
the effects of declining cotton prices and slave ratios are indirectly connected; since cotton counties held the most slaves, any large fluctuations in cotton prices would mainly affect these counties. Further, the negative standardized coefficients for ratio of slave in all four Southern states indicates that slaves did have a direct, depressing effect on 1870 land values. This reinforces the belief that counties prior to the Civil War that depended heavily on slave labor suffered the greatest decreases in 1870.

In conclusion, the cliometric study strengthens the connection between slave populations in 1850 and increases in farmland prices throughout the following decade. Farmers saw slaves as a stable and profitable investment and were willing to pay a premium for counties along the Mississippi Delta and Atlantic Coast. These areas also contained the largest concentration of slaves in the antebellum South.

The statistical model produces inconclusive results from 1860 to 1870. While Virginia consistently demonstrates a negative relationship between former slaves and land values, the remaining three states have a more subtle connection. The total number of slaves increases land values, while the ratio of slaves always decreases farm prices. This implies that only slave-dense areas decreased in total land value. In other words, simply having slaves in a county did not necessarily mean declining farmland prices. Only those counties with large slave populations in comparison to whites decreased in value. This suggests smaller economies within an individual state, which would explain why slave densities affected differing regions in a dissimilar manner. Further, slaves had a more pronounced
effect on the Lower South than in the Upper South. In Alabama and Louisiana, slaves constituted a vital factor of production for all farming, while Kentucky and Virginia had a more diversified economy. Perhaps due to this reliance on slaves before the Civil War, Alabama and Louisiana depended on free blacks after the war to farm and raise crops, thus mitigating the adverse affects of sharecropping.
Summary

As history continues to revise and update the legacy of slavery, it must also pay attention to the economic consequences of the institution as well. Slavery not only represented a way of life in the South, but an economic enterprise that increased agricultural output and spurred land value growth. Previous studies of slavery have more or less ignored the crucial connection between slave populations and increasing farmland value. The fact remains that geographically diverse regions such as the Chesapeake, Mississippi Delta, Piedmont, and the Texarkana all show strikingly similar increases in land values during the 1850s. Despite differences in crops, climate, population and wealth, the majority of counties demonstrated considerable growth in farmland acre prices. The only factor that links these areas together is slavery. As further proof, these same slave counties that increased between 50 to 100 percent before the war suffered the largest loss in value by 1870. Finally, the statistics narrow in on the specific quantitative effects of slavery on individual counties. Given the previous decade’s land values and aggregate amounts of slave populations, it is possible to predict land values in 1860 and 1870; slave populations prove to be an asset before the war and a liability to land values afterward. Further, the cliometrics reveal the presence of intrastate economies and significant economic destruction in the Lower South. These conclusions add another facet to the historical revision of slavery.
Appendix 1

Figure A

SLAVE POPULATION
1850
EACH DOT REPRESENTS 2,000 SLAVES
MAP 35a

SLAVES AS A PERCENT OF TOTAL POPULATION
1850
MAP 36

Percent

70
50
30
10
Incomp.
Data

0 50 100 150 200 Miles
Figure B

SLAVE POPULATION
1860
EACH DOT REPRESENTS 2,000 SLAVES
MAP 37

SLAVES AS A PERCENT OF TOTAL POPULATION
1860
MAP 38

Percent
70
50
30
10
No Data
Appendix 2

1850 to 1860 Maps
Figure 1a

Maryland/Delaware 1850-1860

increase:
- incomplete
- $1-19\%$
- $20-49\%$
- $50-99\%$
- $100+\%$
Appendix 3

1860 to 1870 Maps
Figure 6b.

Decrease: 1860-1870

- incomplete data
- increased or remained constant
- 1 - 19%
- 20 - 29%
- 30 - 49%
- 50 + %
Florida 1860-1870

decrease:

- incomplete
- increase or constant
- 1-11%
- 20-29%
- 30-49%
- 50-69%
Table 1: Descriptive Statistics

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### Table 2: Regression Analysis for 1860 Land Value

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Table 3: Regression Analysis for 1870 Land Value (a)

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Table 4: Regression Analysis for 1870 Land Value (b)

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Table 5: Regression Analysis for 1870 Land Value (c)

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