Tell Me What You Grow and I'll Tell You What You Think: Westward Expansion and the Politics of Slavery in the US South*

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Abstract

Slavery had long been one of the dominant labor institutions before its demise in the nineteenth century. This paper shows that changing economic interests determined shifts in political support for slavery. We exploit the competitive forces generated by the westward expansion of the Southern United States between 1810 and 1860 to identify changes in local economic incentives for the use of slave labor. We show that areas losing comparative advantage in the production of cotton relative to wheat changed their production decisions and reduced their use of slave labor. Evidence suggests that economic benefits for the white laborers and the political influence of the planter elite sustained a broad pro-slavery coalition. The local decline of slavery profitability decreased wages and shifted newspapers' pro-slavery content, reducing non-slave–owners' incentives to support the institution. The Westward Expansion divided the South's productive, political, and social systems in the decades leading to the Civil War.

Keywords: Slavery, Institutional Change, Political Economy, Westward Expansion

JEL Codes: N31, O13, O17, P48

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You tell me whar a man gits his corn
pone, en I'll tell you what his 'pinions is.

Unnamed Slave, Missouri, 1850
Mark Twain, *Corn Pone Opinions*

1 Introduction

Slavery has been a widespread and long-lasting labor institution. Most ancient civilizations—Greece, Rome, and Egypt, among others—as well as most colonial societies, regarded slavery as essential to their economies (Patterson, 1982; Engerman, 2007; Acemoglu and Wolitzky, 2011). In these societies, slave labor was not only the primary productive input but was also at the core of the social order. The Southern United States is one of the most prominent examples. Hinging on the labor of four million enslaved African Americans, the Southern United States' economy constituted, on the eve of the Civil War, "the greatest center of slavery in the New World and the bulwark of resistance to abolition" (Fogel, 1989 p. 34). The stability of this system rested on a broad political consensus, even in the face of a large non-slave–holding population (Wright, 2006).

Yet, by the end of the nineteenth century, slavery had been abolished in most of the world. What caused the political defeat of slavery is still heavily debated. On the one hand, the rise of abolitionist movements and humanitarian ideas have been regarded as the fundamental drivers of the demise of slavery (Fogel, 1989). On the other hand, as pointed out by Williams (2014, p. 211), the spread of these abolitionist movements shows a "curious affinity with the rise and development of new interests and the necessity of the destruction of the old."[1] What role did economic forces play in affecting the political consensus around the institution of slavery? We address this question in the context of the United States Antebellum South (1810–1860).

Although at the beginning of the nineteenth century Southern states developed around the Atlantic shore, in the following decades, the Westward Expansion shifted the epicenter of production toward the Mississippi Valley. At the same time, about one million enslaved African Americans were forcibly moved throughout the South, profoundly transforming its economic landscape.[2] This paper shows that, through the Westward Expansion, shifts in agricultural comparative advantages determined changes in the allocation of slaves, production decisions, and political support for slavery. This process eventually determined the geographical distribution of slavery and support for secession.

Our strategy exploits two facts. First, the Westward Expansion between 1810 and 1860 resulted in significant changes in the amount and type of agricultural land available to the Southern economy, inducing local changes in the profitability of various crops. Second, no more slaves could be brought into the United States after 1808. The abolition of the Atlantic slave trade in 1808 implied that any change in the local number of slaves beyond its natural growth resulted from slaves' relocation within the US South.[3] We leverage these developments to compute changes in the county-level comparative advantage in the production of cotton relative to wheat to predict slave relocation. To establish a relationship between the comparative advantage in the production of cotton (compared to wheat) and the use of slaves (compared to wage labor), we rely on the well-known empirical association

[1] The idea has recently been revisited by Wright (2020).
[2] The actual number is debated. Gutman et al. (1976) estimates one million.
[3] The number of slaves over the total population was constant around 33% between 1810 and 1860.

in the US South between the intensity of cotton production and the use of slave labor (Fogel and Engerman, 1977; Wright, 1979) and provide further evidence that slave labor was more commonly used in the production of cotton than the production of wheat.[4]

To guide our empirical analysis, we develop a conceptual framework to study how slaves are relocated through a market à la Rubinstein and Wolinsky (1985), in which pairs of farmers are brought together by a stochastic process. Each farmer's slave valuation depends on the relative productivity of cotton and wheat for their plot of land. In each period, a farmer's probability of selling a slave depends on the total number of farmers whose land is relatively more productive. The Westward Expansion affected the slave distribution because it changed farmers' position in the relative productivity distribution. In other words, the Westward Expansion determined slave relocation by affecting the agricultural comparative advantage of each plot of land.[5]

We compute changes in the agricultural comparative advantage in the following way. First, we use information on soil characteristics (FAO-GAEZ, 2002) to estimate the county-level relative productivity of cotton with respect to wheat.[6] Second, we compute, for each decade, the changes in each county's position in the distribution of relative productivity due to the addition of land following the Westward Expansion. The size of the change depends on each county's relative productivity compared to the newly established counties in the West. These changes capture the level of exposure of a county to the competition generated by the newly available land. We use this local variation in cotton comparative advantage to predict slave relocation, production decisions, and the political support for slavery.

The key identifying assumption behind our econometric model is the absence of unobservable county-specific and time-varying characteristics that affect the use of slave labor and that are correlated with changes in the position of a county in the relative productivity distribution. To ensure and assess the validity of our identification, we take several steps. First, we control for county fixed effects, thereby absorbing all the time-invariant county characteristics that could potentially affect the number of slaves in a county. Second, we include year fixed effects, which capture common changes brought by the Westward Expansion. In this way, we only exploit the differential effect that the Westward Expansion had on counties with different relative productivities of cotton to wheat. Moreover, we control for 1) the distance to the Northern states (non-slave states) interacted with year fixed effects and 2) Census region fixed effects interacted with year fixed effects. Therefore, in our analysis, we compare counties at the same distance from the North and in the same Census region, but that differ in the extent to which the Westward Expansion affected their agricultural comparative advantage. This specification allows us to net out potential effects derived from the evolution of the cultural and institutional environment that depend on counties' geographical positions. For example, counties closer to the Northern states might have been influenced by the changing northern ideological environment more than counties further away.

Between 1810 and 1860, most counties were exposed to the surge in competition generated by

[4]In Section B of the Appendix, we provide evidence in support of the link between the type of crop and the propensity to use slave or wage labor and discuss the main hypothesis in the literature (Fogel and Engerman, 1974; Earle, 1978; Fenoaltea, 1984; Hanes, 1996; Wright, 2006).

[5]A complementary way to look at the effect of the Westward Expansion on the slave trade is through cotton prices. Because the US South was responsible for the majority of the world's cotton production, the Westward Expansion generated a large increase in cotton output and a decline in prices that in turn affected counties' crop specialization depending on their relative productivity. We investigate this variation in Appendix C.3.

[6]From now on, for ease of exposition, instead of writing "comparative advantage in the production of cotton relative to wheat" we will write "comparative advantage of cotton".

the addition of land with higher relative productivity for cotton. For example, a county with a median relative productivity in 1810, dropped into the 34th percentile in 1860 after being surpassed by almost one million square kilometers of land that had higher relative productivity for cotton. This drop in the ranking of relative productivity resulted in a 10.8 percentage point reduction in the share of the enslaved population, which was a substantial reduction given that the average share of the enslaved population was 28%. Overall, our estimates imply that between 1810 and 1860, almost 800,000 slaves were relocated due to the competitive forces generated by the Westward Expansion. Along with slave labor relocation, the Westward Expansion brought large changes in the type of crops produced. Using information from the Census of Agriculture we show a 96% reduction in the production of cotton and a 228% increase in the production of wheat for the median county. These results show that farmers changed their production decisions and sold their slaves when they lost a comparative advantage in cotton production, which caused a county-level decrease in cotton, an increase in wheat production, and a reduction in the share of slaves relative to the total population.

How did this economic transformation affect the politics of slavery? Our results show that the frontier expansion led to a political divergence across geographical regions. To illustrate this transformation, we analyze popular votes and elected politicians' behavior. First, we establish that the Southern representatives of the two main political parties behaved differently when voting on slavery. Our estimates show that Southern members of the Whig party were consistently more willing to compromise on slavery than the Southern members of the Democratic party. With these party differences in mind, we use county-level electoral returns to study how economic conditions affected popular voting behavior. Counties that lost their comparative advantage in cotton saw a decrease in the share of votes for the Democratic party both in presidential and gubernatorial elections.[7] The increase in competition faced by a median county in 1810 induced a 18.8 percentage point drop in the Democratic vote share. The effect is large when compared to the average Democratic share of 54%.

Second, we turn to the analysis of politicians' behavior. Using roll-call voting, we show that, between 1810 and 1860, the increase in competition faced by a median congressional district induced its representative to double his probability of voting against slavery. Large changes in voting behavior regarding slavery are present even when comparing legislators' behavior in the same party. Moreover, we employ the measure set forth in Poole and Rosenthal (1985) to investigate changes in legislators' ideology. We show that congressional districts that lost their comparative advantage in slave labor were represented by legislators who voted less in line with the Democratic party, irrespective of their actual party affiliation.

Finally, we investigate one of the most consequential episodes in US history: the Secession crisis. In 1860, the willingness of the South to defend slavery was tested in the Secession Conventions. We find that a one standard deviation increase in the relative productivity of cotton increases the likelihood that a county voted in favor of secession by 12.5 percentage points. This estimate is large enough to move the secession results in six states, where less than ten percentage points decided the outcome of the Secession Conventions.

Why did the decline of the slave-based economy generate a drop in the political support for slavery? First, slave owners might have been the only ones supporting slavery. Therefore, any change in the political support for slavery would have been driven by the number of slave owners.

[7] For reasons of exposition, we refer to both the Democratic party and the Jacksonian faction as Democrat.

Using full count household information, we compare the decrease in the share of slaveholding families to the vote's share in favor of the Democratic party. We find that, at most 25%, of the effect can be explained by the reduction in the number of slave-owners. This result implies that white non-slaveholders were part of the political coalition that supported slavery. Why did the non-slave–owning population defend slavery? How did the decline of the slave-based economy affect non-slaveholders' incentives to support slavery?

We advance the hypothesis that the local decline of the slave-based economy reduced the planters' influence on the political system, inducing a drop in the incentives and constraints for the non-slaveholding population to support slavery. We examine this hypothesis in three ways.

First, we investigate the economic spillovers of a thriving slave economy on the Southern, white, non-slave–owners. We show that the decline of the slave-based economy reduced local wages for white farm laborers and domestic servants and induced a decline in the manufacturing sector. These results are in line with a clientelistic relationship between the white non-slaveholding population and the planters elite.

Second, we study changes in the political debate. We analyze language in local newspapers, which were the primary tool for shaping public opinion. We build on Gentzkow and Shapiro (2010) to model newspapers' supply of slavery-related content. Consistently with the model's predictions, we find that Democratic newspapers decreased their coverage of slavery-related topics when located in areas that were losing comparative advantage in slave labor. Whig newspapers increased their coverage. The combined effect is that places with a declining slave economy saw a marked decline in pro-slavery content, likely accelerating the political demise of slavery.

Finally, we analyze voting turnout and the composition of the local population. Because planters often used coercive measures to control the ballot, a more prominent local elite had a higher ability to constrain political participation. We show that the decline of the slave-based economy increased the voting turnout of the poorest sections of the white population. Moreover, given that the free black population was perceived as a threat to slavery, a more prominent local elite likely induced a tighter control of manumission and free black movements. Counties that lost their comparative advantage in cotton production saw an increase in the number of free blacks. These results indicate the decline of the planters' control of the social environment as a mechanism through which economic changes led to a decrease in the political support for slavery.

Taken together, our results show that the Westward Expansion transformed the productive, political, and social systems within the US South. As the frontier moved to the west, some counties lost their comparative advantage in cotton production while others gained it. These differences in the productive system led to diverging political forces over slavery, eventually shaping the coalition that ultimately led to the South's secession from the Union. These findings are consistent with a tradition that sees changes in economic conditions as the basis for political and institutional transformation. With these results, we contribute to a classic debate in social science on the role of the relationship of production in shaping institutions. Karl Marx famously proposed the view that material conditions determine both the political and ideological structure of societies: "It is not the consciousness of men that determines their existence, but their social existence that determines their consciousness."[8] More recently, a similar approach has been interpreted by the Chicago school

[8]Preface to A Contribution to the Critique of Political Economy, 1859. In Marx, 1977.

— "Marxian in spirit, but without class-struggle"[9] — where Becker and Stigler (1977) treated consumer's preferences as endogenous and by North (1990, p. 84) who maintained that relative prices determine both institutional change and preferences: "fundamental changes in relative prices over time will alter the behavioral pattern of people and their rationalization of what constitutes standards of behavior." Greif (1994, p. 917) points to mechanisms of motivated cognition to explain how changes in economic conditions can affect value systems when he states, "Different patterns of social and economic interactions lead to the development of distinctive value systems as individuals attempt to find moral justification for their behavior through cognitive dissonance."[10]

Our paper contributes to the effort to substantiate this historical and theoretical perspective. In this regard, we speak to recent literature that has studied the short-term effects of technological innovations and changes in the economic environment on institutional and ideological equilibria (Di Tella et al., 2007; Greenwood et al., 2014; Doepke and Zilibotti, 2008, 2017; Becker and Pascali, 2019; Bazzi et al., 2020). Although institutional change might be the result of cultural processes, and cultural entrepreneurs[11] might be necessary for paradigmatic changes in the prevalent beliefs of a given society, our analysis shows that changes in economic conditions could themselves affect institutional development.

Our analysis is also close to the political economy literature on democratic and non-democratic institutions (Acemoglu and Robinson, 2006). While the literature has typically stressed institutional persistence (Acemoglu et al., 2001) and elite capture in a context of non-mobile landowners (Acemoglu and Robinson, 2008), our paper points to the role of slaves as a mobile asset. Because slave owners could relocate labor across long distances (Pritchett, 2001; Steckel and Ziebarth, 2013; Wright, 2006; González et al., 2017), changes in local economic conditions led to a decline in the planters local political influence, thereby opening up space for political change. We contribute to this literature by examining the economic roots of elite capture and showing how economic changes can lead to political changes by decreasing the elite's incentives to maintain local political control. We also contribute to the literature on elite capture in democratic regimes through patronage, the use of violence (Baland and Robinson, 2008; Martinez-Bravo et al., 2017), and media control (Besley and Prat, 2006) by providing evidence of the effect of changes in elite incentives on local wages, voting turnout and the public debate on slavery. Moreover, by analyzing the effect of economic conditions on partisan newspapers' behavior, this paper also contributes to the literature on media slant and political competition (Gentzkow and Shapiro, 2010; Gentzkow et al., 2014).

Our results contribute to the literature on the political history of slavery and race in the United States. The sources of political and ideological support (and opposition) to the institution of slavery in the South has been the subject of several studies. Although there is a large body of qualitative literature (Stampp, 1943; Hammond, 1974; Genovese, 1975, 1989; Cooper, 1978; Crofts, 1989; Budros, 2005; Fox-Genovese and Genovese, 2008; King and Haveman, 2008) quantitative analysis is relatively scarce and mainly focused on the events leading to the Civil War (Wooster (1954, 1956, 1958); Calomiris and Pritchett (2016); Chacón and Jensen (2020); Hall et al. (2019)).[12] Our paper

[9] Guiso et al., 2006, p. 27.

[10] Other important contributions to this literature include Akerlof and Dickens (1982), Kuran (1993), Rabin (1994), Bowles (1998), Bénabou and Tirole (2002), Benabou and Tirole (2006), Di Tella et al. (2007), Di Tella et al. (2015), Bénabou (2013) and Bénabou and Tirole (2016).

[11] Mokyr (2016, p. 96) uses the term to describe those individuals who add cultural traits to the choice set of other individuals.

[12] Instead, there is a rich literature on the long-term effects of slavery both inside and outside the United States. Nunn (2008) on economic development; Bertocchi and Dimico (2014) on income inequality; Baiardi (2018) on gender

provides a novel identification strategy that exploits a key phenomenon in American history, the Westward Expansion, and presents new information to address a fundamental issue in the political economy of slavery: the relationship between economic incentives and political support for the institution. We contribute to this literature by establishing two new facts. First, that Southern politics became increasingly divided over slavery due to the economic changes determined by the Westward Expansion. Second, that the decline of the slave-based economy reduced incentives for the non-slave owners to support slavery. By showing the effect of economic conditions on the political support for slavery, we also contribute to the debate on the relative importance of ethnocentric considerations and economic motives in explaining voting behavior. Recent works have shown the long-term effects of slavery on political preferences (Acharya et al., 2016) and the importance of racial attitudes to explain US politics (Kuziemko and Washington, 2018). Our paper contributes to this debate by showing the economic origins of these preferences.

Finally, we contribute to an extensive body of literature on the economics of US slavery. The bulk of these studies focus on the profitability of investments in slaves and the relative efficiency of slave and wage labor.[13] This debate has been intertwined with the problem of slave labor sector specialization. A plurality of competing hypotheses have been proposed, including gang labor (Fogel and Engerman, 1974), labor seasonality (Earle, 1978), risk diversification (Wright, 1979), effort intensity (Fenoaltea, 1984), scale effects (Irwin, 1988), and turnover costs (Hanes, 1996).[14] Building on this literature, we propose a new approach to show the link between agricultural comparative advantage and slave labor allocation. Finally, by studying the effects of the Westward Expansion on slave relocation, we also complement the research on the ability of the Southern economy to efficiently relocate resources in response to changes in demand and production technology (Olmstead and Rhode, 2008, 2010). We contribute to this literature providing new estimates for the movement of slaves through the trade in slaves.[15]

The rest of the paper is organized as follows. Section 2 introduces the historical background and discusses the relationship between slave labor allocation and crop choice. Section 3 presents the data. Section 4 lays out the empirical strategy. Section 5 studies the effect of the Westward Expansion on crop mix adjustment and slave labor allocation. Section 6 investigates the political consequences of changes in agricultural comparative advantages. Section 7 discusses the potential mechanisms that relate to changes in economic incentives to the political and ideological results. Section 8 concludes.

division of labor; Bertocchi and Dimico (2019) on family structure; Jung (2019) on human capital. Dell (2010), Acemoglu et al. (2012); Bobonis and Morrow (2014); Fujiwara et al. (2019) for studies on Latin America; and Buggle and Nafziger (2020) and Markevich and Zhuravskaya (2018) for studies on the Russian Empire.

[13]The literature is too ample to be surveyed here. See Olmstead and Rhode (2010) for a survey of the debate. Among others, relevant contributions are Conrad and Meyer (1958), Yasuba (1961), Fogel and Engerman (1974, 1977, 1980), Fogel (1989), Wright and Kunreuther (1975); Wright (1975, 1978, 1979, 2006), David and Temin (1979), Schaefer and Schmitz (1979) and Haskell (1979).

[14]More recently, Esposito (2018) studied the role of malaria in the rise of slavery in the seventeenth and eighteenth century.

[15] Our estimates suggest a lower bound of 30%. This finding is consistent with previous findings (see Tadman, 1989; Pritchett, 2001; and, Steckel and Ziebarth, 2013), which attribute 50 and 70% of the slave movement to trade in slaves.

2 Historical Background and Slave Labor

2.1 Agriculture and Slavery in the US

During the period of our analysis, 1810–1860, slavery was a controversial institution; it had been abolished in the northern states but was widely used as a labor factor in the southern agricultural economy. In 1810, there were about one million slaves available to the southern economy out of a total population of fewer than three million people. The proportion remained roughly stable; in 1860, there were four million slaves out of a total of twelve million people in the south. The US economy was highly rural, even in the last period of our analysis. For the entire United Stated, in 1800 and 1860, the agricultural sector employed over 74% and 55% of the labor force, respectively, and accounted for around 45% of 1860 total output (Weiss, 1992). The Southern economy was even more markedly rural, as reflected in the low number of its urban population, which never surpassed 8% before the end of the Civil War. The main economic activities consisted of producing for market a few cash crops for which slave labor was both the major capital investment and an important labor input North (1961). The most important product for the Southern economy was cotton, which accounted for 38% of the South's total agricultural value in 1860. Cotton was followed by sugar (30%), corn (27%), wheat (8%) and tobacco (5%).[16]

The slave labor needed for agricultural production was organized through a slave market which grew to maturity after 1808, when the Atlantic slave trade was officially ended, prohibiting the legal introduction of new slaves from abroad. Between 1810 and 1860, about one million slaves were relocated throughout the US South, both through interstate trade and through slave owner migration. The trade was conducted by professional agents who would purchase slaves through public auctions or advertisements and sell them to the south western regions. Different estimates suggest that trading outweighed planters' migration, accounting for more than 50% of the overall movement of slaves (Tadman, 1989; Pritchett, 2001; Steckel and Ziebarth, 2013).

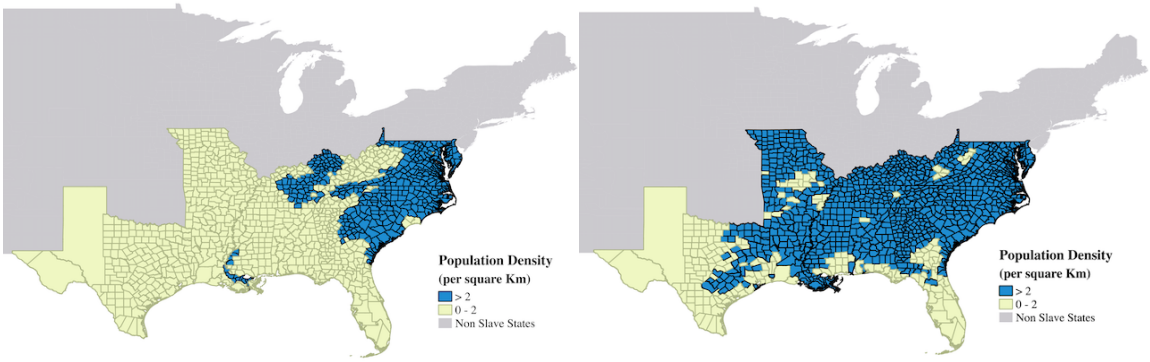
The Antebellum era was a period of profound transformation in the structure of the Southern economy, characterized by a sharp increase in agricultural output and a shift of production to the west; between 1810 and 1850 the "cotton crop increased nearly tenfold and the share of the western states leaped from 7 to 64 percent" (Fogel, 1989 p. 64). Cliometricians have shown that the Southern economy experienced a period of sustained growth. Fogel (1989) estimates a rate of growth in per capita income of 1.7% in the period between 1840 and 1860 which, the author maintains, was not only one third higher than the Northern rate of growth but also quite high by historical standards.

During this period, a major transformation reshaped the Southern landscape: the increase in land available for agricultural production through the Westward Expansion of the frontier. Between 1810 and 1860, the land populate by white settlers increased by three times in the Southern states and led to a major shift of the best land for cotton production from the South toward the West. Although international cotton demand grew approximately 5% per year from 1830 to 1860 (Wright, 1975), cotton prices steadily decreased over this period, and slave prices steadily increased. Figure 1 shows the expansion of the United States from 1810 to 1860. Figure G.16 in Appendix G shows the the same decade by decade, from 1810 to 1860. Figure 2 Panel (a) shows the distribution of relative productivity of cotton and wheat of the 1810 land against the one of the land populate by

[16] Own computation from the Agricultural Census of 1860. Total agricultural value is given by the sum of crop, orchard, and market garden values as reported in the Census, (Haines and ICPSR, 2010).

white settlers between 1820 and 1860; Panel (b) shows cotton and slave prices over time.

Figure 1: Westward Territorial Expansion

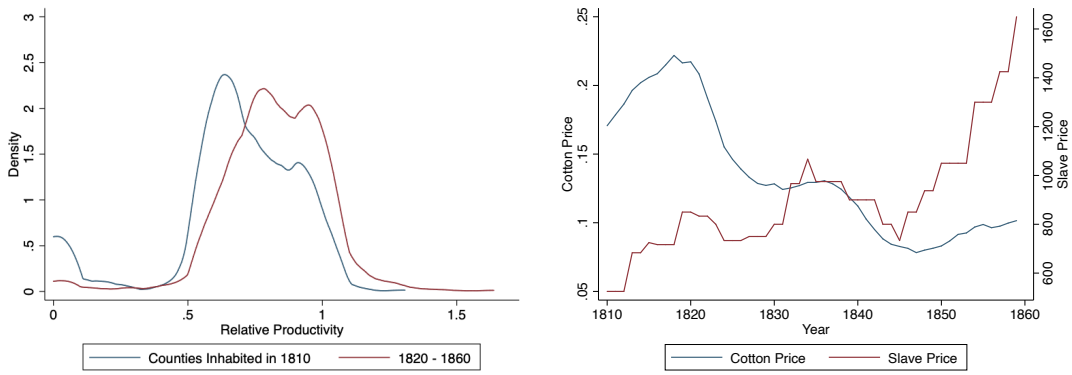


(a) US Territory in 1810 (b) US Territory in 1860

Note: The Figure represents the Westward territorial expansion in the Southern United States between 1810 and 1860. Blue counties have a population density higher than two individuals per square Km. Yellow counties have a population density below two individuals per square Km and represent the Southern territory in 1860. The gray area represents Staes where slavery was not legal.

Figure 2: Change in Comparative Advantage

(a) Relative Productivity (b) Cotton and Slaves Prices



Note: The figure on the left plots the distribution of relative productivity of the counties that made up the United States in 1810 and the counties that became United States territories and states from 1820–1860. The figure on the right plots ten-year moving average of cotton and slave prices. Cotton prices are for the New Orleans market as in Cole (1938). Slave prices are from Phillips (1905).

2.2 The Choice of Labor Inputs: Slavery versus Wage Labor

Saying that a large share of slaves in the US South was employed in the cultivation of cotton is hardly a controversial statement. In 1860, 75% of the enslaved population lived in counties that produced more than 1000 bales of cotton that year. In the same year, the average share of cotton in the gross value of farm output varied from 29% on slaveless farms to 61% on plantations with more than 50 slaves (Fogel and Engerman, 1977; Wright, 1979). The relationship is reversed in the case

of wheat, with slaveless farms producing five times more wheat than plantations with more than 50 slaves. Nevertheless, what accounted for such specialization, and more generally, what accounted for the heterogeneous distribution of slaves across sectors in colonial and antebellum America, has been the subject of extensive debate.

Different theories have been proposed to explain these patterns of specialization. These theories include the idea that certain crops were better suited to the use of gang labor techniques (Fogel and Engerman, 1974; Fenoaltea, 1984) and effort-intensive tasks (Fenoaltea, 1984); the inherent riskiness in the production of non food cash crops (Wright and Kunreuther, 1975; Wright, 1979); the number of weeks in a year a crop needs to be attended to (Earle, 1978); and the number of peaks of the labor requirements in a year (Hanes, 1996). In Appendix B, we provide a more detailed discussion of these theories and their implications.

Regardless of whether the allocation of slave labor can be explained by one or a combination of several arguments, the data show that slave labor was preferred to wage labor in the production of cotton, but this was not true for wheat. Using farm-level information from the Parker and Gallman (1992) subsample of the 1860 US Agricultural census, we observe two main patterns: 1) the negative correlation between wheat and cotton at the farm level; and 2) the negative correlation between the share of slaves on the farm and the share of wheat in the gross value of farm output. Figure B.2 and Table B.5 in Section B of the Appendix show these trends and the distribution of the share of slaves by cotton and wheat production.

Moreover, some of the literature suggests that because of their distinctive seasonality, cotton and wheat represent contrasting cases of a slave-intensive crop and non-slave-intensive crop (Earle, 1978; Hanes, 1996; Wright, 2006).[17] Guided by these considerations, we expect higher productivity for cotton relative to wheat to be associated with higher use of slave labor. It is important to mention that our argument is not to be considered in absolute terms but rather, in relative terms. We do not maintain that wheat and slavery are incompatible per se —counterexamples have been shown in the case of Piedmont Virginia by Irwin (1988)— but that, all other things being equal a cotton (sugar and tobacco) producer had an advantage in the use of slave labor over a grain producer and this had to be reflected in the allocation of slaves. In Appendix C.4 we expand our analysis to include sugar, tobacco, and corn.

2.3 Westward Expansion and Slave Labor Relocation

This section introduces a model that rationalize the relationship between the Westward Expansion and the relocation of slave labor. Consider the Southern US economy as a collection of N counties indexed by $i = 1, ..., N$. Each county is formed by L_i plots of land. The total number of plots in the US South is $M = \sum_{i=1}^{N} L_i$. On each plot of land a farmer uses labor as an input to produce an agricultural output. Each plot in county i has relative productivity of cotton to wheat A_i.

Given the relationship between crops and slave labor presented in Section 2.2, we assume that each farmer's evaluation of a slave is increasing in A_i. Each farmer can own at most one slave. The number of slaves per county is S_i so the total number of slaves is $S = \sum_{i=1}^{N} S_i$ with $S \leq M$.

[17] Figure B.1 shows the seasonal patterns of cotton and wheat. Figure B.1 is from Wright, 2006 who, although skeptical of a general association between cotton and slavery and wheat and wage labor, recognize that their distinctive seasonality implies an advantage in the use of different sources of labor. Section B of the Appendix develops the argument in more detail.

To study the effect of the Westward Expansion on slave relocation, consider two periods $t = 1, 2$. At $t = 1$ the US South is formed by N_1 counties, while at $t = 2$ after the Westward Expansion takes place, the US South is formed by $N_2 = N_1 + W$ counties, where W is the number of new counties formed. At $t = 1$, each county's number of slaves S_i is taken as given and determined in the previous period. At $t = 2$ after the Westward Expansion takes place, there are W new counties with $M_w = \sum_{i=N_1}^{N_2} L_i$ plots. For each new plot there is a farmer demanding a slave. Because we focus on the post–Atlantic Slave Trade period (after 1808), when no slaves could be imported from abroad, we assume that the number of slaves available to the economy is fixed at S.

Slaves are relocated through a market close to the one described in Rubinstein and Wolinsky (1985), in which pairs of buyers and sellers are brought together by a stochastic process. Each slave-owning agent is a seller; each non-slave-owning agent is a buyer. At the beginning of period 2 there is a matching stage in which each agent meets at most one partner. When the agents meet, they initiate a bargaining process over the terms of the transaction. If the agents reach an agreement, the transaction takes place, and they leave the market. Such a market mechanism is realistic because the interregional slave trade was mostly carried out in a decentralized fashion, by professional agents, through auctions or bargaining processes.

In equilibrium, for each pair, a transaction occurs if the buyer's evaluation A_j is higher than the seller's evaluation A_i, $A_j > A_i$. Because the distribution of slaves at $t = 1$ is an equilibrium, the number of potential buyers at $t = 2$ is equal to the number of new plots M_w.[18] Assuming that the trading pairs are randomly formed, each seller's probability of being matched with any buyer is M_w/S.[19] For a seller in county i, the probability that the matched buyer has an evaluation higher than A_i is $Pr(A_j > A_i) = \frac{\sum_{j=N_1}^{N_2} L_j I_{(A_j > A_i)}}{M_w}$, therefore the probability of a transaction for a seller in county i is

$$p_i = \frac{\sum_{j=N_1}^{N_2} L_j I_{(A_j > A_i)}}{M_w} \frac{M_w}{S}$$

Define now, for county i, the number of plots with a relative productivity higher than A_i in period t as Land-Rank, $LR_{it} = \sum_{j=1}^{N_t} L_j I_{(A_j > A_i)}$. The change in Land-Rank from period 1 to period 2 for county i is given by $\Delta LR_{it} = \sum_{j=N_1}^{N_2} L_j I_{(A_j > A_i)}$. Therefore $p_i = \frac{\Delta LR_{it}}{S}$ and the expected number of slaves sold in county i is $\frac{\Delta LR_i L_i}{S}$. Proposition 1 summarizes the results and captures the essence of our empirical specification.

Proposition 1.

The expected change in the number of slaves in county i between any two periods is a decreasing function of ΔLR_{it}.

3 Data

Table A.2 reports the summary statistic for the variable used in the analysis. In most of the paper, we rely on information at the county and congressional district level level from 1810 to 1860. Because historical boundaries changed over time, we obtain a constant geographical unit by harmonizing all

[18] The distribution in period 1 is a steady state resulting from infinitely repeated random matches among the N_1 agents, therefore the agents who do not own a slave in period 1 would not conclude a transaction in period 2 and are excluded from the market.

[19] If $M_w \geq S$ the probability is 1.

historical Census data in the NHGIS to 1860 boundaries. We employ the procedure suggested in Hornbeck (2010). First, we intersect all the county shapefiles from 1810 to 1850 with the 1860 shapefile. Then for each variable, we sum all the pieces that constitute an 1860 county weighted by the share of the area the piece had in the original county. We label the data as nonreliable if most of the information of an 1860 county comes from an old county that split in more than four sub counties. Following the definition of the frontier in Turner (1920) and Bazzi et al. (2020), our sample includes all counties with a population density above two individuals per square mile. To conduct the analysis, we combine information from several sources.

Land Productivity. We construct county-level measures for crop-specific land productivity using data from the Food and Agriculture Organization's Global Agro-Ecological Zones (FAO-GAEZ) database, Fischer et al., 2002. The FAO-GAEZ database constructs indices for each crop based on information on precipitation, frequency of wet days, mean temperature, diurnal temperature range, vapor pressure, cloud cover, sunshine, ground-frost frequency, wind speed, and information on the slope of the land. The result is a suitability measure that goes from 0 to 100. We aggregate this measure of suitability for each crop at the county level, using the average as a baseline variable for crop suitability. This measure has been used in several studies (Nunn and Qian, 2011; Bustos et al., 2016; Baiardi, 2018; Acharya et al., 2016).

Census data Data are taken from the decennial US Census of Population, made available by Haines and ICPSR (2010), which includes information on whites, slaves, and free blacks from 1790 to 1860. Data on the number of family members and slaves owned per household are from the IPUMS-USA 1790-1840, Full Count Household Level Data, are made available by Manson et al. (2018). Production data and data on the value of the farmland are from the Census of Agriculture and Manufacture, respectively, Haines and ICPSR (2010). This information is available for 1840, 1850, and 1860.

Prices We collect Antebellum prices from several sources. Adams (1992) provides a series of wages for West Virginia. UK cotton prices are from Clark (2005), US crop prices are from Cole (1938). Finally, we obtain prices of slaves from Phillips (1905).

Geographical controls. We build geographical controls using the Census regions in Manson et al. (2018) and construct variables for counties' distance from the Mason-Dixon line. Data on the network of navigable rivers are from Atack (2017).

Presidential and gubernatorial elections. We obtain data on elections from the ICPSR (1999), which contains county-level returns for all elections to the offices of president and governor from 1824 to 1860.

Legislators' ideology. We collect data on congressmen's ideology between 1810 and 1860 (11th to 36th Congresses) from Lewis et al. (2019). As suggested by Poole and Rosenthal (1985) and McCarty et al., 2006, we use the first dimension of the Poole-Rosenthal DW Nominate scores as a measure of politicians' ideology. For papers employing the same methodology, see Majlesi et al., 2020 and Tabellini, 2019. The scores rank members of Congress on an ideological scale using voting behavior on previous roll-calls. Because the boundaries of the congressional districts change over time, we use the same technique described in the case of counties to homogenize a geographic unit over time as, proposed by Hornbeck (2010). We then aggregate at the congressional sistrict level the information available at the county level. Finally, we use the algorithm proposed by Poole and Rosenthal (1985) to decompose ideological change on different issues.

Legislators' voting behavior. We construct a new dataset on voting behavior by members of

the House of Representatives when voting on issues related to slavery using using the Congressional Roll-Call Votes Database (Lewis et al., 2019) to study changes in pro-slavery voting behavior. We collect information on all 222 votes held on slavery in the history of the House. For each vote, we code whether a representative voted in favor or against slavery.

Secession Votes. We construct a database on the secession conventions' votes at the county level using several sources. In the states of Virginia, Tennessee, and Texas, referenda were held to ratify the Ordinance of Secession. Sources of popular vote data are Timmons (1973); Hurlburt (1866); and Newrivernotes.com ((accessed October 28, 2020)). For the rest of the states, we collect information on delegates' voting behavior or the share of popular votes obtained by the candidates to the secession conventions in each county. For Georgia, Arkansas, and Florida, we refer to Wooster (1954, 1956, 1958). We rely on the original Journal of the Convention (Smith, 1861) for Alabama. Information about Louisiana and Mississippi are, respectively, from Dew (1970) and Rainwater (1938). A more detailed description of the secession data is provided in Appendix A.1.

Newspapers. We obtain the text of 90,000 issues of 282 newspapers published in the Southern US during the Antebellum period. The dataset includes 2.6 billion words. We construct this database using two sources: *19th Century US Newspapers* (Gale, 2019) and *Chronicling America*, a website providing access to information about historic newspapers and select digitized newspaper pages, produced by the National Digital Newspaper Program. Using the information provided by Chronicling America, we coded for each newspaper the party affiliation if it was reported. We manually coded the remaining newspapers.

Laborer Wages. Wage data were first collected by Margo (1998) and later integrated by Clegg (2019) using information form the special Census of Social Statistics for the years 1850 and 1860.

Plantation Level Information. Plantation level information are from the Parker and Gallman (1992) subsample of the 1860 Agricultural Census.

4 Empirical Framework

4.1 Measuring Local Changes in Agricultural Incentives

The first empirical challenge we address is measuring local changes in agricultural incentives. In our baseline specification, we focus our attention on incentives for the production of the main slave-intensive crop (cotton) and the main non-slave-intensive crop (wheat). In the Appendix, we expand the analysis by taking into account the other primary crops: sugar, tobacco, and corn.

First, using the FAO-GAEZ database, we compute the county-level measures of crop productivity by taking the average of the grid-cells for composing each county. For each county i and crop c, we obtain a measure of crop-specific productivity, A_i^c. We use these measures of crop-specific productivity to estimate the relative productivity of each county: $RP_i \equiv \frac{A_i^{cotton}}{A_i^{wheat}}$. The measure of relative productivity is used to compute the comparative advantage of each county at a given moment in time. For any two counties $i, j \in \mathbf{N}$, county i has a comparative advantage in the production of cotton with respect to county j if $RP_i > RP_j$.

Our main measure of changes in comparative advantage is given by changes in each county's position in the distribution of relative productivity from one year to another. From year t to year $t+1$, each county decreases in ranking depending on the number of new counties with higher relative

productivity.

We construct our main variable to be consistent with the measure developed in Section 2.3. Land-Rank (LR_{it}) of county i at time t is given by the total amount of inhabited land (Km^2), outside county i, with relative productivity higher than RP_i. As described in Section 3, we follow Bazzi et al. (2020) and the inhabited land includes includes all counties with a population density above two individuals per square mile.

$$LR_{it} = \sum_{j=1}^{N_t} w_j I_{(RP_j > RP_i)},$$

where w_j is the size of county j and N_t is the number of counties in year t.

A county with a median relative productivity in 1810 faced 297,000 Km^2 of agriculturally active land with a higher level of relative productivity. By 1860, the same county faced 1,239,000 Km^2 of land with a higher level of relative productivity. This county was now only positioned in the 34th percentile of the relative productivity distribution. Overall, the Land-Rank of this county increased by 942,000 Km^2 between 1810 and 1860. Throughout the rest of the paper we normalize the measure of Land-Rank so that the Land-Rank of this county increased by 1 between 1810 and 1860.

We expect an increase in Land-Rank to induce a reduction in cotton production, an increase in wheat, and a decrease in the share of slaves. As the frontier moved west, new land with higher relative productivity was added to the US South.[20] Old counties drop in the rank depending on both the relative productivity of the added counties and the relative productivity of the old ones.

Figure 3 represents the change in Land-Rank over time. Panel (a) represents counties below and above the median land rank in 1810. Panels (b)–(d) include counties with a Land-Rank higher than the maximum land rank in 1810. Some of the counties that were at the top of the distribution in 1810 remained at the top; others lost their position to the western counties.

4.2 Baseline Estimating Equation

We use the variation in local agricultural incentives to estimate changes in slave labor allocation. Counties that experienced a larger increase in Land-Rank should reduce cotton production and increase wheat production more than counties less exposed to changes in comparative advantage. We expect counties to adjust their use of slave labor as the crop mix changes. We test this hypothesis by estimating the following equation:

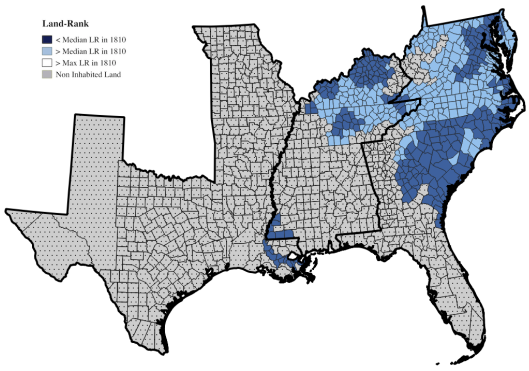
$$y_{i,t} = \alpha_i + \alpha_t + \beta LR_{i,t} + \delta X_{i,t} + \epsilon_{i,t}, \tag{1}$$

where i represents the county, and t represents the census year from 1810 to 1860. Our baselines outcomes of interest, $y_{i,t}$, are measures of slave labor use and political support for slavery. The term α_i controls for county fixed effects, absorbing all the time-invariant county characteristics, which could potentially affect the number of slaves in a county. Differences in geographic, economic, and institutional conditions that do not change over time are accounted for by these fixed effects. The term α_t accounts for census year fixed effects, which captures changes over time common to all the counties: federal policy and broad cultural, economic, or technological changes. α_t also captures the

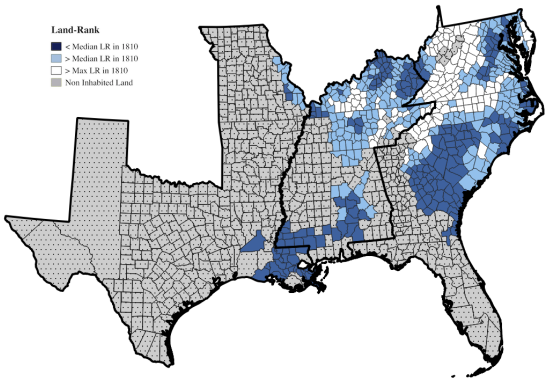
[20] Figure G.17 in Appendix G, shows the maps representing relative productivity comparing the inhabited counties in 1810 and 1860.

Figure 3: Distribution of Land-Rank Over Time

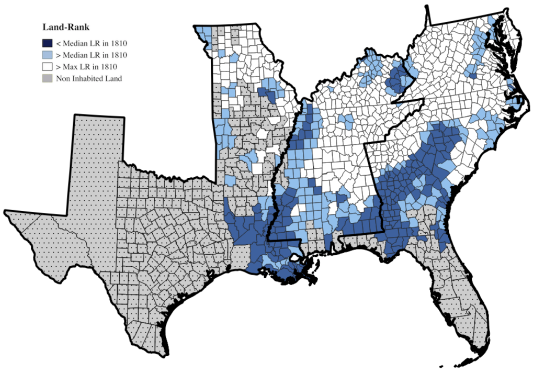
(a) Land-Rank in 1810



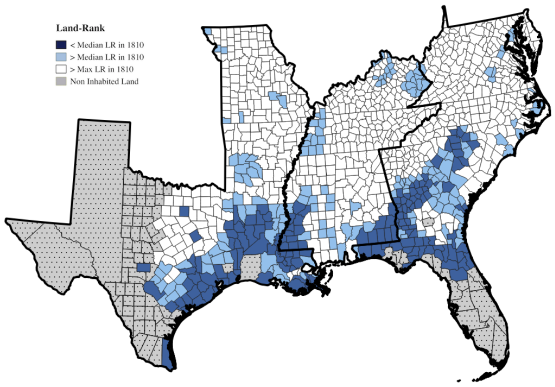
(b) Land-Rank in 1820



(c) Land-Rank in 1840



(d) Land-Rank in 1860



Note: The figure represents the distribution of Land-Rank from 1810 to 1860. Thresholds are fixed with respect to the inhabited land in 1810. Counties with a Land-Rank lower than the median LR in 1810 are depicted in dark blue. Counties with a Land-Rank larger than the maximum in 1810 are depicted in white (therefore no county in 1810 is white). Counties with a Land-Rank in between these two numbers are depicted in light blue. In all panels, the darkest lines represent the borders between census regions.

common effect the Westward Expansion had on all counties. Therefore, with Land-Rank, we only capture the differential effect that the Westward Expansion had on counties. Finally, we include $X_{i,t}$, a vector of variables that vary over time and space. In our baseline specification, this includes regional trends and trends that vary with the distance from the North (defined as the Mason-Dixon line).

The coefficient of interest, β, is estimated using only differential changes in the Land-Rank of counties within census regions and at the same distance from the North. When $y_{i,t}$ is cotton production or the number of slaves, we expect β to be negative. The counties most affected by the competition from the land newly added to the United States should experience the largest change in agricultural production away from cotton and toward wheat; and therefore, the largest changes in the use of slave labor. Throughout the paper we normalize $LR_{i,t}$ so that the Land-Rank of the median county in 1810 increased by 1 between 1810 and 1860. Because of this normalization β should be interpreted as the change in $y_{i,t}$ experienced by the median county in 1810 because of the increase in Land-Rank suffered between 1810 and 1860.

4.3 Identification

The variation that identifies β comes from changes over time in the counties' Land-Rank. First, changes in Land-Rank are weakly increasing for all counties. Second, the size of the change in Land-Rank can be very different for different counties between two census years and even for the same county between different census years. Counties at the bottom of the distribution of relative productivity experience large changes in Land-Rank, while counties at the top experience small changes. For counties in the central part of the distribution, the change in Land-Rank depends on the distribution of relative productivity with respect to the new counties included in the United States. This generates a non linear and time-varying relationship between relative productivity and Land-Rank.

There are two critical identification assumptions. First, that there are no unobservable characteristics that affect changes in the outcome of interests differently across places with high and low relative productivity. Furthermore, given the time-varying non linear relationship between relative productivity and changes in Land-Rank, the potentially problematic unobservable characteristics should follow a similar time-varying function. Second, the absence of reverse causality: the possibility that changes in political preferences might directly affect changes in Land-Rank in a given county. This cannot be the case because the movement toward the West of the inhabitants of a given county cannot affect the aggregate change that is necessary to affect Land-Rank.

It is important to notice that given the inclusion of time fixed effects in all our regressions, the identification strategy is not threatened by aggregate characteristics of the Westward Expansion. For example, settlers may have decided to move to territories based on some specific soil characteristics that were found in the West but not in the land previously available in the United States. This is not problematic for our identification strategy because our identifying variation comes from the differential effect that the addition of new territory has on the Land-Rank of different counties.

A more salient concern for the identification strategy is the fact that, as shown in Figure G.17, relative productivity displays geographical clusters and is correlated with changes in Land-Rank. These clusters may overlap with some institutional, cultural, and economic forces that might affect changes in the slave population. For example, some regions in the Deep South have a high concentration of land suitable for slave labor and, at the same time, common social, demographic, political, and cultural characteristics that could affect changes in the decision to produce cotton or use slaves. If these characteristics affected the outcome of interest with a time-varying function similar to the relation between relative productivity and changes in Land-Rank, this would generate bias.

We address this issue by including regional fixed effects multiplied by year fixed effects and control for distance from the North (the Mason-Dixon line) multiplied by year fixed effects. The first guarantees that our results are not driven by characteristics that vary between regions. Distance from the North multiplied by year fixed effects controls instead for the potential influence that states with no slaves may have on the incentives to slave ownership. Counties at the border with the North are more exposed to Northern social and political ideas and may be more reluctant to use slave labor. Similarly, geographical proximity may imply stronger economic ties and influence production decisions, which would affect labor input choices. Furthermore, closeness to the border increases the likelihood of fugitive slaves both because of the geographical proximity to the Northern states and the higher concentration of secret routes and safe houses along the "underground railroad" that facilitated slaves' escape to freedom. Overall, the increased probability of losing a slave increased

the risk and cost of owning a slave. Controlling for the distance to the North interacted with year fixed effect is a way to address the likely economic and cultural spillovers.

In Appendix C and D, we present estimates for alternative specifications to address other related concerns. First, we cannot show the absence in pre-trend in the political support for slavery because no vote on slavery before 1818 was held in Congress. However, we can show that differences in Land-Rank do not predict differences in the DW-Nominate score of the elected politicians in the period between 1810 to 1818 (before the first vote on slavery) and the absence of pre-trends in the share of slaves. Moreover, we can control for the interaction between the share of slaves in 1810 and year FE to allow for differential trends in the political support for slavery depending on the intensity of the use of slave labor at the beginning of the period. We argue that if counties that differed in RP were on different trends in terms of their political support for slavery since 1810, this should be captured by differential trends in the use of slaves. As the last step to show that unobservables correlated to RP are unlikely to explain our results, we show that our estimates are robust to differential trends given by the interaction between RP and year fixed effect. Finally, we show that our estimation is robust to restricting our analysis to the sample of those counties that belonged to the United States in 1810 and restricting our analysis to the counties formed during the Westward Expansion. We further decompose the shocks into crop-specific variation and propose an alternative specification using changes in prices.

A potential threat to correct inference comes from the serial correlation of the error term across time and geographies. To correct for this issue we cluster standard error. We decide the cluster level so that unobservables are likely uncorrelated across clusters but correlated within cluster. To make this decision we take a data-driven approach and estimate along which dimension unobservables are most-likely uncorrelated. Our preferred clusters are at the county level when the outcome are slaves use or electoral returns. For the analysis on the ideology of Congressmen we cluster at the congressional district level, for the votes on slavery we cluster at the vote level and for the analysis of the newspaper's content at the newspaper level. The metrics used for this decisions are shown in Appendix A.4.

5 Agricultural Incentives and Slave Labor Allocation

5.1 Main Results on Slave Allocation

Table 1 shows our main results on slave labor relocation. The results are consistent with our proposed mechanism. Counties that suffered a greater loss in the comparative advantage of cotton versus wheat experienced a greater decrease in the use of slave labor. All the coefficients show the effect of an increase in Land-Rank on the presence of slaves at the county level. Columns (1)–(4) in Table 1 show that the share of the enslaved population in a county with a median RP in 1810 dropped by 10–15p.p. between 1810 and 1860 due to the Westward Expansion.

Columns (1)–(3) include different geographical characteristics. The results highlight the importance of the distance from the Northern border both for the magnitude and the R^2 of the effect, indicating that ties to the North might have affected individuals' willingness to trade in slaves. Columns (4) shows that the results are stable when we restrict to the balanced sample constituted by the counties inhabited in 1810. Column (5) confirms the result even when we control for the share

Table 1: Slave Relocation - Baseline

	% Slaves					ln(Cotton)	ln(Wheat)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Land-Rank	-0.144***	-0.149***	-0.108***	-0.102***	-0.103***	-3.402***	1.231***
	(0.0135)	(0.0140)	(0.0134)	(0.0158)	(0.0159)	(1.024)	(0.374)
Observations	4471	4471	4471	2688	2328	2790	2785
Mean DV	0.293	0.293	0.293	0.312	0.315	8.531	9.407
Adj. Within R^2	0.115	0.119	0.202	0.210	0.273	0.0291	0.0183
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year FE	No	No	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes
Sample	Full	Full	Full	Balanced	Balanced	1840-1860	1840-1860
% Slave 1800 × Year FE	No	No	No	No	Yes	No	No
SE Cluster	County	County	County	County	County	County	County

Note: This table shows the effect of changes in the Land-Rank on slaves' relocation between 1810 and 1860. The variable of interest is Land-Rank$_{it}$ $= \sum_{j=1}^{N_t} w_j I_{(RP_j \geq RP_i)}$ with $RP_i = \frac{A_i^{cotton}}{A_i^{wheat}}$. The measure Land-Rank$_{i,t}$ is normalized so that the county with median RP in 1810 gained 1 Land-Rank$_{i,t}$ between 1810 and 1860. The dependent variable is the total number of slaves divided by the total population at the county level in Columns (1)–(5). In Columns (6)–(7), the dependent variables are the log of bushels of wheat produced and log of bales of cotton produced. Each regression includes county and year fixed effects. Other controls are reported in the table. Standard errors clustered at the county level are shown in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

of the enslaved population in 1800 interacted with year FE, suggesting that the observed patterns are not explained by characteristics that explain the distribution of slaves before the abolition of the Atlantic slave trade.

Overall, the estimates imply that between 1810 and 1860, almost 800,000 slaves were relocated due to the competitive forces generated by the Westward Expansion.[21]

In Appendix C, we propose several alternative specifications to show the robustness of our results. In Appendix C.1, we show that our analysis is robust to the use of different measures of slave labor at the county level: the absolute number of slaves and the number of slaves per 1,000Km^2 of land. Appendix C.2 replicates the exercise restricting the sample to those counties belonging to the United States in 1810 and proposes the analysis of the counties formed during the Westward Expansion. In Appendix C.3, we estimate the effect of changes in comparative advantage using the interaction between national prices (cotton versus wheat and slave versus wage labor) and local measures of RP. In Appendix C.4, we reproduce the baseline results taking into account sugar and tobacco productivity. In Appendix C.5, we decompose our variation into crop-specific changes of Land-Rank. The exercise shows that the timing of the slave relocation follows different patterns depending on the timing of the expansion into productive land for cotton or tobacco. In Appendix C.6, we replicate the baseline regression exploiting only within-state variation. In Appendix C.7, we study the role of alternative mechanisms that could account for the observed relocation process. In particular, we control for the proximity to a navigable river (Fogel, 1989) and changes in the value of the farm (Wright, 2003). Finally, in Appendix C.8, we show that the results are robust to including the interaction between the share of the enslaved population in 1800 and year fixed effects, log transformation of the main variable of interest, linear trends, and to de trended outcome variables with respect to the change between 1790 and 1800.

[21]The number of slaves that each county relocated because of the Westward Expansion is computed multiplying the estimated parameter in column (1) of Table 1 by the total amount of Land-Rank lost and the total population of the county. The total relocation is then estimated by summing up this value over all counties.

5.2 Mechanism: Agricultural Transformation

This section shows that the effect of the Westward Expansion on slave relocation is associated with adjustments in the crop mix. In columns (6) and (7) of Table 1, we report the results of our baseline specification, where the outcomes of interest are measures of cotton and wheat production. Because the US census only started to collect information on agricultural output in 1840 we perform the analysis only for the years 1840–1860.

As expected, counties that lost comparative advantage in the production of cotton relative to wheat reduced the production of cotton and increased the production of wheat. The median county in 1810 experienced, between 1810 and 1860, a 96% reduction in the production of cotton and a 242% increase in the production of wheat.[22]

6 Political Effects of Economic Change

6.1 The Politics of Slavery

During the Antebellum period, American politics was characterized by the consolidation of a bipartisan political system and the Sectional (North-South) conflict over slavery. In the early years after the British-American War (1812-1815), the Federalists and the Republican-Democrats dominated the political scene. During the First Party System (1792-1824), partisanship was minimal, and the role of parties in shaping mass participation in politics was limited. Until the Missouri Crisis, which centered around the acceptance of Missouri as a slave state, the issue of slavery was debated relatively little in Congress. The crisis played a central role in shaping the Sectional conflict and in focusing national attention on slavery. The House Speaker, Henry Clay, remembered the crisis as an event that "monopolized all our conversation, all our thoughts and... all our time. Nobody seemed to think or care about anything else." (Mason, 2006, p. 177). The crisis culminated in the Missouri Compromise (1820), which established the Mason-Dixon Line as the demarcation point for slave and free territories. Beginning at the end of the 1820s, congressional debates on slavery increased, leading to controversies centered around both North-South lines and party lines.[23] Figure D.8 in Appendix D shows the timing of the congressional debate over slavery as the number of laws concerning slavery voted by Congress.

The First Party System gave way to the Second Party System (1828-1860), which saw the rise of the Jacksonian and Anti-Jacksonian factions within the Republican-Democratic party and ultimately their transformation into the Democratic and Whig parties. The two parties came to dominate federal and state politics until the eve of the Civil War. Despite their apparent equal commitment to slavery,[24] we show that during the Second Party System, parties did differ substantially in their

[22]The interpretation of the coefficient is obtained using the following transformation. The coefficient of interest column (6) is -3.402, therefore the percentage change in cotton production can be obtained as $e^{-3.402} - 1 = -.96$, which implies a decrease of 96% in cotton production. Similarly the coefficient of interest column (7) is 1.231, therefore the percentage change in wheat production can be obtained as $e^{1.231} - 1 = 2.42$, which implies an increase of 242% in wheat production.

[23]Due to the explicit effort to organize national politics on lines other than slavery. Martin Van Buren, the principal architect of the Second Party System, wrote that "if the old" party loyalties that bound "the planters of the South and the plain Republicans of the North" receded, "geographical divisions founded on local interests or, what is worse[,] prejudices between free and slaveholding states will inevitably take their place." (Mason, 2006, p. 214).

[24]Historians have long maintained the consensus that slavery was the cornerstone of Southern politics, independent of party politics. See for example Cooper (1978). Other works have highlighted the geographical division of the system, Crofts (1989). Other analysis have focused on divisions between yeoman, poor whites, and slave owners,

share of votes in favor of slavery, even in the South.

We establish this fact by analyzing the differences in the roll-call voting behavior of Southern Congressmen over the issue of slavery, in three distinct periods. The first period is between 1818 (when the first slavery vote since 1810 was held) and 1828. There were 14 votes on slavery during this period. At the time, the two main parties representing Southern voters were the two main parties representing Southern voters were the Federalist and the Republican-Democrat party. The second period is the Jacksonian era from 1828 to 1838, when Congress held 34 votes regarding slavery. Finally, in the third period, between 1838 to the eve of the Civil War, there were 187 votes regarding slavery. During this period, the two main parties representing Southern voters were the Whigs and the Democrats. Each vote is coded as in favor or against slavery, Appendix A.2 explains the coding procedure. The issues at stake were mainly related to the expansion of slavery in the territories (25% of the votes), the acceptance of petitions for the abolition of slavery (22% of votes), the abolition of slavery in the District of Columbia (22% of votes), and the debate on fugitive slave laws (8.5% of the votes). Table A.1 shows the number of votes by issues and decade.

Table 2: Party Difference in Votes Regarding Slavery

	Federalist vs. Rep-Dem 1818–1828		Anti-Jackson vs. Jacksonian 1828–1838		Whig vs. Democrat 1838–1860	
	All Votes	Drop Abstain	All Votes	Drop Abstain	All Votes	Drop Abstain
Difference	-0.0211	-0.0183	-0.1046***	-0.1378***	-0.0951***	-0.0915***
	(0.0279)	(0.0340)	(0.0304)	(0.0357)	(0.0135)	(0.0160)
Observations	1009	835	2915	2280	15851	12515
Number of Laws	14	14	34	34	187	187

Note: This table reports the difference in the probability of voting against laws supporting slavery between the two main parties for the three periods. The main variable takes a value of 1 if a vote in favor of slavery is cast, a value of 0 if a vote against slavery is cast, and a value of .5 for an abstention. The sample includes all Congressional roll-call votes on slavery from 1818 (when the first vote on slavery was held) to 1860. The table reports estimates only for congressmen elected in Southern congressional districts. Standard errors clustered at the law level are shown in parenthesis, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 2 shows the difference in the party fixed effects for the two main parties for each of the three periods. Two results emerges. First, Southern parties had some differences in their view of slavery, at least to the extent that this is reflected in their voting behavior. Second, slavery became a partisan issue only after 1828. From that point on, the (Southern) Jacksonian party and the (Southern) Democratic party systematically voted more in favor of slavery than other Southern members of Congress. The difference in the likelihood of voting in support of slavery is around 10 percentage points. This difference is substantial given that, in this period, Southern members of Congress from the Jacksonian and Democratic parties, on average, voted against slavery only 6.2% of the time. Although these differences are large, it is important to highlight that none of the Southern parties ever campaigned for the abolition of slavery. The estimates in Table 2 reflect differences in the willingness to compromise on the defense of slavery.[25] Because the Whig party embraced state intervention as a tool for economic development, the Southern Section seemed willing to compromise on slavery to secure the adoption of these economic intervention measures.[26]

Watson (1985); Bolton (1994); Merritt (2017).

[25]Although marginal during the last decades of the Antebellum period, an antislavery movement existed in the South. For discussions, see Stampp (1943) and Finnie (1969).

[26]For example, the ad valorem tax on slavery became the main point of contention in the North Carolina guberna-

With time, divisions over the expansion of slavery in the territories became more salient, and, in 1854, the Whig Party broke down, which created space for the Republican party in the North to rise. In 1860, the Republican presidential nominee, Abraham Lincoln, won the election with only the support of the Northern states. His victory led to the last Sectional Crisis before the Civil War. During the weeks after the election, several Southern states called for conventions to discuss the possibility of seceding from the Union. Between December 1860 and February 1861, South Carolina, Mississippi, Florida, Alabama, Georgia, Louisiana, and Texas seceded from the Union to start the "Confederate States of America". These states viewed secession as a way to defend their property and their right to maintain slavery.[27] After the Battle of Fort Sumter, a battle commonly regarded as the starting point of the Civil War, the Confederates were joined by Virginia, Arkansas, Tennessee, and North Carolina, which also seceded from the Union.

6.2 Popular Vote: Presidential and Gubernatorial Elections

Results in Table 2 allows us to discipline our analysis of popular voting behavior. We study the share of votes received by the Jacksonian and Democratic parties at the county level between 1828 and 1860 (ICPSR, 1999). For simplicity we will use the term "Democratic" instead of Jacksonian and Democratic. Our sample includes nine presidential elections, held every four years. The frequency of gubernatorial elections varies by state (two or four years). Additionally, some governors did not complete their term; therefore, elections may have been held in off-years.

The results in columns (1) and (2) of Table 3, show that in the case of both the presidential elections and gubernatorial elections, counties that lost comparative advantage in the use of slave labor decreased their vote share for the Democratic party. The estimates in Table 3 show that the reduction in Land-rank faced by the median county in 1810 induced a drop of 18.8 percentage points int the presidential vote share for the Democrats. These effects are large given that the average vote share for the Democratic party was 54%. The drop in gubernatorial elections was of 11.6%.

6.3 Politicians' Voting Behavior

6.3.1 Legislators' Roll-Call Behavior on Laws Regarding Slavery

In this section, we study the roll-call behavior of congressmen when voting on the issue of slavery. Because changes in incentives for the use of slave labor quite naturally affect the return from actions devoted to the defense of slavery, in a context of growing hostility to the institution, political commitment to its defense represented a costly behavior. As previously described, we focus on the 222 times Congress voted on the issue of slavery. The main outcome of interest is equal to 1 if the representative voted in favor of slavery and 0 if against; abstentions are dropped. Table D.19 in

torial race of 1860 that saw the democratic candidate, John Ellis, opposing the ad valorem taxation while the Whig candidate, John Pool, supported the tax (Bolton, 1994, p. 135). Or during the 29th Congress, 99% of the Whigs voted for high tariffs, while 83% of the Democrats voted for low or moderate tariffs. An economic policy — Calhoun and other Southern politicians argued — that was actually a tax on cotton producers (Fogel, 1989, pp. 320, 296).

[27] Mr. Morgan, a delegate of the Alabama Convention, clearly made this point on January 25th, 1861: "The Ordinance of Secession rests, in a great measure, upon our assertion of a right to enslave the African race, or, what amounts to the same thing, to hold them in slavery." (See Smith, 1861 p. 196) The document issued by the Georgia Convention is also an eloquent testimony that secession was indeed intended to defend the institution of slavery: "The people of Georgia .. refuse to commit their own to the rulers whom the North offers us. Why? Because by their declared principles and policy they have outlawed $3,000,000,000 of our property ..." (From the Declaration of Causes of the Georgia Secession Convention, 1861. See Smith, 1861).

Table 3: Political Effect of Economic Incentives

	Dem. Share Pres. Elections	Dem. Share Gub. Elections	Pro-Slavery Vote		DW-Nominate		Secession Conventions	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Land-Rank	-0.188***	-0.115***	-0.164***	-0.135***	0.122**	0.108***	-0.126**	-0.125***
	(0.0342)	(0.0342)	(0.0528)	(0.0429)	(0.0531)	(0.0321)	(0.0397)	(0.0350)
Observations	5683	6934	14910	14891	1575	1570	660	509
Mean DV	0.553	0.529	0.719	0.720	0.434	0.434	0.676	0.695
Adj. Within R^2	0.0151	0.00382	0.000641	0.000609	0.0107	0.0156	.	.
Adj. R^2	0.719	0.704	0.245	0.259	0.616	0.790	0.244	0.243
State FE	No	No	No	No	No	No	Yes	Yes
Geographic Unit FE	County	County	District	District	District	District	No	No
Time FE	Election	Election	Vote	Vote	Congress	Congress	No	No
Region × Time FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No
ln(Distance North) × Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	No	No	No	No	No	No	Yes
Party × Time FE	-	-	No	Yes	No	Yes	-	-
Sample	1828–1860	1828–1860	1810–1860	1810–1860	1810–1860	1810–1860	1860	1860
SE Cluster	County	County	Vote	Vote	District	District	State	State

Note: This table summarizes the political effect of Land-Rank. The measure Land-Rank$_{i,t}$ is normalized so that the county with median RP in 1810 gained 1 Land-Rank$_{i,t}$ between 1810 and 1860. In order, dependent variables are the share obtained by the Democratic or Jacksonian party during the presidential elections (column (1)) and gubernatorial elections (column(2)) between 1828 and 1860. Each observation is at the county-election level. Dependent variables in columns (3) and (4) are the pro slavery votes held in Congress between 1810 and 1860. Each observation is the individual vote of the Southern-elected member of Congress for each of the 220 laws voted on regarding slavery. The geographical unit is the Congressional District. The variable takes a value of 1 for votes in favor of slavery and 0 for votes against slavery. Abstentions are dropped. The dependent variable in columns (5) and (6) is the DW-Nominate score. Observations are at the elected member per Congress year level. The geographical unit is the Congressional District. Columns (7) and (8) report estimates for the share of votes in favor of secession at the county level. Columns (1) and (2) include county and election year FE. Regressions (3-6) include Congressional District FE and either vote date FE (3-4) or Congress year FE (5-6). Regressions (7-8) are in level and include State FE. All regressions include the interaction between the distance from the Northern border and Year FE. When reported, regressions include the interaction between Region and Year FE, and Party and Year FE. The sample period is reported under "Sample". Controls include value of the farm, the value of the livestock, the value of the farm equipment, the share of improved acres, the value of home-manufactured production, the value of total manufactured production, the value of the raw material used in manufacturing production, the value of capital in the manufacturing sector, the number of manufacturing establishments, the share of males and females employed in manufacturing, the number of churches per capita, and the share of Baptist and Methodist churches. Mean dependent variable, adjusted R^2 and adjusted R^2 computed from within variation are reported. Standard errors are clustered at the reported level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Appendix D provides estimates including abstentions. Land-Rank is computed at the congressional district level, following the procedure described in Section 4.

Results in column (3) and (4) show that members of Congress elected in districts that lost comparative advantage in the use of slave labor were less likely to vote in favor of slavery. To interpret the magnitude of these results notice that, as in all regression, Land-Rank$_{i,t}$ is normalized so that the county with median RP in 1810 gained 1 Land-Rank$_{i,t}$ between 1810 and 1860. This is the same change in Land-Rank$_{i,t}$ faced between 1810 and 1860 by the median congressional district in 1810.

Our results show that due to the loss in comparative advantage, representatives elected in a congressional district with median Land-Rank increased the probability of voting against slavery by 16.4 p.p.. Given that the Southern share of votes against slavery was 28%, the probability of voting against slavery for representatives of a district exposed to such a change in economic incentives almost doubled. This change is larger than the largest difference in voting behavior on the issue of slavery across party lines during the whole period in the analysis (see Table 2). Column (4), exploiting only within-party variation, shows that these changes are almost entirely independent of the congressman's party affiliation. These estimates also show a process of divergence across

geographical regions as the predicted difference in voting behavior on slavery between congressional districts that experienced different changes in Land-rank. In Appendix D we show that there is little evidence of heterogeneous effects of land-rank by type of laws. Only voting on the abolition of slavery in the District of Columbia reacts reacts less vigorously to changes in Land-rank.

6.3.2 Legislators' Political Alignment

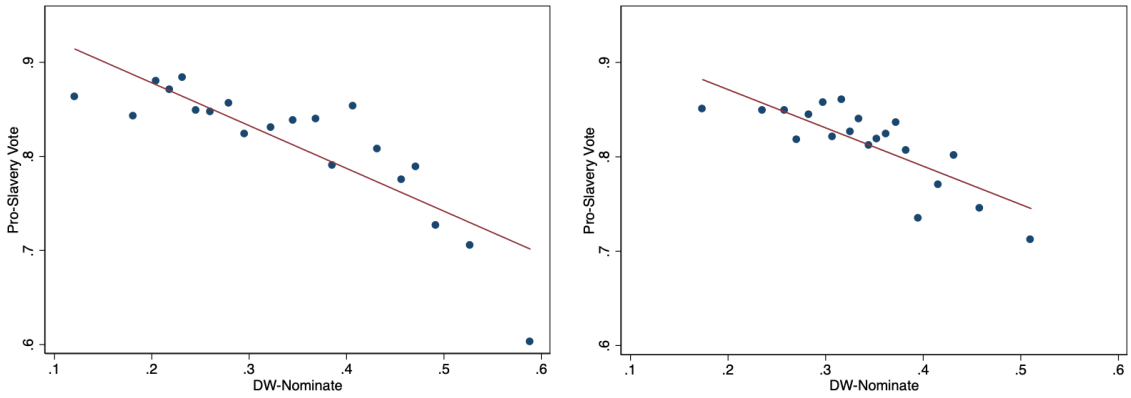
This section asks whether changes in agricultural comparative advantage of cotton with respect to wheat induced elected member of Congress to vote more or less in line with the Democratic party. To summarize political behavior, we use the DW-Nominate score (Poole and Rosenthal (1985)), which is constructed based on the entire history of votes for each congressman. Like Majlesi et al. (2020) and Tabellini (2019), we use the first dimension of the DW-Nominate score.

The lower the score of a given member of Congress, the closer his voting behavior to the Democratic party. Table D.16 in Appendix D shows the relative political position of the antebellum political parties resulting from the DW-Nominate score. The geographical unit of analysis is the congressional district. Overall, we analyze 26 Congresses from the 11th (1809–1811) to the 36th (1859–1861). For robustness, in Appendix D, we use three different ways to measures the nominate score: 1) "Nominate" measures the ideology of each legislator for every Congress, 2) "Nominate - NP" is computed using the whole roll-call career of a legislator and 3) "Position", that represents the ranking of each legislator within their congressional year in the distribution of ideology of all Southern members of Congress. All measures are in a scale between 0 and 100. Table D.17 reports the results for the Senate.

Results in Table 3 show that when a congressional district loses comparative advantage in the use of slave labor, the congressman elected in this congressional district votes less often in accordance with the Democratic party. Estimates imply that due to the loss in comparative advantage in the use of slave labor, the score of the median congressional district increased by 12 points between 1810 and 1860. This effect is particularly large given that the average distance between the Democratic party and the Whig party is 23 points. Column (6) shows that the results hold when controlling for Party $\times$ Year fixed effects, showing that the observed effect is not driven only by changes in the party affiliation of congressmen representing a certain congressional district.

Figure 4 further corroborates the relationship between pro-slavery vote and DW-Nominate, showing a strong correlation between the two measures both when absorbing party affiliation and when not. Figure D.9 in Appendix D depicts the same relationship looking at the average voting behavior by party.

Figure 4: Slavery and DW-Nominate



(a) Unconditional

(b) Conditional on Party

Note: Binscatter of Pro-slavery Vote on DW-Nominate for Southern representatives. Each observation is a vote. All congressmen are elected in the South. In Panel (a) is unconditional; in Panel (b), party affiliation is absorbed.

6.3.3 Secession Conventions

To further understand the relationship between agricultural comparative advantage and political preferences in favor of slavery, we study voting behavior in the Secession Conventions. As described in Section 6, we interpret a vote in favor of secession as a vote in defense of slavery.

Ordinances of secession were voted by committees of delegates elected for that specific purpose and reunited in caucuses known as Secession Conventions. In a few states, the ordinance of secession had to be ratified by popular vote. Appendix A.1 provides a description of the coding of the outcome variable for each state. Although our measure of pro secession votes is not uniform across states, our estimates are all computed from within-state variation. This eliminates the concerns related to differential measurement error between states. The main caveat of this exercise is given by the cross-sectional nature of the votes in the secession conventions. This implies that we observe voting behavior only at one point in time. Keeping this caveat in mind, we focus on the year 1860, which allows us to fully exploit the information contained in the 1860 Census—the richest of the census year we can rely on.

Table D.15 shows several specifications including a large number of covariates.

Our baseline specification—column (7)—includes state fixed-effects and distance from the Northern border. Column (8) also includes a large battery of controls described in the table. Our independent variable is Land-Rank measured in 1860 and normalized to have a standard deviation of 1. The results show that a one standard deviation higher level of comparative advantage in production with slave labor increases the votes share in favor of secession of 12.5 p.p.. This result is particularly striking given that in several secession votes—all but the ones in Virginia, Texas, Tennessee, and Georgia—the secession was decided by less than 10 p.p.. Furthermore, the stability of the coefficient and its magnitude seem to confirm the hypothesis that agricultural comparative advantage in slave-intensive crops was at the basis of the political support for slavery.

7 Discussion of Potential Mechanisms

Why the decline of the slave-based economy generated a drop in the political support for slavery? Two main hypotheses can explain how changes in the economic environment led to the changes in the pattern of voting behavior analyzed in the previous sections: selective migration and behavioral changes. In Section 7.1, we estimate the magnitude of the observed change in the popular vote that can be explained directly by slave owners' migration. We use full count household information to estimate slave owners' movement and compare it to the change in the vote's share in favor of the Democratic party. In Section 7.2, we discuss and provide evidence of a clientelistic relationship between planters and local white laborers. The decline of the slave-based economy reduced the planter's influence on the economic system, inducing a drop in the incentives and constraints for the non- slave holding population to support slavery. Section 7.3 analyzes changes in the local newspapers' debate on slavery, showing that a decrease in pro-slavery content might have sustained the political transformation.

7.1 Migration: Slaveowners, Age, and Gender Structure

Slave owners' migration was a critical component of the Southern political transformation. To better understand the dynamics behind the process of slave relocation and its effect on the political equilibria, we provide estimates of the relative importance between trade and migration in explaining this process.

First, we explore differences in the Land-Rank effect on the age and gender structure across slave and non-slave-owning households. Significant differences in the distribution of age and gender across salve-ownership would imply significant differences in migratory patterns, suggesting an important role of selective migration in explaining voting behavior changes. Appendix F reports the effect of Land-Rank on age and gender structure, as well as several moments of the distribution of slaves per slave-owning household. The estimates show a sizable effect of Land-Rank on the number of slaves per household along the entire distribution. Also, gender and age structure are affected, suggesting that comparative advantage changes affected young males' incentives to migrate. However, Table 4 columns (1)–(3) show that the propensity to migrate determined by Land-Rank does not differ between members of slave-owning households and non-slave-owning households. Second, we estimate the proportions of the slaves' relocation explained by trade and by migration. Table 4 columns (4)–(6) show the effect of Land-Rank on the share and number of slaveholding household, and the number of slaves.

The average decrease in the number of slave-owning households per county is 155. A decrease in the number of slave-owning households can result either from migration or from households selling their slaves. To make our estimates conservative, we make two restrictive assumptions. First, we assume that all 155 households migrated. Second, we assume that the 155 migrating households were drawn from the top of the slaveholding households' distribution. Since the average slave holding household within the top 155 in 1830 had 14 slaves, we determine that migration can explain at most 70% of the decline in the number of slaves, $(155 \times 14)/3006 = .72$. Third, we can use this information to provide a back-of-the-envelope calculation of the direct effect of slave owners' migration on voting behavior.[28] Again, to be conservative, we assume that the entire drop in slave holding households

[28] We only report the change from 1830 to 1840 because these are the only two decades for which we have both

is due to migration, not trade. Given that the average number of potential voters (white males older than 19 years)[29] per slaveholding household is 1.375 as opposed to 1.25 in non-slaveholding ones, a drop of 1 percentage point in the share of slave holding families implies at most a 1.1 change in the share of votes for the Democratic party. Therefore, a change of 10 of the share of slave-owning households can directly account for a 11 drop in the share of votes. Estimates in Table 4 indicate that migration can account for, at most, one fourth of the effect for the presidential and gubernatorial elections.[30] Changes in the vote share in favor of the Democratic party could be due to non-slaveholding household migration. Column (7) shows non significant results when the number of non-slaveholding households is the dependent variable.

The next paragraph advances a hypothesis on what could account for the unexplained component of the estimated effect.

Table 4: Migration, Slave Relocation, and Voting Behavior

	Male (26-44) per Households			Slave Relocation				Electoral Results	
	Slave Owners	Non Slave Owners	Difference	% of Slave Households	N. of Slave Households	N. of Slaves	N. of Non-Slave Households	% Democrats Presidential	% Democrats Gubernatorial
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Land-Rank	0.0213***	0.0176***	0.004	-0.0999***	-155.1***	-3006.0***	39.11	-0.441***	-0.457***
	(0.00505)	(0.00373)	(0.0062)	(0.0307)	(47.05)	(507.6)	(72.59)	(0.116)	(0.123)
Observations	2034	2034	2034	1214	1214	1214	1214	1442	1307
Mean DV	0.0345	0.0313	-	0.381	353.0	2911.9	547.1	0.539	0.539
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample	1810-1840	1810-1840	1810-1840	1830-1840	1830-1840	1830-1840	1830-1840	1832 - 1840	1830-1840
SE Cluster	County	County	County	County	County	County	County	County	County

Note: The table shows the effect of LR_{it} on the proportion of white males between ages 26 and 44 across slave-owning and non-slave-owning households. The dependent variables are the total number of males between ages 26 and 44 in a given county divided by the total number of households (columns (1)–(3)), reported by slave-owning status. Column (3) reports the difference and standard errors of the difference between the estimates across slave and non-slave-owning households. In columns (4)–(7), the dependent variables are the share of slave-owning households, the number of slave-owning households, the number of slaves per county, and the number of non-slave-owning between 1830 and 1840. Columns (8)–(9) reports results for the share of votes in favor of the Democratic party in the presidential and gubernatorial elections, between 1830 and 1840. Each regression includes county and year fixed effects, and trends in the distance from the North, and the interaction between year FE and census region FE. Standard errors clustered at the county level are shown in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

7.2 Voting Behavior, Coercion, Wages, and Pubic Goods

Because slaveholders maintained control of local politics through their prominence in the local economy, the decline of slavery profitability could have reduced the elite ability and willingness to induce support for slavery among the non-slaveholding population.

The social and political life of the Antebellum South was dominated by the slaveholder elite. Slave owners controlled the bulk of the land and the productive activities of the Southern economy. The high level of slaveowners' wealth concentration is reflected in the concentration of slave ownership and agricultural production.[31] Slaveholdings with more than 20 slaves produced 63% of cotton in

household-level data and significant differences across parties in their voting behavior on slavery.

[29] The age categories allow aggregation from 20 years old on.

[30] $1.375/1.25 = .11$ so a drop of 10pp in the share of slaveholding household leads to a drop in the share of votes of $10 \times 1.1 = 11$pp ca.

[31] See Wright (1970) for an index of land and wealth concentration in the Cotton South and Niemi (1977) for

1860, those with more than 50 produced 32%. These groups represented respectively 9% and 2.8% of the cotton-producing farms.[32] If defined as holding at least 50 slaves, planters represented about 1.5% of the slaveholding households and less than 1% of the total population of each county.[33] This small share of the population—the large planters—was largely responsible for the agricultural commercial activities of the United States South and held a strong grip on local, state, and federal politics. Large planters could count on the support of 30% of less well-to-do slaveholding households to form a proslavery coalition. Even so, the non-slaveholding population still represented a majority of the voters in a political system where the universal male franchise was the rule in a majority of the States.[34] This resulted in an average share of active voters by county larger than 70% of the adult (above 20 years of age) male population between 1828 and 1860 (See columns 9 and 10 in Table 5).

The ability of the slave owners to induce widespread support for slavery into the non-slaveholding population was the result of a paternalistic mix of coercion and incentives (Genovese, 1975; Watson, 1985; Bolton, 1994; Merritt, 2017). Interpretations differ on the degree of importance attributed to coercion and incentives. Genovese (1975) and Watson (1985), for example, highlight the commonality of interests between slave owners and non-slave owners, while Bolton (1994) and Merritt (2017) have stressed the role of coercion. The "planters Democracy" can be best described as a network of "paternalistic" relationships that entangled local planters, slaves, and white wage workers. Such a system of relationships was not based on "kindness, love, and benevolence" but on the "constant threat and actuality of violence".[35] On the one hand, the slave masters could delegate actual violence to the overseers and count on their overwhelming weight in the local system of justice. On the other hand, slave masters contributed to generate an economic environment that was instrumental to the survival of the local non-slaveholders and landless farmers. Planters were, in fact, not only the main provider of local employment, either through wage labor or through tenancy contracts, but also represented an important source of agricultural services for the smaller yeoman farmers. Planters dispensed access to their commercial and transportation networks and could provide a source of credit (Genovese, 1975). The stability of these relationships was largely guaranteed by the absence of a system of public goods provision that did not rely on the planters' private will. At times, planters acted as protectors of the local poor and provided funds for schools and libraries (Fox-Genovese and Genovese, 2008; Lockley (2007)). The absence of publicly provided services, in turn, was the result of the control the planters exercised on the political system.[36] Table F.33 shows that Land-Rank is correlated with both the presence of planters and the level of investments in schooling, number of libraries, and the literacy rate in 1850.

comparison with other regions.

[32]Estimates derive from the Parker and Galman sample. The figure is representative for cotton production since it covers 98% of total Southern cotton production in 1860 (Niemi, 1977, p. 748).

[33]Own computation.

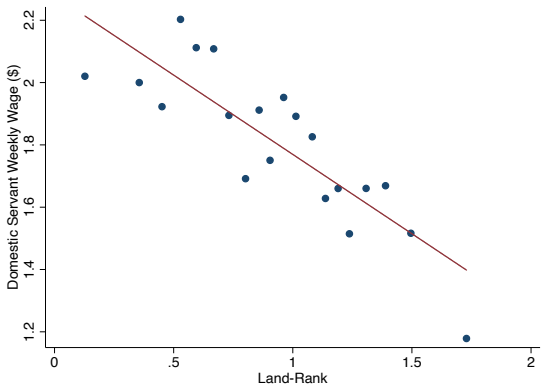
[34]By the 1820s, only Virginia and North Carolina imposed property qualifications to be eligible to vote (until respectively, 1850 and 1856). Until 1832 and 1845, Mississippi and Louisiana respectively required voters to be taxpayers (Engerman and Sokoloff, 2005).

[35]Quoted in Merritt (2017, p. 21) from Genovese and Fox-Genovese (2011, p. 2). The expression was originally meant to describe the relationship between masters and slaves. Here it is extended to the non-slaveholder whites.

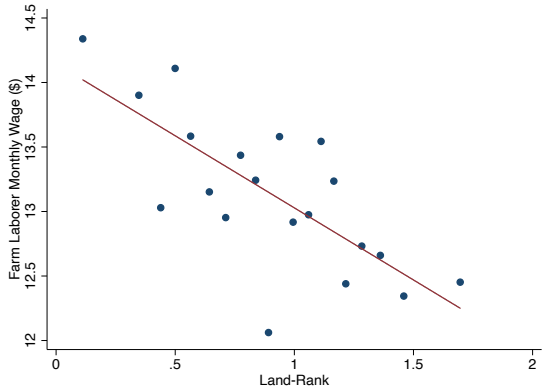
[36]A similar system has been identified by Alston and Ferrie (1993) in the first decades of the 20th century when landlord and tenants were embedded in a paternalistic relationship in which the first provided protection and medical care in exchange of a stable supply of labor. Similarly to the Antebellum case, the relationship was possible because of the lack of a welfare system that could have provided alternative sources of services.

Figure 5: Land-Rank and Wages

(a) Domestic Servant Weekly Wage



(b) Farm Laborer Monthly Wage



Note: Panels (a) and (b) show the binscatter plot between Land-Rank and wages in 1860. Both figures plot residual variation after absorbing for state fixed effect and controlling for distance to the North.

A possible explanation for our results is that, because the system reflected a strategy where selective incentives and punishments prevented the formation of platforms that might have challenged the status quo, the decline of the local slave-based economy braked this dynamic, reducing the elite ability and willingness to induce the non slave owning population to support the institution of slavery. This could have happened through the reduction of the planter's number, the decline in their assets, and a decrease in the return from political control.

The data support this interpretation, showing the existence of a wage premium in plantation counties (Clegg, 2019), of higher public goods and investment in manufacturing. Fig. 5 shows that wages were higher in counties with a higher presence of planters (lower Land-Rank). This is not only true for domestic servants and farm laborers but also for common laborers and carpenters (Table F.35). Surprisingly the share of the population working in manufacturing and the stock of manufacturing capital is also positively correlated with Land-Rank in 1860, suggesting that the planters elite were also responsible for the local investment in manufacture (Figures F.13 and F.14), providing good employment opportunities.

Table F.26 documents the decline of slave ownership both in terms of the number of slave owning households and the number of slaves per households. In Table 5, we analyze the effect of Land-Rank on the structure of the local economy. The increase in Land-Rank induced a large decline in planters' presence (columns (1)–(2)). The decline of the slave economy also resulted in a broader economic downturn as seen in the trends in manufacturing capital, the number of individuals living in towns with at least 2,500 inhabitants (urbanization), and the share of improved acres on farms (columns (3)–(5)). Importantly, changes in Land-Rank led to a decrease in white laborers' wages. Columns (6)–(7) show the drop in farm laborer and domestic servant wages, respectively.

On the one hand, the decrease in wages and manufacturing investment associated with the decline of the slave economy worsened local economic conditions for white wage earners; on the other, the planters' migration had a positive effect on political participation. Because elections were largely public events and people could not easily keep their vote secret, it was easy to monitor and constraint tenants and laborers to vote as their landlord or employer. The vote of the poor whites was the easiest to manipulate either through intimidation, fraud, or obligation (Bolton, 1994). The

decreased prominence of the local planters reduced constraints on voting behavior for the poorest section of the population. Results in columns (9)–(10) show an increase in political turnout in States where the franchise was not restricted, while the results are not different from zero when we restrict attention to States requiring property qualifications to access the ballot (see Table F.32). Finally, the decline of the number of local planters is associated with an increase in both the white and free black population, suggesting a potential role for selective migration of the most slavery-adverse sections of the southern population. Because free blacks were considered the antithesis to slavery, the increase in the free black population indicates the importance of the change in the social environment.[37] These results support the idea that changes in material conditions modified the incentives for the non slave owners to support the politics of slavery.

Table 5: Potential Mechanisms

Panel A:	N. of Planters	Share of Planters	ln(Manufacturing Capital)	ln(Urban Population)	Share Improved Acres	Wage Farm Laborer
	(1)	(2)	(3)	(4)	(5)	(6)
Land-Rank	-13.384***	-0.018***	-1.741**	-0.990***	-0.162***	-6.275**
	(2.405)	(0.003)	(0.820)	(0.287)	(0.060)	(3.043)
Observations	1214	1214	2658	4471	1936	1212
Mean DV	7.210	0.009	10.376	0.468	0.322	11.126
SD DV	18.410	0.023	3.053	2.052	0.161	3.767
Within R^2	0.127	0.064	0.018	0.014	0.027	0.010

Panel B:	Domestic Servant Wage	ln(Vale Farm Equip)	Turnout Franchise Restriction	Turnout No Franchise Restriction	ln(White Pop.)	ln(Free Blacks)
	(7)	(8)	(9)	(10)	(11)	(12)
Land-Rank	-0.989*	1.089***	-0.036	0.283***	0.192***	0.382***
	(0.529)	(0.291)	(0.079)	(0.065)	(0.072)	(0.147)
Observations	976	1934	1495	3909	4534	4534
Mean DV	1.478	11.558	0.489	0.770	9.081	4.083
SD DV	0.799	0.976	0.215	0.279	0.750	2.133
Within R^2	0.009	0.017	0.074	0.059	0.067	0.010

Note: The table shows the effect of LR_{it} on several outcomes. Due to data availability, the sample periods differ from variable to variable. Number of planters and its share are available for 1810–1840. Manufacturing capital for 1840–1860. Urban population for 1810–1860, improved acres for 1850–1860, wages for 1850–1860, value of the farm equipment for 1850–1860, elections turnout for 1830–1860, white population and free black population for 1810–1860. Each regression includes county and year fixed effect, and trends in the distance from the North, and the interaction between year FE and census region FE. Standard errors clustered at the county level are shown in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

7.3 Newspapers and the Slavery Debate

Changes in political behavior might not only be induced by material consideration but also by changes in the political environment. The political environment is in turn reflected in the political debate portrayed by the media. Changing economic conditions can affect media behavior in two ways.

[37] "A free negro is an anomaly—a violation of the unerring laws of nature—a stigma upon the wise and benevolent system of Southern labor—a contradiction of the Bible. The status of slavery is the only one for which the African is adapted; and a great wrong is done him when he is removed to a higher and more responsible sphere." *Jackson, Semi-Weekly Mississippian, 21 May 1858.*

First, the literature has shown the importance of the demand for slant in determining newspapers' behavior (Gentzkow and Shapiro, 2010), suggesting that newspapers might adjust their behavior to follow changes in local preferences. Second, newspapers might reflect the elite's preferences and affect popular voting behavior through the persuasion channel (DellaVigna and Kaplan, 2007). In both cases, evidence of an effect of Land-Rank on newspapers' behavior suggests that the political transformation observed goes beyond the direct effect of slave owners' migration on political voting discussed in Section 7.1.

During the first half of the nineteenth century, newspapers were central to the public debate as the press was the only source of political information. Even though circulation records are not available before 1870, scholars suggest that newspapers' distribution was extensive (Pasley, 2002). Two main characteristics of the press are worth noting: newspapers were highly local and highly partisan (Song, 2016). McGerr (1986) indicates that 95 percent of the newspapers in America claimed loyalty to some party.

Newspapers and their editors were significant players in the political process, linking parties and voters, and providing the arguments that shaped popular views. Pasley (2002, pp. 4) noted "Newspapers conducted many if not most of the opinion-shaping activities we now call campaigning: communicating a party's message, promoting its candidates, attacking their opponents, and encouraging voters to turn out at the polls." In a context in which the reach of the conventional party system was limited, local newspapers represented the main actors in popular politics. As such, local newspapers represent a rich source of information concerning local political views.

We build a new database of 282 newspapers operating in our period of interest in the US South. Following the information in Chronicling America, we code the affiliation of the newspapers. When Chronicling America reported no information for the newspaper affiliation, we relied on individual web searches. Section E.1 in the Appendix reports a few examples of the information on partisanship. We code seventy nine newspapers affiliated with the more proslavery parties. These include a first group of newspapers supporting the Democratic party, the Fire-Eaters, the State rights, or Confederate newspapers. A second group of sixty newspapers are also partisan but not linked to any of these political groups. These mainly include the Whig or Know-Nothing party. This group also includes a few abolitionist newspapers. We call the first group of newspapers Democratic, the second Whig. All other newspapers are coded as nonpartisan. On average, we observe a newspaper for 13 years and 55 issues per year for each newspaper. Newspapers frequency vary greatly. The most common formats during this period are weekly and daily newspapers. In total, our sample comprises almost 90,000 issues that contain 2.6 billion words.

To validate newspapers' differences across political affiliation, we analyze their language. Politicians and media adopt a political language that relies on the use of a few recognizable concepts to place themselves on specific sides of the political spectrum. In recent works in psychology, Haidt (2007) suggest five categories associated with some keywords to represent foundational moral institutions. The underlying theoretical framework, Moral Foundations Theory (MFT), has been proven accurate in predicting political preferences and voting behavior based on the language of political campaigns (Graham et al., 2009; Enke, 2020).[38] Analysis of the use of these keywords can illustrate

[38]The categories are as follows. Care/harm: associated with protection and care, empathy and aversion for harm. Fairness/reciprocity: pertains to the domain of justice, equality, and rights. Ingroup/loyalty: regards the social group, the races, the nations and highlights the importance of treason. Authority/respect: captures the relevance of the social order and tradition. Purity/sanctity: measure the importance of the ideas of purity, disgust, rejecting animalistic

differences in the language associated with slavery depending on the newspapers' political affiliation. We analyze a sample of articles that include the word "slave." For each article, we compute the number of words appearing per category and take the average per newspaper and year. We can perform an article by article analysis only on the newspapers digitized by Gale. From Chronicling America, we only have collections of words at the issue level. When comparing the average difference between Whig and Democratic publications in the use of words reflecting the different categories, one feature stands out: Democratic publications systematically employ more words that belong to the MFT dictionary for almost all categories (see Figure E.10 of Appendix E.1.1).

7.3.1 Conceptual Framework

We guide our empirical analysis by building a model of content supply. Newspapers' behavior is guided by two types of logic. First, newspapers might reflect local ideology and therefore react to economic changes by adjusting their behavior to follow local demand for political slant (Gentzkow and Shapiro, 2010). Second, newspapers might be captured by the local elite who use media as a means of political persuasion (DellaVigna and Kaplan, 2007). In that case, changes in the local elite's composition through planters' migration would imply a decrease in incentives to support proslavery views.

We model newspapers' behavior building on Gentzkow and Shapiro (2010). There are two key ingredients of the model. First, newspapers minimize the distance between their ideological slant and the preferences of the local relevant group. This can be represented either by the potential readers—because readers have preferences for like-minded newspapers (Gentzkow and Shapiro, 2010)—or by the local elite because of political capture (Durante and Knight, 2012; Gentzkow et al., 2015).

Second, newspapers can be either partisan or not partisan. We assume that a partisan newspaper cannot change political positions on a given topic but can strategically modify the number of articles published on each topic to move toward the targeted preferences.

Under these conditions, a partisan newspaper located in an area exposed to a decline of the slave-based economy reacts by modifying the supply of content related to slavery. The model predicts that a newspaper affiliated with the Democrats reduces its supply of slavery-related content as its position on the topic becomes less aligned with the preferences of the local targeted group. Partisan newspapers affiliated with political parties more critical of slavery should instead increase their supply of content related to slavery. Unaffiliated newspapers do not need to modify the supply of slavery-related content. The logic behind these results is formalized in Appendix E.6.

7.3.2 Supply of Slavery-Related Content

To construct our baseline measure of supply of slave-related content, we first compute the number of times each issue mentions slavery-related words. Then for each newspaper and year, we calculate the average. We separate these words into two topics related to the debate over slavery: abolition and fugitive slaves. We capture the debate on abolition, looking at the frequency of the words "abolit*" and "emancipat*". We capture the intensity of the debate on fugitive laws counting the words

behaviors. Each category is divided into a set of positive terms (ex. nation), denoted by "virtue" and a set of negative terms (ex. enemy), denoted by "vice." A complete list of the words included in each set can be found in Appendix E.5, Tables E.23 and E.24.

"fugitive*" and "runaway*". Finally, we capture the general discussion about slavery by counting the number of times "slave*" is mentioned. On average, an issue uses ten slavery-related words.

Using these measures, we study changes in newspapers' behavior, estimating the following equation:

$$y_{ct} = \alpha_c + \gamma_t + \beta_1 LR_{ct} + \beta_2 LR_{ct} \mathbb{1}\{\text{Democrat}\}_c + \beta_3 LR_{ct} \mathbb{1}\{\text{Whig}\}_c + \delta X_{ct} + \epsilon_{ct}. \tag{2}$$

Newspapers' circulation was limited to circulation areas within a certain distance from the printing site. Because we do not have information about Antebellum circulation, we approximate this measure by looking at within a 20km radius of the printing city. In Appendix E.2, Figure E.12, we show the newspapers' location by affiliation. Figure E.11 shows the newspapers' location by relative productivity. In Appendix E.3.1, we replicate our results using a 50km radius as a circulation area. We determine each newspaper's circulation area and compute statistics for soil characteristics at the circulation-area level. Equation (2) estimates changes over time t in the slave-related content by a given newspaper operating in circulation area c. The independent variable LR_{ct} is the Land-Rank at time t based on the relative suitability of cotton with respect to wheat of circulation area c. The outcome of interest is the inverse hyperbolic sine transformation of the average number of times an issue mentions slave-related words. In Appendix E.3.2, we replicate the analysis where the dependent variable is the probability that a printed word is a slave-related.

Table 6: Newspapers

	Slave Slavery (1)	Abolition Emancipation (2)	Fugitive Runaway (3)	Tax (4)	Bible (5)	Dollar (6)	Work (7)	Price (8)
Land Rank	0.498	0.146	-0.076	2.167***	0.922	0.336	-0.222	-0.338
β_1	(1.246)	(0.906)	(0.538)	(0.733)	(0.745)	(1.108)	(0.968)	(0.925)
Land Rank × Democrat	-1.209	-1.948*	-1.088*	-2.708***	-0.826	-0.857	0.283	-0.034
β_2	(1.305)	(1.042)	(0.615)	(0.956)	(0.913)	(1.328)	(1.118)	(1.180)
Land Rank × Whig	1.631	2.160**	1.591**	-2.410*	-1.302	-0.300	-0.239	-0.295
β_3	(1.384)	(1.040)	(0.667)	(1.414)	(1.135)	(1.250)	(1.117)	(1.035)
Effect on Democrat	-0.712**	-1.803***	-1.164***	-0.541	0.096	-0.521	0.061	-0.372
$\beta_1 + \beta_2$	(0.345)	(0.458)	(0.341)	(0.622)	(0.487)	(0.687)	(0.486)	(0.730)
Effect on Whig	2.129***	2.306***	1.515***	-0.242	-0.379	0.037	-0.461	-0.633
$\beta_1 + \beta_3$	(0.470)	(0.445)	(0.446)	(1.227)	(0.822)	(0.519)	(0.454)	(0.403)
Observations	1505	1505	1505	1505	1505	1505	1505	1505
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Newspaper FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Affiliation × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	County	County	County	County	County	County	County	County

Note: This table shows the marginal effect of Land-Rank in a 20Km radius on the slavery-related content. For each column, the first estimated parameter shows the effects for Democrat newspapers. The second estimated parameter shows the effect on the other partisan newspapers. All estimates are based on the estimation of equation (2). The estimates associated to Democrat is the sum of $\hat{\beta}_1$ and $\hat{\beta}_2$, while the estimate associated to "other affiliation" is the sum of $\hat{\beta}_1$ and $\hat{\beta}_3$. The dependent variable is the inverse hyperbolic sine transformation of the average number of times an issue mentions slave-related words. All regression control for Newspaper fixed effects, $\mathbb{1}\{\text{Democrat}\}\times$ Year FE, $\mathbb{1}\{\text{Whig}\}\times$ Year FE, Distance to the North × Year FE and Census Region × Year FE. Standard errors are clustered at the newspaper level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6 shows that changes in comparative advantage in the use of slave labor had a substantial effect on content related to slavery. We find that Democratic newspapers located in places that

lost comparative advantage in slave labor decreased content related to slavery. Whig newspapers increased this type of content. To interpret the estimates' magnitudes, notice that as in all other regressions, LR_{ct} is normalized so that a county with median Land-rank in 1810 experienced, between 1810 and 1860, an increase of Land-rank of one unit. On average, this median county decreased by 51% the use of slavery-related words between 1810 and 1860 due to the loss of comparative advantage in the use of slave labor. A Whig newspaper located in the same county increased the use of slavery-related words by almost eight times between 1810 and 1860.[39] Columns (4)–(8) show that we do not observe a similar pattern for some common non-slavery-related words. Table E.22 in Appendix E.4 shows the most frequent bigrams when we restrict the sample to issues mentioning abolition and slavery.

Estimates in Table 6 show that a decrease in comparative advantage reduced the local pro-slavery narrative. The Democratic party narrative that proposed an uncompromising defence of slavery, was replaced by an increase in the Whig newspapers that represented interests more willing to compromise on slavery and at times were even adversarial towards the institution.These changes in the political discourse found in newspapers could have accelerated the political transformation undergoing in areas where the slave economy was declining.

8 Conclusion

This paper analyzes the impact of changes in agricultural comparative advantage on the economics and politics of slavery. Exploiting one of the key phenomena in American history, the Westward Expansion, we show that economic conditions were at the basis of the support for slavery. The incorporation of new land into the US territories changed the quantity and quality of agricultural land, shifting incentives to the use of slave labor and pushing counties losing comparative advantage in slave-intensive crops to sell their slaves to the new and better suited counties in the West. The paper shows that this economic transformation had a profound impact on Southern politics in the decades leading to the Civil War.

Using evidence from Congressional voting behavior and presidential and gubernatorial elections, we estimate the effect of a decline in the local slave economy on political support for slavery. We document that the Democratic party systematically voted more in favor of slavery and show that declining economic conditions for slavery led to a decrease in the support for the Democratic party and changes in the behavior of congressmen. We argue that changes in material conditions determined changes in the structure of the pro-slavery coalition by reducing the planters' influence on the political system and inducing a drop in the incentives and constraints for the non-slaveholding population to support slavery.

We show evidence consistent with this mechanism. The decline of the slave-based economy reduced local wages for white farm laborers and domestic servants and induced a decline in the manufacturing sector, breaking the clientelistic relationship between the planters elite and the local white wage laborers. The political debate in the media accelerated these changes. We observe a

[39] The interpretation of the coefficient is obtained using the following transformation. The coefficient related to the effect on newspapers affiliated to the Democratic party is -0.712, therefore the percentage change can be obtained as $e^{-0.712} - 1 = -.51$, which implies a decrease of 51% in the the use of slave-related words. Similarly the coefficient related to the effect on Whig newspapers is 2.129, therefore the percentage change can be obtained as $e^{2.129} - 1 = 7.4$, which implies an increase of 740% in use of slave-related words.

reduction of the pro-slavery content in newspapers exposed to these economic changes and an increase in political participation. These results highlight the role of slaves as a mobile asset. Because slave owners could relocate labor across long distances, changes in local economic conditions induced changes in planters' incentives opening up spaces for political change.

Although restricted to the United States South, our analysis suggests that the political and institutional transformation that characterized slavery during the nineteenth century was, in part, the consequence of the growing differences between the monetary return from slavery across different geographical regions, even for the white non-slaveholding population. The local profitability of the institution determined its local political support.

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Appendix

A Data

A.1 Secession Conventions Votes

For the states of Georgia, Alabama, we compute the share of votes in favor of secession as the share of delegates voting in favor of secession. For the state of Arkansas, because the secession ordinance was voted only at war already started, we follow Wooster (1956) and study the voting for the Hanly Motion. Thomas B. Hanly proposed an ordinance of secession to go into effect only when ratified by the people of the state in a popular vote. We consider the vote in favor of the Hanly's motion as a vote held by the cooperativist and rejected by the immediate secessionist. Also in the case of Florida we follow Wooster (1958). We uses the Allison motion to distinguish between the cooperativist and the secessionist. The Allison motion, similarly to the Hanly motion, proposed that the secession ordinance should not take effect until Georgia and Alabama had seceded. The immediate secessionists would vote against the amendment. For Louisiana we obtained the returns of the election of convention delegates from Dew (1970). The candidates were running either as cooperativists or as secessionist. We compute the share of the votes in favor of the secessionist. As for Louisiana, in the case of Mississippi, we use the return from the elections of the convention delegates and compute the share of votes for the secessionist candidates. The information are taken from Rainwater (1938).

A.2 Congressional Votes Regarding Slavery

In order to build the roll-call voting regarding slavery we analyzed the 10,640 votes in the House of representatives between the 11th Congress (1809-1811) and the 36th Congress (1859-1861) using the voteview database Poole and Rosenthal (1985). We then focused on the 733 votes that voteview identifies as pertaining "Civil Liberties" or "Domestic Social Policy". We then manually selected the 222 votes regarding the slavery. Common issues voted in the House regarding slavery are fugitive slaves laws, the expansion into new territories and states of slavery, slavery in DC, the extent of federal power over slavery state-rights and even the reopening of the transatlantic slave trade. For each of the 222 votes we then found the text of the law that was being voted. For votes between the 11th and the 18th the text can be found in the "Annals of Congress", between 19th and the 25th in the "Register of Debates" and after that in the "Congressional Globe". All can be accessed from the library of Congress. For each vote we first tried to determine whether voting yea or nay should be considered pro-slavery. When uncertain, and as a validation device, we use the direction of the vote of Congressmen from the North of the US. The assumption behind this decision is that if for example voting yea for a specific vote is to be interpreted as voting in favor of slavery than Congressmen from the North should vote less often yea than Southern Congressmen.

Table A.1: Slavery Laws by Issue

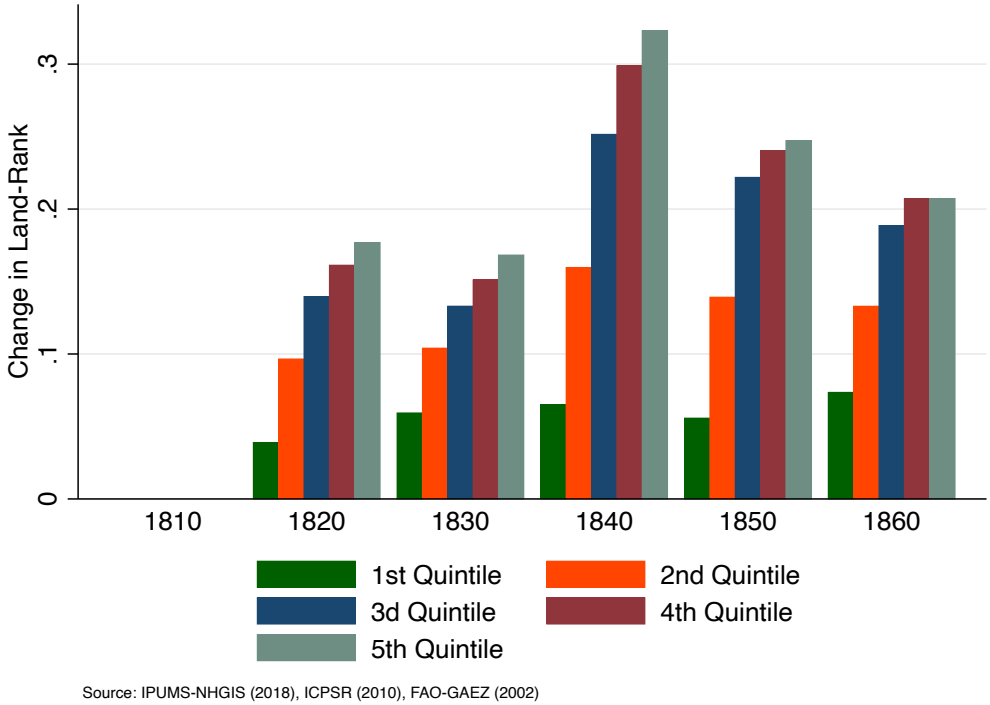
Slavery Issue	Decade					
	1810	1820	1830	1840	1850	Total
	No.	No.	No.	No.	No.	No.
Congress Authority	0	0	11	12	5	28
District of Columbia	0	3	12	11	0	26
Fugitive Slaves	1	0	1	4	1	7
Gag Rule	0	0	1	10	0	11
International Dispute	0	3	0	5	0	8
Misc.	0	0	0	5	9	14
Missouri Crisis	4	0	0	0	0	4
Petition	0	0	19	12	5	36
Slave Trade	1	4	3	16	9	33
Territory	7	0	1	26	19	53
Total	13	10	48	101	48	220

Note: The table reports the number of laws on slavery voted in Congress by issue and decade.

A.3 Summary Statistics

Table A.2: Dataset Summary

Variable	Observations	Mean	SD
County Level - Decade - From 1810 to 1860			
Land-Rank (Millions Km2)	4550	0.67	0.44
Population	4550	9229.94	9997.45
Number of Whites	4550	5885.77	7420.96
Number of Free Blacks	4550	239.07	1018.66
Number of Slaves	4550	3104.45	4040.88
Percentage Slaves	4550	0.29	0.20
Slaves per 1,000 Km2	4550	2381.28	2747.63
Urban Population	4550	654.50	6772.00
County Level - Decade - From 1810 to 1840			
Share of Slave-owning Households	2384	0.34	0.20
Number of Slave-owning Households	2384	314.04	336.58
Number of Non Slave-owning Households	2384	525.05	645.47
Number of Planters	2384	5.60	16.66
Share of Planters	2384	0.01	0.02
County Level - Decade - From 1840 to 1860			
Cotton Output	2869	1.80	4.47
Wheat Output	2865	0.04	0.07
Manufacturing Capital	2738	114.24	518.57
County Level - Decade - 1850 and 1860			
Share Improved Acres	2021	0.32	0.16
Farm Equipment Value	2019	82.90	115.59
Farm Wages	1484	11.42	3.93
Domestic Worker Wages	1299	1.60	0.91
County Level - 1861			
Share Vote in Favor Secession	660	0.68	0.37
Congressional District Level - 222 Votes on Slavery			
Dummy Vote in Favor of Slavery	14910	0.72	0.39
Congressional District Level - 2 years - From 1810 to 1860			
Nominate Score (-1,1)	1575	-0.28	0.24
County Level - Election Year - From 1828 to 1860			
Percentage Democrats (Presidential Elections)	6349	0.56	0.19
Percentage Democrats (Gubernatorial Elections)	7925	0.54	0.19
Newspaper Level - Yearly - From 1828 to 1860			
Avg use Slave/Slavery per Issue	1596	7.44	9.45
Avg use Abolition/Emancipation per Issue	1596	1.92	2.72
Avg use Fugitive/Runaway per Issue	1596	0.84	1.69
Avg use Tax per Issue	1596	4.52	4.87
Avg use Bible per Issue	1596	0.81	0.96
Avg use Dollar per Issue	1596	10.48	7.60
Avg use Work per Issue	1596	15.86	10.02
Avg use Price per Issue	1596	15.98	12.54
Cross-sectional Data			
Cotton Suitability (County Level) (0-100)	4550	35.53	17.21
Wheat Suitability (County Level) (0-100)	4550	48.58	15.35
Cotton Suitability (Cong. District Level) (0-100)	1575	34.45	13.39
Wheat Suitability (Cong. District Level) (0-100)	1575	48.26	11.20



Note: The Figure represents the change in Land-Rank by quintile each two decades.

Table A.3: Land-Rank Distribution (Millions Km2)

Percentile	1810	1820	1830	1840	1850	1860
10th Percentile	0.060	0.090	0.112	0.150	0.172	0.215
25th Percentile	0.152	0.221	0.263	0.353	0.427	0.499
50th Percentile	0.298	0.423	0.495	0.690	0.837	0.961
75th Percentile	0.430	0.592	0.714	1.001	1.206	1.384
90th Percentile	0.519	0.698	0.857	1.161	1.396	1.594

Note: The Figure represents the change in Land-Rank by quintile each two decades.

A.4 Clustering Choice

This table shows the between-variation of unobservables for five different outcomes. The numbers are calculated by taking the predicted unobservables of a regression and measuring the standard deviation of the cross-sectional and time variation. For each outcome the preferred cluster level are selected so as to maximize the unobservables correlation within cluster and therefore maximizing the standard deviation between clusters.

This means that when the outcome of interest is slavery or elections the cluster we use is the county. For slave-related laws the cluster we use will be at the law level. When the outcome is the ideological score the cluster we use is the congressional district.

Table A.4: Between-Variation of the Unobservables

Slaves		Elections		Slave Laws		Nominate		Newspaper Words	
Between Counties	Between Years	Between Counties	Between Elections	Between Laws	Between Cong. District	Between Cong. District	Between Years	Between Newspaper	Between Years
0.00320	0.00091	0.01013	0.00711	0.04060	0.03614	0.00254	0.00160	0.24778	0.09420

Note: This table shows the between variation of unobservables. The numbers are calculated by taking the predicted unobservables of a regression and measuring the standard deviation between the cross-sectional and time variation.

B Theories Regarding the Choice of Labor Inputs

The view championed by Fogel and Engerman (1974) argues that certain crops were more suited for the use of slave labor because of the intensity of the working conditions. The authors have pointed in particular to the use of the gang labor system: workers deployed in assembled lines of "highly disciplined, interdependent teams capable of maintaining a steady and intense rhythm of work."[40] Because cotton and sugar were particularly suited to the use of the gang labor system, these crops displayed a high concentration of slaves in their cultivation. Fenoaltea (1984) made a similar argument. He maintained that certain sectors had a prevalence of slave labor because the specific operation to be performed were better conducted by workers motivated by anxiety, rather than reward. He argued that slaves were overseen in gangs because gangs are necessary to "maintain high levels of anxiety: only gang slaves can be subjected to the constant and immediate threat of the lash."[41]

Gavin Wright (Wright and Kunreuther, 1975; Wright, 1979) has rejected these ideas and showed that the large share of slaves in cotton production can be explained by the risk of growing cotton at the expense of food crops for home consumption. Market-oriented, slave-rich farms were in a better position to take the risk and therefore displayed a higher level of specialization in cotton production. Hanes (1996) criticized the gang-labor approach on the following ground. "The arguments of Fenoaltea and Fogel and Engerman cannot explain why many farmers chose to employ only a few slaves, often just one or two. On small farms, a slave worked alongside family members, performing similar tasks in similar ways.[..] Most importantly, tobacco was not a gang-labor crop. Thus, as Galenson (1984) noted, a theory of slave distribution based on the use of gang labor cannot explain the rise of slavery in Virginia and Maryland."[42]

Earle (1978) argued that the seasonality of the labor requirement represents the primary determinant of the advantage of slavery vs. wage labor in the cultivation of specific crops. He maintains that the sunk costs involved in slave-ownership are better recovered if the seasonality of the labor required by the cultivated crop covers a high proportion of the year. According to Earle (1978), "Wage labor was competitive for part of the year, but never on an annual basis. Farmers who needed labor for a few days, weeks or months, found the use of hired labor decidedly cheaper and more efficient economically than slaves. The decisive factor in the farmer's choice of either slave or wage labor came down to the annual labor requirements of his staple crop: crops such as wheat, which required only a few weeks of attention, lent themselves to wage labor; whereas crops such as tobacco or cotton, which demanded sustained attention during a long growing season, lent themselves to

[40] Quote from Hanes, 1996, p. 308.
[41] Fenoaltea, 1984, p. 667.
[42] Hanes, 1996, p.309.

slave."[43]

In a complementary view, Hanes (1996) argued that the "sectors that tended to employ slaves in the British American colonies and the antebellum South were the ones in which employers faced especially high turnover costs."[44] The seasonality of the labor requirement, in the form of the number of peaks of labor required during the year, is the main feature that would explain the advantage in the production with slave labor in certain crops. The higher is the number of peaks in the labor requirement; the higher are the cumulated transaction cost the employer will have to face over the year and therefore the turnover cost in the case of wage labor employment.

This same argument has been re-proposed by Wright who noticed that "there is [. . .] an element of truth in the linkage between cotton's labor requirement and slavery, which has to do with the crop's distinctive seasonality. Because cotton needed so much attention early in the season for planting, weeding, and "chopping", there were typically two labor peaks during the crop year. [...] The important point is that both labor peaks had to be fulfilled for success in cotton growing. It is not difficult to see that year-round ownership of slave labor had a certain advantage in this regard." (Wright, 2006 p. 87)

Fig. B.1 illustrate the argument comparing the seasonality of the labor requirement in cotton and wheat. Figure B.2 and table B.5 show that the argument is consistent with the available evidence from the farm sample of the 1860 Agricultural Census provided by Parker and Gallman (1992). On the one hand, cotton has two peaks of labor requirement, which makes the staple's turnover cost high. On the other hand, wheat has a unique three weeks peak which makes it relatively less suitable for slave labor.[45] Further insights are given by the length of the growing season. While cotton (but also Sugar and Tobacco) requires a high amount of attention during the year,[46] wheat and other grains' needs are concentrated during the harvest season, which corresponds to a two to three weeks single peak of labor requirement. To put it in Genovese's[47] terms: "Slavery requires all hands to be occupied at all times."[48] Crops such as cotton, tobacco and sugar provided slave-owners with an advantage in the fulfillment of this task.

The views expressed so far can be summarized in two main theories. On the one hand, the idea that slaves but not wage laborer can be subjected to a system of labor organization that allows high level of efficiency gains through the imposition of high level of labor intensity. On the other, the idea that property rights in labor allow the reduction of the cost (sunk, turnover or risks) involved in risky commercial activities. Whether the heterogeneous distribution of slave labor has to be explained by one or a combination of several arguments, cotton and wheat represent the most relevant examples of crops relatively better suited for the use of slave labor and wage labor.

On the one hand, cotton has been regarded as the quintessential of the gang labor crops, as opposed to wheat[49]; on the other, the specificity of the seasonality of cotton and wheat implies that turnover costs in cotton are larger than in wheat.[50] Moreover wheat could be consumed in case of

[43] Earle, 1978, p. 51.

[44] Hanes, 1996, p. 309.

[45] As noted by Wright (2006), the seasonality of labor requirement in the early 20th century represents a lower-bound of the contrast between the two crops because of the mechanization involved in the production process at the time these figures were compiled.

[46] For example, Cotton's growing season needs at least two-hundreds frost-free days

[47] See Genovese, 1989 p.49

[48] Anderson and Gallman defend Genovese's assertion in Anderson and Gallman, 1977.

[49] Wheat does not require the fulfillment of tasks that can be organized in gangs but for a two weeks during the harvest period, it cannot therefore be considered a gang labor crop.

[50] It is important to mention that our argument is not to be considered in absolute terms, but in relative ones. We

bad crops which mitigate the commercial risks involved in cotton production. In conclusion, under these theories, cotton production has an advantage in the use of slave labor with respect to wheat and therefore this has to be reflected in the allocation of slaves in the Antebellum South. We expect that changes in the local comparative advantage in the production of cotton with respect to wheat lead to changes in the local use of slave labor.

A potential caveat of a theory linking agricultural comparative advantage and slave labor allocation is given by the nature of the slave market. A very active rental market would mitigate the need to adjust the stock of slaves in case of changes in the crop mix. Most of the available evidence indicates that rural rental markets were negligible with respect to the overall slave market. Friedman and Manning (1992) consider that the overwhelming majority of slaves lived and worked on property owned by their owner. Slave hiring was most widespread in urban areas, while - again according to Friedman and Manning (1992) - 6 % should be considered an upper-bound of the number of slaves rented in rural areas.[51]

A second concern may be raised by the slave market liquidity: evidence that slaves were bought and sold over a very short period of time. Even if it is difficult to make quantitative statements regarding the frequency of slave purchases, scholars seem to discard the importance of frequent trade to make short-term adjustments. Anderson and Gallman (1977) claim that a "slaveholder was unlikely to make an adjustment to short-lived variations in the activities of his enterprise through the purchase and sale of fixed assets [slaves]; the risks and costs of such behavior were too large".

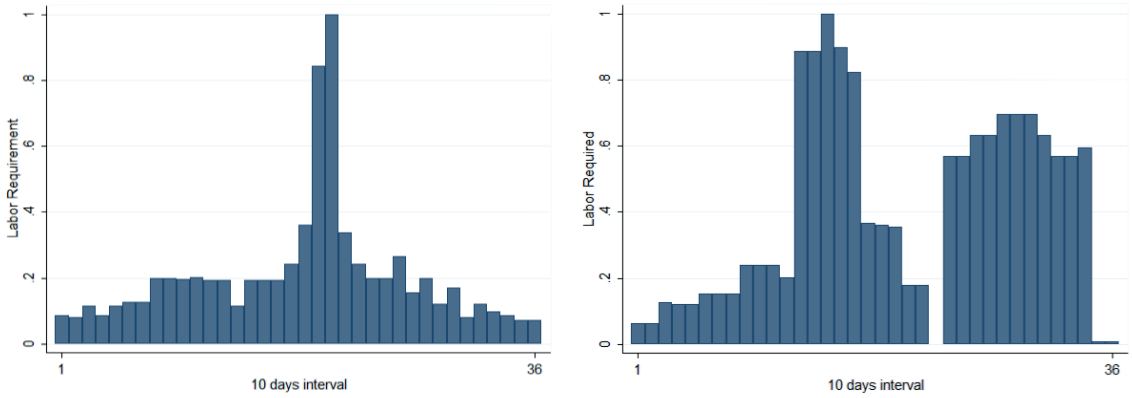
There are several economic reasons in support of this view. Firstly, only highly differentiated local economies could provide the condition for local demand to meet local supply. There is ample evidence against this argument since the economy was highly specialized (Fiszbein, 2016). Secondly, the cost of transactions involved markups appropriated by slave traders and transaction costs associated with quality assessment.[52] To put it in Hanes (1996) terms, buying a slave determined a "lemons" problem and the associated cost derived by adverse selection. These characteristics of the slave market reinforce the idea that structural changes in the crop mix should result in the adjustment of the slave stock.

do not maintain that Wheat and slavery are incompatible per se - counterexamples have been shown in the case of Piedmont Virginia by Irwin (1988).

[51] The number has been computed in by Goldin (1976) for the case of rural Virginia.

[52] Evans (1961) estimated the costs of relocating slaves, which include brokerage fees, maintenance, the cost of runaways, and the unproductive period during the trades. Brokerage fees and costs of runaways, which do not exist in the case of wage labor, may have made the cost of migration greater for slaves than for free men. Cf. EM, n. 35 in Friedman and Manning (1992).

Figure B.1: Seasonality of Labor Requirement

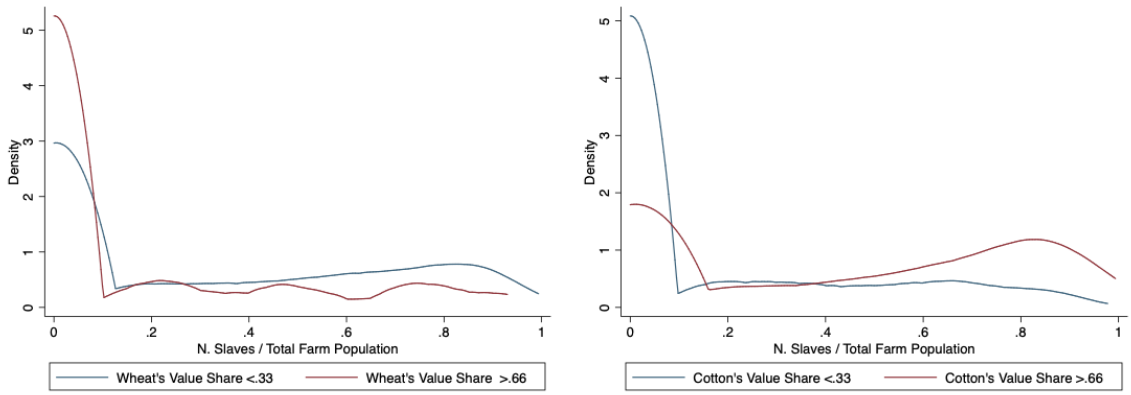


(a) Wheat Labor Requirement

(b) Cotton Labor Requirement

Note: The Figure represents the seasonality of labor requirement for wheat and cotton in the case of Washington and Georgia respectively as reported by the US Department of Agriculture in 1919. *Source: Yearbook of the Department of Agriculture, 1917 p. 545-46. in Wright (2006).*

Figure B.2: Share of Slaves at Farm Level



(a) By Share of Value in Wheat

(b) By Share of Value in Cotton

Note: The Figure represents the distribution of the share of slaves per farm by crop production. The left panel represents the distribution in farms whose share of wheat in the gross value of farm output is less than 33% and more than 66%. The right panel represents the distribution in farms whose share of cotton in the gross value of farm output is less than 33% and more than 66%. *Source*: Parker and Gallman (1992) subsample from 1860 Agricultural Census.

Table B.5: Cotton, Wheat and Slavery at the Farm Level

	Bales of Cotton	Share of Slaves	Slave per Acres
	(1)	(2)	(3)
Bushels of Wheat	-0.0164***		
	(0.00626)		
Bushels of Rye	-0.0677*		
	(0.0347)		
Bushels of Corn	0.0300***		
	(0.000584)		
Bushels of Oats	-0.0180***		
	(0.00594)		
Bushels of Rice	-0.000174		
	(0.000515)		
Pounds of Tobacco	-0.00375***		
	(0.00101)		
Share of Rye		-0.0323	-0.275
		(0.0285)	(0.208)
Share of Wheat		-0.0218***	-0.377***
		(0.00548)	(0.0395)
Share of Tobacco		-0.00971	-0.251***
		(0.00998)	(0.0726)
Share of Rice		0.0147	0.310
		(0.0287)	(0.189)
Share of Corn		-0.0154***	-0.365***
		(0.00214)	(0.0155)
Share of Oat		0.00859	0.144
		(0.0166)	(0.121)
Observations	5228	5020	5038

Note: Individual observations are farms. Column (1) reports the correlation between the size of cotton production and the size of the other crop produced. Column (2-3) have as dependent variables respectively the share of slaves as a fraction of the total population of the farm and the number of slaves divided by the number of acres. Independent variables are the share of crop's value produced on the farm. Omitted variable is the share of cotton. *Source:* Parker and Gallman (1992) subsample from 1860 Agricultural Census.

C Robustness, Alternative Specifications and Mechanisms of Slave Relocation

C.1 Slave Relocation: Different Measures for Slave Labor Use

In this Section we show that our baseline analysis is robust to the use of different measures of slave labor at the county level: the absolute number of slaves and the number of slaves per 1,000Km^2 of

land.

Table C.6: Slave Relocation - Robustness

	N. Slaves	Slaves per 1000 km^2	% Slaves					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Land-Rank	-2591.1***	-1865.8***	-0.108***	-0.136***	-0.102***	-0.103***	-0.103***	-0.0733***
	(338.7)	(225.0)	(0.0134)	(0.0186)	(0.0158)	(0.0159)	(0.0142)	(0.0213)
Observations	4471	4471	4471	4471	2688	2328	4534	1718
Mean DV	3138.3	2415.1	0.293	0.293	0.312	0.315	0.290	0.355
Adj. Within R^2	0.168	0.140	0.202	0.203	0.210	0.273	0.217	0.00623
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample	Full	Full	Full	Full	Balanced 1810	Balanced 1810	Full	Balanced 1790
RP × Year FE	No	No	No	Yes	No	No	No	No
% Slave 1800 × Year FE	No	No	No	No	No	Yes	No	No
Year FE × First Census Year	No	No	No	No	No	No	Yes	No
De-trended	No	No	No	No	No	No	No	Yes
SE Cluster	County	County	County	County	County	County	County	County

Note: This table shows the effect of changes in the land-rank on slaves' relocation between 1810 and 1860. The variable of interest is Land-Rank$_{it} = \sum_{j=1}^{N_t} w_j I_{(RP_j \geq RP_i)}$ with $RP_i = \frac{A_i^{cotton}}{A_i^{wheat}}$. The measure Land-Rank$_{i,t}$ is normalized so that the county with the a median RP in 1810 gained 1 Land-Rank$_{i,t}$ between 1810 and 1860. The outcome in column (1) is the number of slaves in a county. The outcome in column (2) is the number of slaves per 1000 Km^2. The outcome in the other columns is the share fo slaves per county. Standard errors clustered at the county level are shown in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

C.2 New Counties

In our main specification, we estimate the effect of changes in comparative advantage without imposing any restrictions on the sample. In this way, we obtain an unbalanced panel in which the counties included in 1810 are observed five times, those included from 1820 are observed four times, up to the counties included in 1850, which are observed twice. Using the entire sample, we estimate the causal effect of changes in comparative advantage, both including counties losing comparative advantage and counties entering the US census at the top of the distribution of relative productivity. The results could, therefore, be driven by the comparison between counties that enter our sample at different times. Even though the issue is already partially addressed by including regional or state trends, we perform two additional exercises.

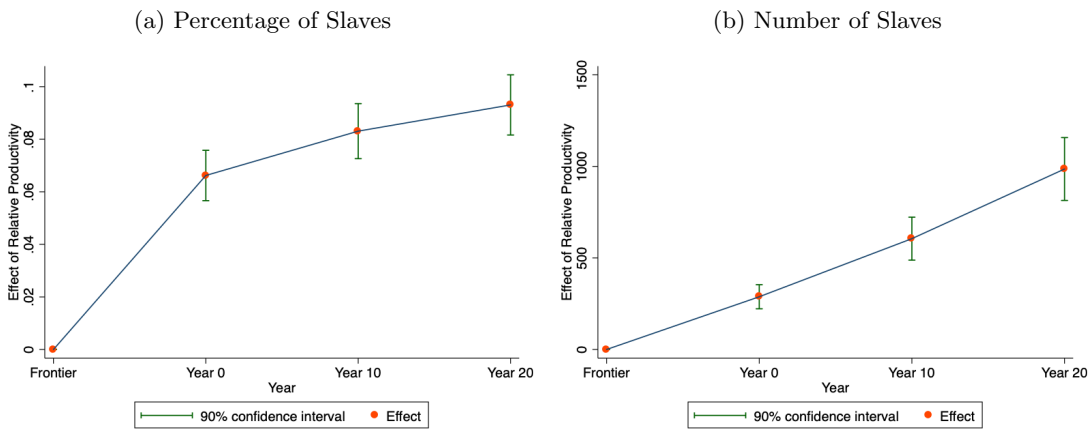
We study the effect of relative productivity on the use of slave labor, focusing on counties that just started being inhabited (new counties). Focusing on the sample of new counties, we proceed as follows. We take counties at the frontier and set both the percentage and the numbers of slaves to zero. We then observe each county the first time is inhabited (Year 0) and follow it for two other decades (Year 10, Year 20). We expect that new counties with high relative productivity of cotton with respect to wheat will be the ones acquiring the most slaves. We test this hypothesis by estimating the following equation:

$$y_{i,t} = \alpha_i + \alpha_t + \sum_{j=0,10,20} \beta_j \times \mathbb{1}(Year\ \ j) \times \mathrm{RP}_i + \epsilon_{i,t} \tag{3}$$

Figure C.3 shows the estimates of β_0, β_{10}, β_{20} from regression (4). RP_i has been standardized with mean zero and standard deviation 1 to make the interpretation of the parameters easier. Panel (a) establishes that in Year 0, each standard deviation increase in relative productivity increases by 6.6 p.p. the share of slaves. This effect increases over time, reaching 9.3 p.p. by Year 20. Panel (b)

establishes that in Year 0, each standard deviation increase in relative productivity increases the number of slaves in a county by 288. The effect continues to increase over time, reaching 985 extra slaves by Year 20. Overall, the estimates reassure against the idea that the results are driven by the comparison between old land and new counties. Column (7) in table C.6 reports the estimate of Land-Rank controlling for the interaction between a dummy equal to one in the first year a county is inhabited and year FE.

Figure C.3: New Counties

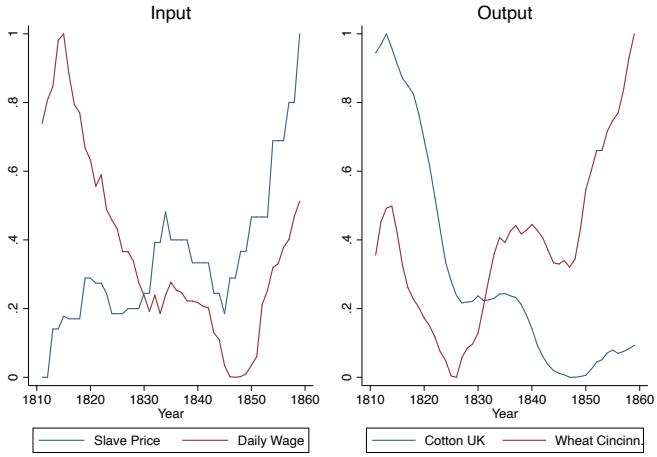


Note: The figure plots the coefficients of the effect of relative productivity on the share of slaves (a) and number of slaves (b) over time. Counties at the frontier have a density inferior to 2 individuals per Km^2. Year 0 is the first observation after leaving the frontier status. Regression includes Regional FE × census year FE and ln(distance to the North) × census year FE. Standard errors clustered at the county level.

C.3 Input and Output Prices

As an alternative method to study the effect of the Westward expansion on agricultural production decisions, we construct a measure of comparative advantage by combining the relative productivity of a county with information on the prices of inputs (slave labor and wage labor) and outputs (cotton and wheat). The overall variation of these prices is displayed in Figure C.4. Between 1810 and 1860, slave prices increased substantially while the international price for cotton decreased. During the same period, wheat prices experienced the opposite trend. We expect counties to react differently to this common shock. In particular, we expect counties with low relative productivity between cotton and wheat (low RP) to no longer be able to endure the rising costs of producing cotton. Because of this, counties with a low RP will increase the production of wheat. As already argues, crop production decisions translate into labor input decisions.

Figure C.4: Prices Evolution



Note: This figure shows the evolution of prices. The left table reports the moving average of slave prices and daily wages. Right table shows the moving average of UK cotton prices and Wheat Cincinnati prices. 0 is set to match the minimum and 1 the maximum of each price.

Table C.7 shows the result for this specification. As in Table 1 of the main manuscript, the outcomes of interest are the share of the enslaved population, the number of slaves per $1000Km^2$, and the number of slaves. We construct three different variables to capture how, depending on levels of RP_i, prices differently affected slave use. Prices are described in section 3 of the main manuscript.The first uses only the prices of the outputs (cotton and wheat) where the regressor of interest is $RP_i \times \frac{P_{cotton,t}}{P_{wheat,t}}$. The second uses only the prices of labor inputs (slave prices and wages of wage laborers) where the regressor of interest is $RP_i \times \frac{Wages_t}{P_{slave,t}}$. Finally we combine the information on output and inputs with the following regressor $RP_i \times \frac{Wages_t/P_{wheat,t}}{P_{slaves,t}/P_{cotton,t}}$. We expect that counties with low RP as cotton production becomes less profitable reduce their use of slave labor. Therefore in all three specifications, we expect a positive estimate.

Table C.7: Slave Relocation - Input and Output Prices

	% Slaves			Slaves per 1000 km^2			N. Slaves		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$RP_i \times \frac{P_{cotton,t}}{P_{wheat,t}}$	0.0256***			478.2***			603.7***		
	(0.00410)			(62.78)			(93.73)		
$RP_i \times \frac{Wages_t}{P_{slave,t}}$		0.0219***			400.9***			510.4***	
		(0.00370)			(56.22)			(83.96)	
$RP_i \times \frac{Wages_t/P_{wheat,t}}{P_{slaves,t}/P_{cotton,t}}$			0.0233***			443.5***			556.6***
			(0.00385)			(58.46)			(88.12)
Observations	4471	4471	4471	4471	4471	4471	4471	4471	4471
Mean DV	0.293	0.293	0.293	2415.1	2415.1	2415.1	3138.3	3138.3	3138.3
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: This table shows the effect of changes in prices interacted with relative productivity on slaves' relocation. Output price are UK cotton price and wheat price observed in the Cincinnati market; Labor input prices are wages in West Virginia and slave prices. The ratios are standardized so that their minimum is zero and maximum is 1. Robust Standard Errors clustered at the county level are shown in parenthesis, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

C.4 Taking Into Account Sugar, Tobacco and Corn

In this subsection we replicate the results found in section 5 of the main manuscript including the other three main crops that have been reported to use slaves: tobacco, sugar and corn.

To adapt our regression to the inclusion of sugar and tobacco, we first calculate for each county the highest level of productivity between the cotton, sugar, and tobacco. Define absolute slave productivity as: $A_{slave} = max(A_i^{cotton}, A_i^{sugar}, A_i^{tobacco}, A_i^{corn})$. As in section 5 of the main manuscript, we focus on the relationship between land characteristics and crop production decisions. We then define the relative productivity of county i between slave crops and wheat as $RP_i = \frac{A_{slave}}{A_i^{wheat}}$. We say that county i has a comparative advantage in the production of slave crops with respect to county j if $RP_i > RP_j$. Using this new definition of relative productivity, we recompute the measure of land-rank of all counties at different census years. The effects of this new measure of land-rank on the use of slave labor are reported in Table C.8. In order to make the estimates directly comparable to Table 1 of the main manuscript, we standardize land-rank so that the county with median RP in 1810 gained 1 land-rank between 1810 and 1860. All the results are qualitatively unchanged. Losing comparative advantage in the production of slave crops implied a reduction in the use of slave labor.

C.5 Exploiting Differences in Timing

In this section, we exploit the fact that counties highly suitable for cotton and tobacco are located in different geographical areas of the South. While land highly suitable for cotton is found in large quantities towards the West, land highly suitable for tobacco is located in a more central position. Therefore, land favorable to the cultivation of tobacco was inhabited before than land favorable to the cultivation of cotton. This feature of the distribution of crop-specific land productivity is depicted in Figure C.5.

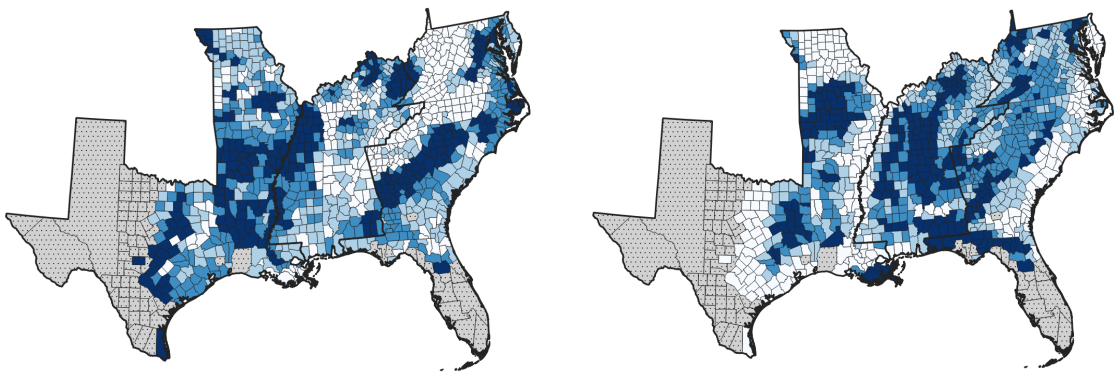
Table C.8: Slave Relocation - Taking Into Account Sugar and Tobacco

	% Slaves					Ln Cotton	Ln Wheat
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Land-Rank	-0.103***	-0.112***	-0.0907***	-0.0818***	-0.103***	-1.264***	0.458***
	(0.0136)	(0.0148)	(0.0143)	(0.0163)	(0.0159)	(0.381)	(0.139)
Observations	4471	4471	4471	2688	2328	2790	2785
Mean DV	0.293	0.293	0.293	0.312	0.315	8.531	9.407
Adj. Within R^2	0.0613	0.0630	0.187	0.184	0.273	0.0291	0.0183
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year FE	No	No	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes
Sample	Full	Full	Full	Balanced	Balanced	1840-1860	1840-1860
% Slave 1800 × Year FE	No	No	No	No	Yes	No	No

Note: This table shows the effect of changes in the land-rank on slaves' relocation between 1810 and 1860. The variable of interest is $LandRank_{it} = \sum_{j=1}^{N_t} w_j I_{(RP_j \geq RP_i)}$ calculated in million Km^2 of land and $RP_i = \frac{max(A_i^{cotton}, A_i^{sugar}, A_i^{tobacco}, A_i^{corn})}{A_i^{wheat}}$. The measure is then standardized so that the county with the median RP in 1810 gained 1 land-rank between 1810 and 1860. The coefficients in columns (1) report the effect on the share of slaves with respect to the total population. Columns (2) reports the effect on the number of slaves per 1000 Km^2 and columns (3) for the absolute number of slaves. Each regression includes county and year fixed effect, trends in distance from the north (the Mason-Dixon line) and census regional trends. Standard errors clustered at the county level are shown in parenthesis, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure C.5: Geographical variation

(a) Cotton (b) Tobacco



Note: This figure shows the distribution of the suitability for cotton (panel (a)) and tobacco (panel (b)). The darkest counties are the highest quartile, lightest the lowest. Given the high correlation between these two suitability the figures display the residual of a regression where the other suitability is controlled for.

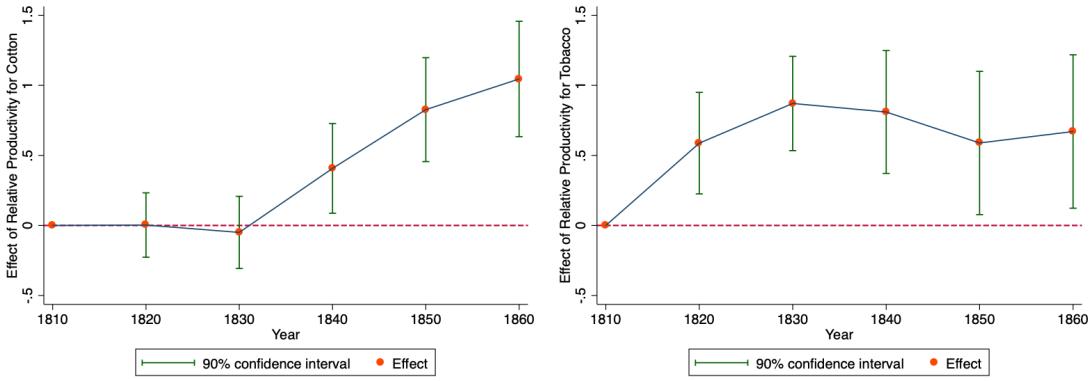
Given this variation, the argument expressed throughout the paper requires that tobacco productivity predicts better the use of slave labor in the first decades; then, when the inclusion of land highly suitable for cotton enters the market, cotton productivity should take over. We estimate the timing of the effect of tobacco and cotton using the following equation.

$$y_{i,t} = \alpha_i + \alpha_t + \sum_c \beta_c \mathrm{RP}_i^c * 1(Year = t) + \epsilon_{i,t} \tag{4}$$

The omitted time dummy is the one identifying the year 1810. c is a subscript for tobacco and cotton. RP^c represents the relative productivity (standardized to have mean 0 and standard deviation 1) of crop c, divided by wheat suitability.

Figure C.6: Effects of Relative Productivity by Crop

(a) Cotton (b) Tobacco



Note: This figure shows the estimated β_{cotton} and $\beta_{tobacco}$ from equation. Standard errors are clustered at the county level. 4.

In Figure C.6 panel (a) and (b) represents respectively β_{cotton} and $\beta_{tobacco}$ from regression 4. The results are in line with the proposed argument. Because the Westward expansion affected first market for tobacco, we see that the patterns of slave relocation follow first land highly productive in tobacco cultivation and only later land highly productive in cotton.

C.6 Within State Variation

In this section we replicate the results found in Table 1 of the main manuscript exploiting on variation in land-rank between year and within a state.

Table C.9: Slave Relocation - Within State Variation

	(1)	(2)	(3)
	% Slaves	Slaves per 1000 km^2	N. Slaves
Land-Rank	-0.0700***	-1261.0***	-1874.9***
	(0.0144)	(260.8)	(385.2)
Observations	4471	4471	4471
Mean DV	0.293	2415.1	3138.3
County FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
State × Year	Yes	Yes	Yes
ln(Distance North) × Year	Yes	Yes	Yes

Note: This table shows the effect of changes in the land-rank on slaves' relocation between 1810 and 1860. The variable of interest is Land-Rank$_{it} = \sum_{j=1}^{N_t} w_j I_{(RP_j \geq RP_i)}$ with $RP_i = \frac{A_i^{cotton}}{A_i^{wheat}}$. The measure Land-Rank$_{i,t}$ is standardized so that the county with the a median RP in 1810 gained 1 Land-Rank$_{i,t}$ between 1810 and 1860. The coefficient in column (1) reports the effect on the share of slaves with respect to the total population. Column (2) reports the effect on the number of slaves per 1000 Km^2 and column (3) for the absolute number of slaves. Each regression includes county and year fixed effect, and trends in distance from the North and State trends. Errors clustered at the county level are shown in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

C.7 Controlling for other Mechanisms

Table C.10: Other Agricultural Characteristics

	Ln Value of Farms	Ln Value of Equipment	% Slaves		
	(1)	(2)	(3)	(4)	(5)
Land-Rank	0.968***	1.089***	-0.0998***	-0.101***	-0.107***
	(0.294)	(0.291)	(0.0292)	(0.0298)	(0.0286)
Ln Value of Farms			0.0413***		0.0318***
			(0.00516)		(0.00515)
Ln Value of Farm Equipment				0.0375***	0.0151***
				(0.00572)	(0.00554)
Observations	1934	1934	1934	1934	1934
Mean DV	13.88	10.87	0.294	0.294	0.294
County FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Region × Year	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year	Yes	Yes	Yes	Yes	Yes
Sample	1850-1860	1850-1860	1850-1860	1850-1860	1850-1860
St. Error Cluster Level	County	County	County	County	County

Note: This table shows the effect of changes in the land-rank on slaves' relocation between 1810 and 1860. The variable of interest is Land-Rank$_{it} = \sum_{j=1}^{N_t} w_j I_{(RP_j \geq RP_i)}$ with $RP_i = \frac{A_i^{cotton}}{A_i^{wheat}}$. The measure Land-Rank$_{i,t}$ is standardized so that the county with the a median RP in 1810 gained 1 Land-Rank$_{i,t}$ between 1810 and 1860. Each regression includes county and year fixed effect, and trends in distance from the North and census regional trends. Errors clustered at the county level are shown in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Errors clustered at the county level are shown in parenthesis, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

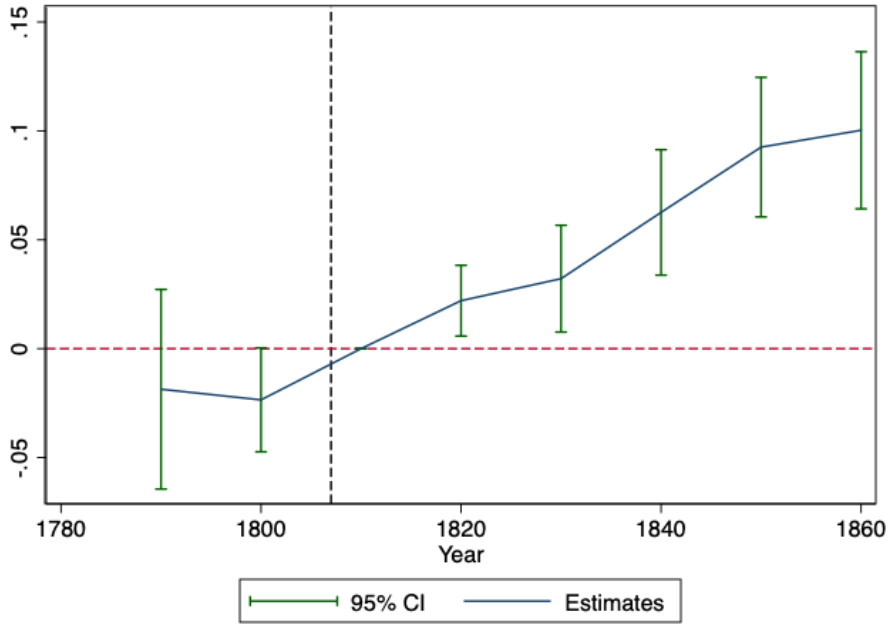
Table C.11: Other Agricultural Characteristics

	% Slaves	Slaves per 1000 km^2	N. Slaves
	(1)	(2)	(3)
Land-Rank	-0.110***	-1924.4***	-2679.7***
	(0.0141)	(233.1)	(352.8)
Ln Distance to Navigable Rive	-0.00179	-142.4***	-149.9***
	(0.00191)	(33.77)	(53.33)
Observations	4534	4534	4534
Mean DV	0.290	2383.9	3096.9
Adj. Within R^2			
County FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Region * Year	Yes	Yes	Yes
ln(Distance North) * Year	Yes	Yes	Yes
Sample	Full	Full	Full
St. Error Cluster Level	County	County	County

Note: This table shows the effect of changes in the land-rank on slaves' relocation between 1810 and 1860. The variable of interest is Land-Rank$_{it} = \sum_{j=1}^{N_t} w_j I_{(RP_j \geq RP_i)}$ with $RP_i = \frac{A_i^{cotton}}{A_i^{wheat}}$. The measure Land-Rank$_{i,t}$ is standardized so that the county with the a median RP in 1810 gained 1 Land-Rank$_{i,t}$ between 1810 and 1860. Each regression includes county and year fixed effect, and trends in distance from the North and census regional trends. Errors clustered at the county level are shown in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. *Ln distance* is computed as the distance between each county's centroid and the closest navigable river. Errors clustered at the county level are shown in parenthesis, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

C.8 Pre and Linear Trend

Figure C.7: Event Study



Note: The figure shows the effect of relative productivity on the share of slaves per year. Excluded year is 1810. The estimated model includes interaction between year FE and region FE, interaction between distance from the northern border and year FE. Dashed line represents the year of the abolition of the Atlantic Slave Trade (1808).

Table C.12: Pre Trend (1800) Share of Slaves

	(1)	(2)	(3)
	% Slaves	Slaves per 1000 km^2	N. Slaves
Land-Rank	-0.103***	-1511.1***	-2302.3***
	(0.0159)	(276.6)	(476.1)
Observations	2328	2328	2328
Mean DV	0.315	3167.3	3773.0
County FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Region × Year	Yes	Yes	Yes
ln(Distance North) × Year	Yes	Yes	Yes
% Slaves 1800 × Year	Yes	Yes	Yes

Note: This table reproduces the baseline table including trend in the share of slaves in 1800. The variable of interest is Land-Rank$_{it} = \sum_{j=1}^{N_t} w_j I_{(RP_j \geq RP_i)}$ with $RP_i = \frac{A_i^{cotton}}{A_i^{wheat}}$. The measure Land-Rank$_{i,t}$ is standardized so that the county with the a median RP in 1810 gained 1 Land-Rank$_{i,t}$ between 1810 and 1860. The coefficient in column (1) reports the effect on the share of slaves with respect to the total population. Column (2) reports the effect on the number of slaves per 1000 Km^2 and column (3) for the absolute number of slaves. Each regression includes county and year fixed effect, and trends in the distance from the North, census regional trends and trends in the share of slaves in 1800. Robust Standard errors, clustered at the county level are in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table C.13: De-trended Outcome, Log Transformation, and County Specific Linear Trend

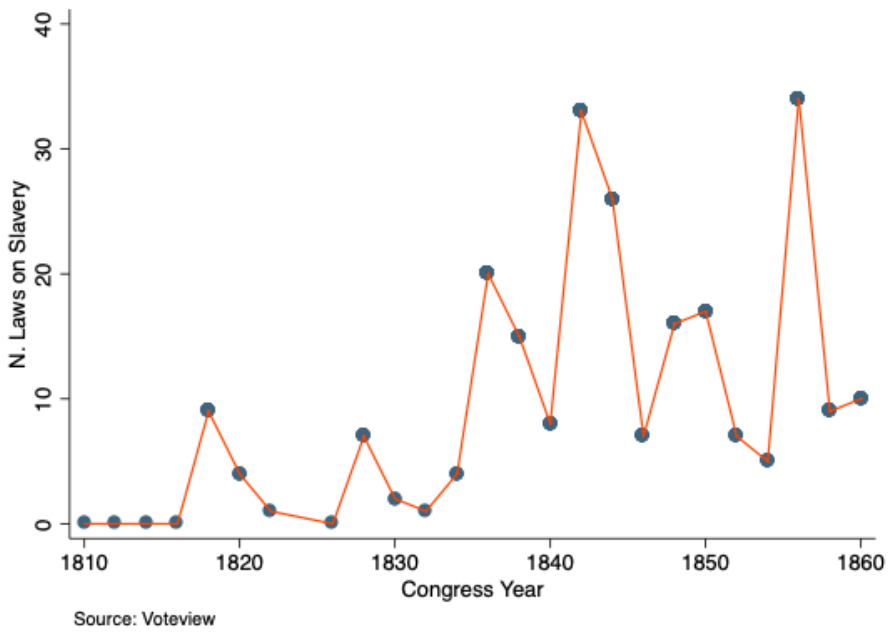
	% Slaves			
	(1)	(2)	(3)	(4)
Ln. Land-Rank	-0.182***	-0.131***	-0.166***	-0.0833*
	(0.0236)	(0.0465)	(0.0347)	(0.0467)
Observations	4534	4534	1718	1718
County FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Region × Year	Yes	Yes	Yes	No
ln(Distance North) × Year	Yes	Yes	Yes	No
Detrended Dep. Var (1790-1800)	No	No	Yes	Yes
County Specific L.T.	No	Yes	No	Yes
Years	1810-1860	1810-1860	1810-1860	1810-1860
Sample	Full	Full	Inhabited since 1790	Inhabited since 1790

Note: This table shows the results when we use a log transformation of Land-Rank. The outcome variable is the share of slaves in all regressions. Column (1) reports the baseline regression, with county FE, year FE, Region times year FE and distance from North and year FE, when the independent variable is the log of Land-Rank. Columns (2) includes county-specific linear trends. Column (4) has as outcome variable a the value of the share of slaves de-trended with respect to the change between 1790 and 1800. Column (4) includes both linear trends and de-trended outcomes. Robust Standard errors, clustered at the county level are in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

D Politics: Robustness and Additional Results

D.1 Slavery in Congress

Figure D.8: Slavery Debate



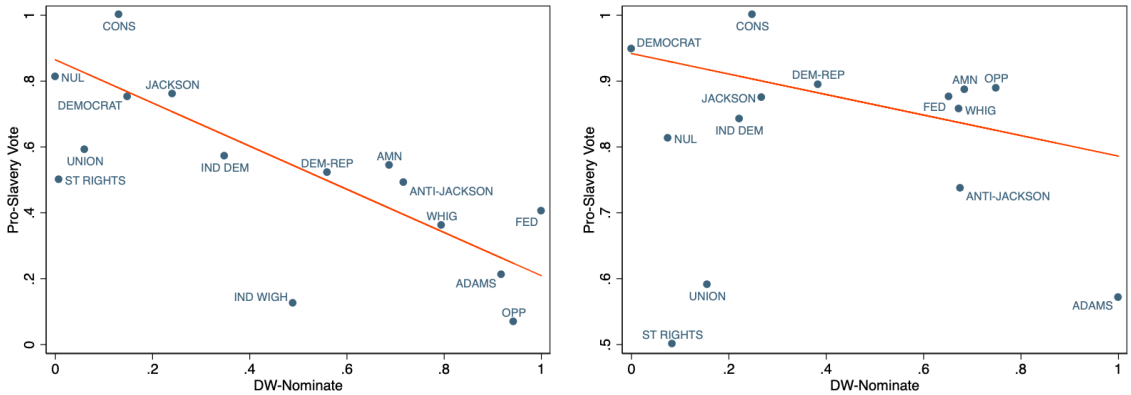
Note: This figure shows the evolution of the debate on slavery in Congress. The y-axis reports the number of laws concerning slavery per Congress.

Table D.14: Main Robustness

	Pro-Slavery Vote	DW-Nominate				
	(1)	(2)	(3)	(4)	(5)	(6)
RP		0.0405	0.00698	-0.0543		
		(0.0415)	(0.0402)	(0.0387)		
Land Rank	-0.192**				-0.910	0.110***
	(0.0968)				(0.726)	(0.0365)
Observations	14910	149	149	149	148	1421
Mean DV	0.719	0.559	0.559	0.559	0.558	0.421
Adj. Within R^2	0.00382	.	.	.	0.0144	0.0137
Adj. R^2	0.248	0.128	0.0936	0.00647	0.715	0.782
Region FE	No	Yes	No	No	No	No
ln(Distance North)	No	Yes	Yes	No	No	No
Geographic Unit FE	Yes	No	No	No	Yes	Yes
Time FE	Yes	No	No	No	Yes	Yes
Region × Time FE	Yes	No	No	No	Yes	Yes
RP × Time FE	Yes	No	No	No	No	No
ln(Distance North) × Time FE	Yes	No	No	No	Yes	Yes
Party × Time FE	-	-	-	-	Yes	Yes
Sample	1810–1860	1810-1818	1810-1818	1810-1818	1810-1818	1818-1860
SE Cluster	Vote	-	-	-	Cong. District	Cong. District

Note: Column (1) shows that the effect of Land-Rank$_{it}$ on Pro-slavery vote is robust to the inclusion of the interaction between RP and Year FE. Columns (2)–(5) show that before 1818, the Congressmen elected in Congressional District that differed in RP were not different in terms of DW-Nominate. Both in levels and difference. Column (6) reports the estimate of the effect of Land-Rank$_{it}$ on DW-Nominate after 1818.

Figure D.9: Slavery and DW-Nominate by Party



(a) Whole Congress

(b) Southern Congressmen

Note: Fitted line of the average vote by party in favor of slavery against the average party DW-Nominate score. Average DW-Nominate by party is normalized between 0 and 1. Panel (a) is for the whole Congress; panel (b) only Southern members. Regressions are weighted for the number of party members.

Table D.15: Secession Conventions

	% Votes for Secession			
	(1)	(2)	(3)	(4)
RP_i	0.0636***	0.0502***	0.0704***	0.0739***
	(0.0123)	(0.0136)	(0.0174)	(0.0179)
Observations	642	635	500	494
Mean DV	0.676	0.675	0.695	0.695
State FE	Yes	Yes	Yes	Yes
ln(Distance North)	Yes	Yes	Yes	Yes
Agricultural Controls	No	Yes	Yes	Yes
Manufacturing Controls	No	No	Yes	Yes
Religion Controls	No	No	No	Yes

Note: The table shows that counties with a higher standard deviation in relative productivity, RP_i, voted on average about 10.5 pp more in favor of secession. The sample mean is 67%. All specifications include state fixed effect and distance from the Northern border. The first specification does not include additional controls. Column (2) introduces information on the value of the farm, the value of the livestock, the value of the farm equipment, the share of improved acres. Column (3) also includes the value of home manufactured production, the value of total manufacture production, the value of the raw material used in manufacture production, the value of capital in the manufacturing sector, the number of manufacture establishment, the share of individuals, both males and females employed in manufacturing. Finally, column (4) includes the number of churches per capita and the share of Baptist and Methodist churches. Standard errors clustered at the county level are shown in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table D.16: Parties' Ideology

	Nominate Score		Party Activity		
	Mean	S.d.	First Year in Congress	Last Year in Congress	Tot. Seats
			Panel A		
Democrat	.3100214	.0037918	1838	1860	593
State Rights	.3379281	.0122688	1852	1852	3
Nullifier	.3405403	.0168177	1832	1838	21
Union	.3447051	.0206817	1852	1852	11
Ind. Democrat	.38544589	.04133	1852	1860	8
Crawford Republican	.3871434	.0130997	1824	1824	17
Conservative	.3921037	.0575023	1840	1840	2
Jackson Federalist	.4316181	.	1824	1824	1
Jackson	.4386941	.00651896	1826	1836	258
Jackson Republican	.4899344	.02255769	1824	1824	31
Democrat-Republican	.4906124	.00586592	1810	1822	307
			Panel B		
Whig	.5257777	.0055872	1838	1854	256
Adams-Clay Federalist	.5589049	.	1824	1824	1
American	.5650793	.01188684	1856	1860	47
Opposition	.5765628	.03890863	1856	1856	5
Anti-Jackson	.5930719	.0139106	1830	1836	73
Ind. Whig	.6140355	.	1852	1852	1
Crawford Federalist	.6444843	.032572	1824	1824	2
Adams	.6492928	.01673307	1826	1828	29
Federalist	.6622379	.01724847	1810	1822	41
Adams-Clay Republican	.6726916	.02127854	1824	1824	10

Note: The table reports the mean and s.d of the Nominate score for all the parties with at least one member elected in the Congress from 1810 to 1860, ordered from the lowest DW-Nominate score to the highest. We also report the first and last years in which the party was represented in Congress and the total number of seats it had during the entire period of activity. The table is divided into two groups representing the two opposing factions in Congress for a given period of time. *Data Source:* Lewis et al. (2019)

Table D.17: DW-Nominate - Senate

	Nominate		Nominate - NP		Position	
	(1)	(2)	(3)	(4)	(5)	(6)
Land-Rank	0.0443***	0.0213*	0.0307**	0.00556	6.260**	1.938
	(0.0155)	(0.0124)	(0.0148)	(0.0111)	(3.130)	(2.665)
Observations	754	751	754	751	754	751
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year	Yes	Yes	Yes	Yes	Yes	Yes
Party × Year	No	Yes	No	Yes	No	Yes

Note: The table shows the effect of Land-Rank$_{it}$ on three different measures of Ideology for the Senate. Nominate, measures the ideology of each legislator for every congress (every 2 years). Nominate - NP, measures the ideology of each legislator based on the whole roll-call career of a legislator. Position, for each congress measures the rank of each legislator in the distribution of ideologies. For all measures, higher scores imply a more conservative ideology. All measures are measured between 0 and 100. All regressions include county and year fixed effect, regional trends and trends varying with distance from the North.

Table D.18: Voting on Slavery - Type of Laws

	Pro-slavery Vote
Land-Rank	-0.134**
	(0.06)
Land-Rank × 1(Expansion)	-0.028
	(0.02)
Land-Rank × 1(Congress Autority)	0.016
	(0.03)
Land-Rank × 1(DC)	0.057*
	(0.03)
Land-Rank × 1(Fugitive)	0.023
	(0.03)
Observations	15844
Mean DV	0.713
County FE	Yes
Year FE	Yes
Year FE × ln(Distance North)	Yes
Year FE × Region FE	Yes

Note: The table shows the effect of Land-Rank$_{it}$. The dependent variable describes the pro slavery votes held in Congress between 1810 and 1860. Each observation is the individual vote of the Southern-elected member of Congress for each of the 220 laws voted on regarding slavery. The geographical unit is the Congressional District. The variable takes a value of 1 for votes in favor of slavery and 0 for votes against slavery. Abstentions are dropped. Standard errors are clustered at vote level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table D.19: Voting on Slavery - Including Abstentions

	Pro Slavery Vote	Pro Slavery Vote
Land-Rank	-0.123***	-0.119***
	(0.04)	(0.04)
Observations	15170	15148
Mean DV	0.812	0.813
Cong. District FE	Yes	Yes
Vote FE	Yes	Yes
Vote FE × ln(Distance North)	Yes	Yes
Vote FE × Region FE	Yes	Yes
Vote FE × Party FE	Yes	Yes

Note: The table shows the effect of Land-Rank$_{it}$ on the pro slavery votes held in Congress between 1810 and 1860. Each observation is the individual vote of the Southern-elected member of Congress for each of the 220 laws voted on regarding slavery. The geographical unit is the Congressional District. The variable takes a value of 1 for *yea*, 0 for *No* and 0.5 for *Abstentions*. All regressions include county and year fixed effect, regional trends and trends varying with distance from the North.

E Newspapers

E.1 Coding examples

To establish the partisan position of a newspaper we rely on information form Chronicling America.[53] Here are two examples of the type of information provided by the Database.

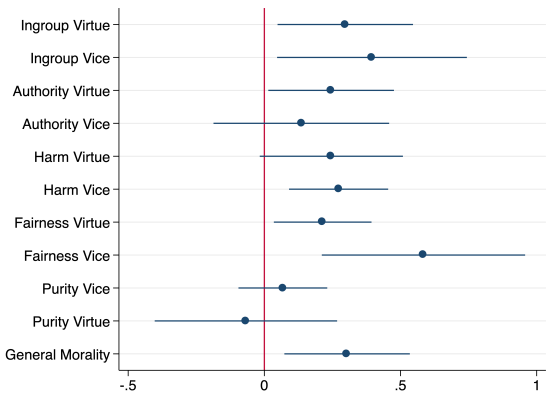
- "In November 1850, Thomas Palmer, editor/proprietor of the local Whig publication the Southron (1840-50) renamed it the Flag of the Union (1850-53)."

- "The Examiner (Louisville, Ky.) [...] Its first issue rolled off the presses on June 19, 1847. The four-page abolitionist weekly was formed by Cincinnati lawyer and editor John Champion Vaughan along with four other men: Fortunatus Cosby, Jr., Thomas Hopkins Shreve, Rev. John Healy Heywood, and Noble Butler."

- "The Carrollton Democrat (1852?-1860?) reflected Southern sentiments on the eve of the Civil War: '. . . it is the duty of Congress to protect the slaveholder in the enjoyment of his rights, in the common territories.' Unsurprisingly, the paper supported the southern Democratic Party candidate for President, Kentuckian John C. Breckinridge."

E.1.1 Words Use: Democrats vs Whig

Figure E.10: MFT - Differences between Democratic and Whig

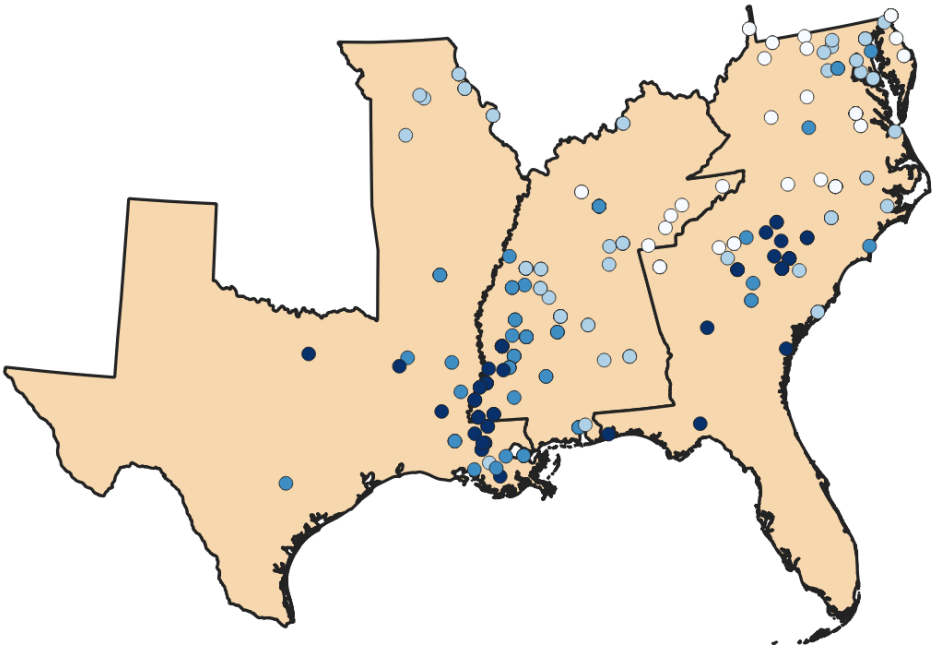


Note: The reported coefficients capture the average difference in the log number of words per article that belong to each group across Whig and Democrat publications. No controls are included. 95% confidence intervals are reported.

[53] https://chroniclingamerica.loc.gov/. From the Library of Congress, Chronicling America: Historic American Newspapers site.

E.2 Figures

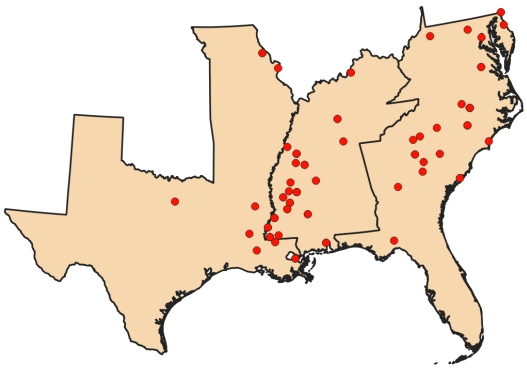
Figure E.11: Newspapers - Relative Productivity



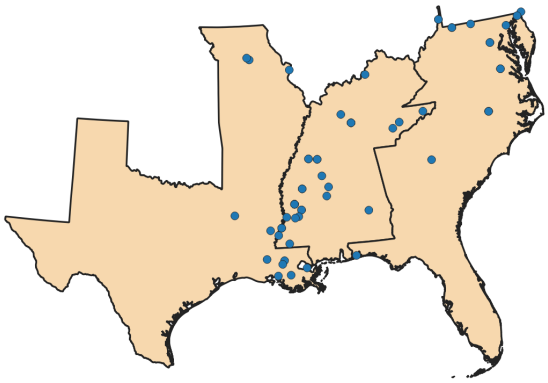
Note: This figure shows the location of all the 282 newspapers we use in our analysis and the 20Km circulation area. More than one newspaper can operating in the same location. The color indicates the average relative productivity of cotton with respect to wheat in the 20Km circulation area. Colors are divided in quartiles and a darker color represent a higher relative productivity.

Figure E.12: Newspapers

(a) Pro-slavery Newspapers



(b) Not Pro-slavery Newspapers



Note: Panel (b) shows the circulation area of all pro-slavery newspapers. Panel (c) shows the circulation area of all other partisan newspapers.

E.3 Robustness

E.3.1 Circulation of 50Km

Table E.20: Newspapers - 50Km

	Slave Slavery (1)	Abolition Emancipation (2)	Fugitive Runaway (3)	Tax (4)	Bible (5)	Dollar (6)	Work (7)	Price (8)
Land Rank	0.735	0.362	0.870	1.662	0.675	0.056	-0.397	-0.911
β_1	(1.597)	(1.161)	(0.716)	(1.086)	(0.936)	(1.520)	(1.325)	(1.326)
Land Rank × Democrat	-1.305	-2.026	-1.917**	-2.229*	-0.500	-0.676	0.442	0.572
β_2	(1.621)	(1.258)	(0.790)	(1.233)	(1.074)	(1.656)	(1.415)	(1.523)
Land Rank × Whig	1.949	2.469*	1.117	-1.666	-0.926	-0.043	-0.139	0.286
β_3	(1.732)	(1.285)	(0.863)	(1.808)	(1.421)	(1.644)	(1.469)	(1.452)
Effect on Democrat	-0.569*	-1.664***	-1.047***	-0.567	0.174	-0.619	0.046	-0.339
$\beta_1 + \beta_2$	(0.302)	(0.447)	(0.332)	(0.586)	(0.458)	(0.668)	(0.458)	(0.732)
Effect on Whig	2.684***	2.831***	1.987***	-0.004	-0.252	0.013	-0.536	-0.624
$\beta_1 + \beta_3$	(0.559)	(0.505)	(0.486)	(1.516)	(1.036)	(0.653)	(0.545)	(0.508)
Observations	1505	1505	1505	1505	1505	1505	1505	1505
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Newspaper FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Affiliation × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	County	County	County	County	County	County	County	County

Note: This table shows the marginal effect of land-rank in a 50Km radius on the supply of slavery related content. For each column the first estimated parameter shows the effects for pro-slavery newspapers. The second estimated parameters shows the effect on the other partisan newspapers. All estimates are based on the estimation of equation (2). The dependent variable is natural logarithm of the average number of times an issue mentions slave-related words. All regression control for Newspaper fixed effects, $\mathbb{1}\{\text{Pro-Slavery}\}\times$Year FE, $\mathbb{1}\{\text{Other Affiliation}\}\times$ Year FE, Distance to the North × Year FE and Census Region× Year FE. Standard errors are clustered at the newspaper level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

E.3.2 Alternative Specification

Table E.21: Newspapers - Probability

	Slave Slavery (1)	Abolition Emancipation (2)	Fugitive Runaway (3)	Tax (4)	Bible (5)	Dollar (6)	Work (7)	Price (8)
Land Rank	4.481	0.641	-1.143	13.467***	1.856	4.678	0.240	-13.073
β_1	(8.431)	(2.208)	(2.509)	(3.042)	(1.163)	(5.590)	(9.222)	(9.349)
Land Rank × Democrat	-8.434	-7.149**	-1.022	-18.036***	-1.619	-11.900	-5.260	-9.892
β_2	(13.222)	(3.511)	(2.638)	(5.588)	(1.527)	(9.144)	(11.699)	(11.365)
Land Rank × Whig	21.101**	5.438*	4.018*	-10.410	-2.157	-4.421	2.926	15.427
β_3	(10.400)	(2.975)	(2.403)	(8.162)	(1.708)	(8.278)	(10.536)	(11.560)
Effect on Democrat	-3.952	-6.508**	-2.165	-4.569	0.237	-7.222	-5.020	-22.964***
$\beta_1 + \beta_2$	(10.427)	(2.761)	(1.576)	(4.604)	(0.971)	(7.163)	(6.925)	(7.761)
Effect on Whig	25.582***	6.079***	2.875***	3.057	-0.301	0.257	3.166	2.354
$\beta_1 + \beta_3$	(7.252)	(2.038)	(1.031)	(7.721)	(1.212)	(6.227)	(4.557)	(7.822)
Observations	1505	1505	1505	1505	1505	1505	1505	1505
Mean DV	7.664	1.984	0.872	4.606	0.822	10.493	16.117	16.231
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Newspaper FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Affiliation × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	County	County	County	County	County	County	County	County

Note: This table shows the marginal effect of land-rank in a 20Km radius on the supply of slavery-related content. For each column the first estimated parameter shows the effects for pro-slavery newspapers. The second estimated parameters shows the effect on the other partisan newspapers. The dependent variable is the probability that a specific word appears (per 1000 words). All regression control for Newspaper fixed effects, $\mathbb{1}$\{Pro-Slavery\}×Year FE, $\mathbb{1}$\{Other Affiliation\}× Year FE, Distance to the North× Year FE and Census Region× Year FE. Standard errors are clustered at the newspaper level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

E.4 Newspaper Content

Table E.22: Newspapers Words Counts

United State	New York	Van Buren	Southern State
(8,735)	(6,063)	(2,618)	(2,222)
Democratic Party	Free State	Anti Slavery	Slave State
(2,145)	(2,113)	(2,101)	(2,028)
South Carolina	Fugitive Slave	Slave Trade	North Carolina
(1,969)	(1,836)	(1,713)	(1,629)
Abolition Slavery	Whig Party	District Columbia	Slave Law
(1,465)	(1,392)	(1,387)	(1,239)
State Union	North South	Know Nothing	Wilmot Proviso
(1,205)	(1,195)	(1,158)	(1,128)

Note: The table lists the 20 most frequent bigrams among the articles mentioning 'abolition' and 'slavery' (both stemmed) at least once. The most frequent bigram is "United States". Frequency in parenthesis. *Sources:* Gale and Chronicling America.

E.5 Dictionary Based Analysis

Table E.23: Moral Foundational Dictionary Part 1

	Harm Virtue	Harm Vice	Fairness Virtue	Fairness Vice	Ingroup Virtue	Ingroup Vice
1	Safe	Harm	Fair	Unfair	Together	Foreign
2	Peace	Suffer	Equal	Unequal	Nation	Enem
3	Compassion	War	Just	Bias	Homeland	Betray
4	Empath	Warring	Reciproc	Unjust	Family	Treason
5	Sympath	Fight	Impartial	Injust	Families	Traitor
6	Care	Violen	Egalit	Bigot	Familial	Treacher
7	Caring	Hurt	Right	Discriminat	Group	Disloyal
8	Protect	Kill	Equit	Disproportion	Loyal	Individual
9	Shield	Dang	Even	Inequitable	Patriot	Apostasy
10	Shelter	Cruel	Equivalent	Prejud	Communal	Apostate
11	Amity	Brutal	Unbias	Dishonest	Commune	Deserted
12	Secur	Abuse	Tolerant	Unscrupulous	Communit	Deserter
13	Benefit	Damag	Equable	Dissociate	Communis	Deserting
14	Defen	Wound	Balance	Preference	Comrad	Deceiv
15	Guard	Ravage	Homologous	Favoritism	Cadre	Jilt
16	Preserve	Detriment	Unprejudice	Segregat	Collectiv	Imposter
17		Crush	Reasonable	Exclu	Joint	Miscreant
18		Attack	Constant		Unison	Spy
19		Annihilat	Honest		Unite	Sequester
20		Destr			Fellow	Renegade
21		Stomp			Guild	Terroris
22		Abandon			Solidarity	Immigra
23		Spurn			Devot	
24		Impair			Member	
25		Exploit			Cliqu	
26		Ruin			Cohort	
27					Ally	
28					Insider	

Table E.24: Moral Foundational Dictionary Part 2

	Authority Virtue	Authority Vice	Purity Virtue	Purity Vice	Morality General
1	Obey	Defian	Piety	Disgust	Righteous
2	Obedien	Rebel	Pious	Deprav	Moral
3	Duty	Dissent	Purity	Disease	Ethic
4	Law	Subver	Pure	Unclean	Value
5	Lawful	Disrespect	Clean	Contagio	Upstanding
6	Legal	Disobe	Steril	Indecen	Good
7	Duti	Sediti	Sacred	Sin	Goodness
8	Honor	Agitat	Chast	Slut	Principle
9	Respect	Insubordinat	Holy	Whore	Blameless
10	Order	Illegal	Holiness	Dirt	Exemplary
11	Father	Lawless	Saint	Impiety	Lesson
12	Mother	Insurgent	Wholesome	Impious	Canon
13	Tradition	Mutinous	Celiba	Profan	Doctrine
14	Hierarch	Defy	Abstention	Gross	Noble
15	Authorit	Dissident	Virgin	Repuls	Worth
16	Permit	Unfaithful	Virgins	Sick	Ideal
17	Permission	Alienate	Virginity	Promiscu	Praiseworthy
18	Status	Defector	Virginal	Lewd	Commendable
19	Rank	Heretic	Austerity	Adulter	Character
20	Leader	Nonconformist	Integrity	Debauche	Proper
21	Class	Oppose	Modesty	Defile	Laudable
22	Bourgeoisie	Protest	Abstinen	Tramp	Correct
23	Caste	Refuse	Abstemiousness	Prostitut	Wrong
24	Position	Denounce	Upright	Unchaste	Evil
25	Complian	Remonstrate	Limpid	Intemperate	Immoral
26	Command	Riot	Unadulterated	Wanton	Bad
27	Supremacy	Obstruct	Maiden	Profligate	Offend
28	Control		Virtuous	Filth	Offensive
29	Submi		Refined	Trashy	Transgress
30	Allegian		Decen	Obscen	
31	Serve		Immaculate	Lax	
32	Abide		Innocent	Taint	
33	Defer		Pristine	Stain	
34	Revere		Church	Tarnish	
35	Venerat			Debase	
36	Comply			Desecrat	
37				Wicked	
38				Blemish	
39				Exploitat	
40				Pervert	
41				Wretched	

Table E.25: Dictionary Based Analysis: Summary

	mean	sd	min	max
Harm Virtue	3.067	2.182	0.00	16.80
Harm Vice	6.596	3.880	0.00	30.50
Fairness Virtue	7.371	4.214	0.00	26.00
Fairness Vice	0.433	0.371	0.00	4.00
Ingroup Virtue	2.380	1.558	0.00	14.00
Ingroup Vice	0.799	0.744	0.00	7.83
Authority Virtue	9.452	5.717	0.00	43.00
Authority Vice	0.804	0.673	0.00	5.60
Purity Virtue	1.260	1.313	0.00	17.80
Purity Vice	3.120	2.036	0.00	15.89
General Morality	5.918	4.180	0.00	32.75
Observations	784			

E.6 A model of Newspaper' Ideology

This section describes how we adapt Gentzkow and Shapiro (2010) framework to model the effects of changes in local ideology to the supply of slave related issues by newspapers.

Each location l contains a continuum of households indexed by i. A set of newspapers N_l is available in each location and each household i must choose a subset of newspapers to buy $N_{il} \subseteq N_l$.

In our model newspapers have a fixed ideological position on slavery α_{nl}. In order to be in line with the empirical analysis there are two types of partisan newspapers. Those affiliated with a pro-slavery party (for example a Democratic party) with a pro-slavery position. We normalize α_{nl} for this newspapers to be equal to 1. On the other side of the ideological spectrum are partisan newspapers that are not pro-slavery (for example affiliated to the Whig party). We normalize α_{nl} for this newspapers to be equal to -1. While partisan newspapers cannot move their ideological position they can decide how much to write about the topic of slavery (N_{nl}^{Slave}). The interaction between their ideological position and amount of slavery related content is what we call the supply of pro-slavery content ($y_n \equiv N_{nl}^{Slave}\alpha_{nl}$). This value can be negative meaning that this newspaper supplies a lot of anti-slavery content.

On the consumer side, the utility that household i that lives in location l derives from reading newspaper n is u_{iln}. Therefore the overall utility for household i is the $\sum_{n \in N_{il}} u_{iln}$. u_{iln} depends on three factors: 1) an exogenous utility from reading newspaper n for all readers in location l ($\bar{u}_{ln}$) 2) a household-specific taste shock which follows a logistic distribution (ϵ_{iln}) 3) a distaste for reading a newspaper that deviates from the preferred supply of pro-slavery content. This is common to all readers in location l

The preferred supply of pro-slavery related content of each location ($ideal_l$) depends on location l ideological position on slavery (r_l). Higher values of r_l correspond to a more pro-slavery position. Locations with a high value of r_l would like to read a lot of pro-slavery related content (high and positive $ideal_l$). On the other side of the ideological spectrum are locations with a low r_l that would like to read a lot of anti-slavery content (high and negative $ideal_l$). Locations with a moderate ideological position for slavery do not particularly care for slave related content ($ideal_l$ close to zero). Formally:

$$u_{iln} = \bar{u}_{ln} - \gamma(y_n - \text{ideal}_l)^2 + \epsilon_{iln}$$

Gentzkow and Shapiro (2010) shows that in equilibrium $\partial y_n / \partial r_l > 0$. In our model this translate to the following equilibrium behavior:

$$\begin{cases} \frac{\partial N_n^{Slave}}{\partial r_l} > 0 & \text{if} \quad \alpha_n = 1 \\ \\ \frac{\partial N_n^{Slave}}{\partial r_l} < 0 & \text{if} \quad \alpha_n = -1 \end{cases}$$

We should therefore expect that if places that lost comparative advantage in the use of slave labor experienced also an ideological shift towards a more anti-slavery position (lower r_l) this places should also experience a change in the supply of slave related content by local newspapers. In particular,

pro-slavery newspapers should decrease the supply of slave related content while the other affiliated newspapers should increase the supply of this type of content. That is the observation we test in the main manuscript.

F Potential Mechanisms

F.1 Changes in the Slave Owning Population

Table F.26: Slave Households and Slave Ownership

	% of Slave HH	N Slave HH	Slaves per Slave Household				N. Planters
			Mean HH	Median HH	Top Quartile	Bottom Quartile	
Land-Rank	-0.262***	-140.6***	-2.640***	-1.114***	-3.556***	-0.484**	-17.13***
	(0.0397)	(50.90)	(0.925)	(0.375)	(0.783)	(0.202)	(2.108)
Observations	2128	2128	1198	1921	1921	1921	2128
Mean	0.341	320.6	6.209	3.660	8.069	1.491	5.732
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Dependent variables are the share of households owning at least one slave in a given census year between 1810 and 1840; the absolute number of households owning at least one slave and the absolute number of slaves, the number of slaves for different moment of the slave-household distribution, and the number of slaveholding planters (household with at least 50 slaves). The independent variable is Land-Rank$_{it}$ as described in the baseline. All regressions include county and year fixed effect, trends that vary with distance from the North (Mason-Dixon line), and Region trends. Robust Standard Errors clustered at the county level in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table F.27: Slave Households and Slave Ownership

	1 - 5 Slaves		5 - 10 Slaves		10 - 15 Slaves		15 - 20 Slaves	
	% Slave HH	% Total HH	% Slave HH	% Total HH	% Slave HH	% Total HH	% Slave HH	% Total
d-Rank	0.0388**	-0.0583***	0.0433***	-0.0599***	-0.00865	-0.0415***	-0.0131**	-0.0297
	(0.0176)	(0.0188)	(0.0111)	(0.00998)	(0.00774)	(0.00570)	(0.00509)	(0.003
ervations	2100	2195	2100	2195	2100	2195	2100	2195
n	0.624	0.192	0.254	0.0883	0.104	0.0402	0.0496	0.020
nty FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
on × Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
istance North) × Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Dependent variables are the number of households owning between 1 and 5 as a share of both the number of slave owning households and the total number of households. Colum (3)-(4) reports the same for households owning between 5 and 10 slaves. The independent variable is Land-Rank$_{it}$ as described in the baseline. All regressions include county and year fixed effect, trends that vary with distance from the North (Mason-Dixon line), and Region trends. Robust Standard Errors clustered at the county level in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table F.28: Slave Households and Slave Ownership

	10 - 15 Slaves		15 - 20 Slaves	
	% Slave HH	% Total HH	% Slave HH	% Total HH
Land-Rank	-0.00865	-0.0415***	-0.0131**	-0.0297***
	(0.00774)	(0.00570)	(0.00509)	(0.00331)
Observations	2100	2195	2100	2195
Mean	0.104	0.0402	0.0496	0.0204
County FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Region × Year	Yes	Yes	Yes	Yes
ln(Distance North) × Year	Yes	Yes	Yes	Yes

Note: Dependent variables are the number of households owning between 10 and 15 as a share of both the number of slave owning households and the total number of households. Colum (3)-(4) reports the same for households owning between 15 and 20 slaves. The independent variable is Land-Rank$_{it}$ as described in the baseline. All regressions include county and year fixed effect, trends that vary with distance from the North (Mason-Dixon line), and Region trends. Robust Standard Errors clustered at the county level in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table F.29: Slave Households and Slave Ownership

	20 - 30 Slaves		30 - 50 Slaves		+50 Slaves	
	% Slave HH	% Total HH	% Slave HH	% Total HH	% Slave HH	% Total HH
Land-Rank	-0.0149***	-0.0320***	-0.0258***	-0.0312***	-0.0203***	-0.0245***
	(0.00514)	(0.00316)	(0.00423)	(0.00264)	(0.00556)	(0.00279)
Observations	2100	2195	2100	2195	2100	2195
Mean	0.0394	0.0394	0.0238	0.0112	0.0155	0.00770
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year	Yes	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year	Yes	Yes	Yes	Yes	Yes	Yes

Note: Dependent variables are the number of households owning between 20 and 30 as a share of both the number of slave owning households and the total number of households. Colum (3)-(4) reports the same for households owning between 30 and 40 slaves. Colum (5)-(6) reports the same for households owning more than 50 slaves. The independent variable is Land-Rank$_{it}$ as described in the baseline. All regressions include county and year fixed effect, trends that vary with distance from the North (Mason-Dixon line), and Region trends. Robust Standard Errors clustered at the county level in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

F.2 Age and Gender

Table F.30: Age and Gender Distribution: Migration

	Share Male 20-29	Ratio Male - Female	Share Female 20-29	Ratio Male - Female 20-29
Land-Rank	0.0179***	0.0304***	-0.0000576	0.175***
	(0.00363)	(0.00851)	(0.00257)	(0.0269)
Observations	3474	4471	3474	3469
Mean DV	0.173	1.068	0.173	1.076
County FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
ln(Distance North) × Year	Yes	Yes	Yes	Yes

Note: The table shows the effect of Land-Rank$_{it}$ on the number of white males between 20 and 29 years old over the total white male population; ratio of white males on white females; number of white females between 20 and 29 years old over the total white females population; and number of white males between 20 and 29 over white females between 20 and 29. Estimates are for the years from 1810 to 1860. Each regression includes county and year fixed effect, and trends in the distance from the North, and census regional trends. Robust Standard errors, clustered at the county level are in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table F.31: Age and Gender Distribution: Migration

	Share Male 26-44 in SHH	Share Male 26-44 in NSHH	Av. Share Male 26-44 SHH	Av. Share Male 26-44 NSHH
Land-Rank	0.0213***	0.0176***	0.0445***	0.0455***
	(0.00505)	(0.00373)	(0.00913)	(0.00832)
Observations	2034	2034	1920	1923
Difference	.	0.004	.	-0.001
S.E	.	0.006	.	0.012
County FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Region × Year	Yes	Yes	Yes	Yes
ln(Distance North) × Year	Yes	Yes	Yes	Yes

Note: The table shows the effect of Land-Rank$_{it}$ on the number of white males between 26 and 44 years old over the number of free household inhabitants and the number of white males between 26 and 44 years old per households across slave and non-slave owning households. The table reports the differences and the standard errors of the difference between the estimates across slave and non-slave owning households. Each regression includes county and year fixed effect, and trends in the distance from the North, and census regional trends. Robust Standard errors, clustered at the county level are in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

F.3 Voting and Turnout

Table F.32: Electoral Turnout: Franchise Restricted Elections

	Turnout Gubernatorial	Turnout Presidential
Land-Rank	-0.210	-0.022
	(0.25)	(0.10)
Observations	230	565
Mean DV	0.643	0.472
County FE	Yes	Yes
Year FE	Yes	Yes
Year FE * ln(Distance North)	Yes	Yes
Year FE * Region FE	Yes	Yes

Note: The table shows the effect of Land-Rank$_{it}$ on the number of votes cast in the presidential and gubernatorial election divided by the number white male above 20 years of age including only elections with franchise restrictions within the white adult male population. By the 1820s, only Virginia and North Carolina imposed property qualifications to be eligible to vote (until respectively, 1850 and 1856). Until 1832 and 1845, Mississippi and Louisiana respectively required voters to be taxpayers (Engerman and Sokoloff, 2005). All regressions include county and year fixed effect, trends that vary with distance from the North (Mason-Dixon line), and Region trends. Robust Standard Errors clustered at the county level in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

F.4 Public Goods, Wages and Occupations

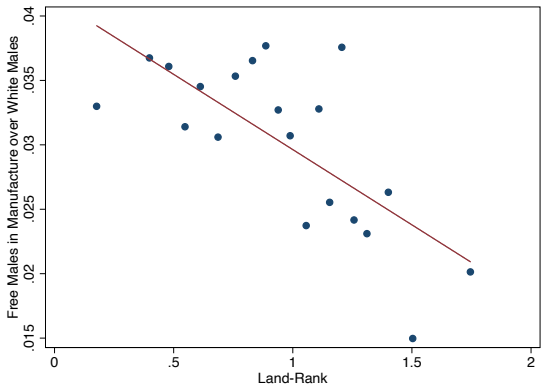
Table F.33: Schooling and Literacy

	Educational Income	Public School Income	Books in libraries	%White Illiterate
Land-Rank	-406.305***	-202.968***	-48.446*	0.022***
	(90.55)	(49.46)	(25.55)	(0.00)
Observations	974	886	969	973
Mean Dep. Var.	786.006	486.983	67.399	0.091
State FE	Yes	Yes	Yes	Yes
Ln Distance from North	Yes	Yes	Yes	Yes
Sample	1850	1850	1850	1850

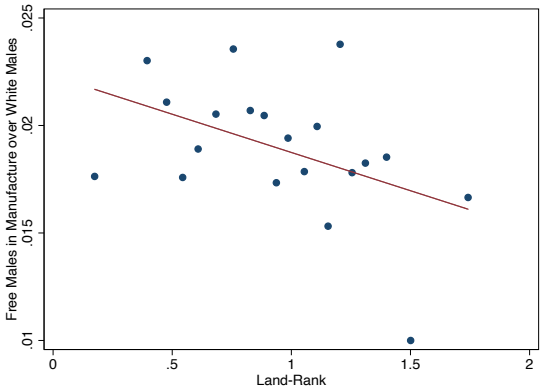
Note: The table shows the relationship between Land-Rank$_i$ and public goods provision in 1850. Dependent variables are the income per 1000 of inhabitant spent in education, income in public schools; the number of books in libraries and the illiteracy rate. Robust Standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure F.13: Land-Rank and Manufacture Occupation

(a) Share of White Manufacture Workers



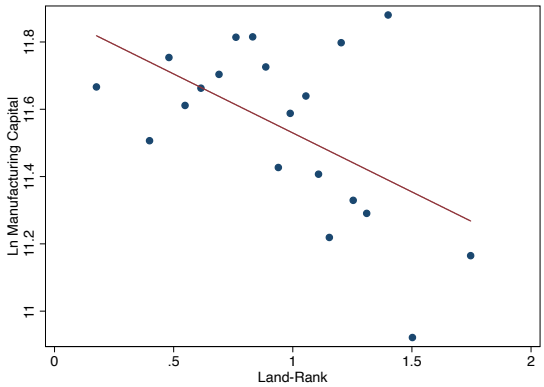
(b) Share of Manufacture Workers



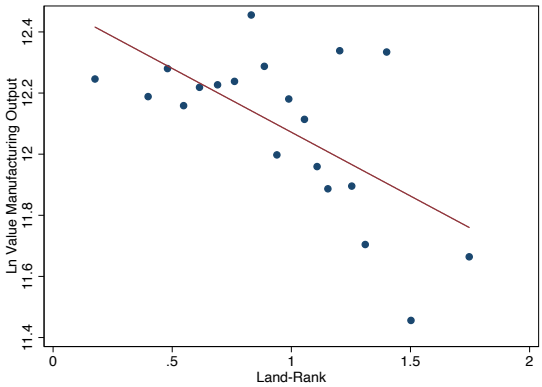
Note: Panel (a) and (b) show the binscatter between Land-Rank and share of male population working in manufacture in 1860. In panel (a) dependent variable is relative to total white males; in panel (b) to total males including slaves. Both figures plot residual variation after absorbing for State fixed effect. Data above 99 percentile are dropped.

Figure F.14: Land-Rank and Manufacturing Capital

(a) Manufacturing Capital



(b) Manufacturing Output



Note: Panel (a) and (b) show the binscatter between Land-Rank and value of manufacturing capital and output in 1860. Both figures plot residual variation after absorbing for State fixed effect.

Table F.34: Share of Employment: Manufacture and Agriculture

	Over Total Occupied		Over Occupied in Non Slave-Households		Over Free Population	Over Total Population	Over White Population
	Manufacture	Agriculture	Manufacture	Agriculture	Employment	Employment	Foreigners
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Land-Rank	0.0257	-0.0892*	-0.0583*	0.0470	0.171***	0.159***	-0.00959
	(0.0259)	(0.0455)	(0.0348)	(0.0592)	(0.0296)	(0.0252)	(0.00930)
Observations	950	950	950	950	1024	1024	1024
Mean DV	0.0759	0.883	0.857	0.0991	0.149	0.110	0.00567
Adj. Within R^2	-0.00149	0.00650	0.000921	-0.00303	0.0527	0.0710	-0.00258
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample	1820&1840	1820&1840	1820&1840	1820&1840	1820&1840	1820&1840	1820&1840
SE Cluster Level	County	County	County	County	County	County	County

Note: Data for occupation at the household level for 1820 and 1840. The census didn't distinguish by gender, nor slave and free persons for occupation purposes. Dependent variables in columns (1 - 2) are, respectively, the total number of individuals working in manufacture and agriculture divided by the total number of individuals who reported an occupation (including slaves). Dependent variable in columns (4 - 5) are given by the number of individuals belonging to a non slave holding household per occupation, divided by the total number of occupied individuals belonging to a non slave holding household. Column (6 - 7) report the number of individuals belonging to non slave holding household divided respectively by the total free population and the total population of the county. Column 7 report estimate for the share of foreigners over the white population. Fixed effect are indicated in the table. Standard errors clustered at the county level are shown in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table F.35: Wages and Price of Board - 1860 Levels

	Farm Laborer	Domestic Servant	Board	Laborer	Carpenter
	(1)	(2)	(3)	(4)	(5)
Land-Rank	-1.053***	-0.480***	-0.373***	-0.112***	-0.0878**
	(0.258)	(0.0668)	(0.0790)	(0.0228)	(0.0388)
Observations	808	698	799	802	811
Mean DV	13.13	1.806	2.418	0.985	2.007
County FE	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes
ln(Distance North)	Yes	Yes	Yes	Yes	Yes
Sample	1860	1860	1860	1860	1860

Note: The table reports the correlation between Land-Rank and wages in 1860. Data are from the Census of Social Statistics.

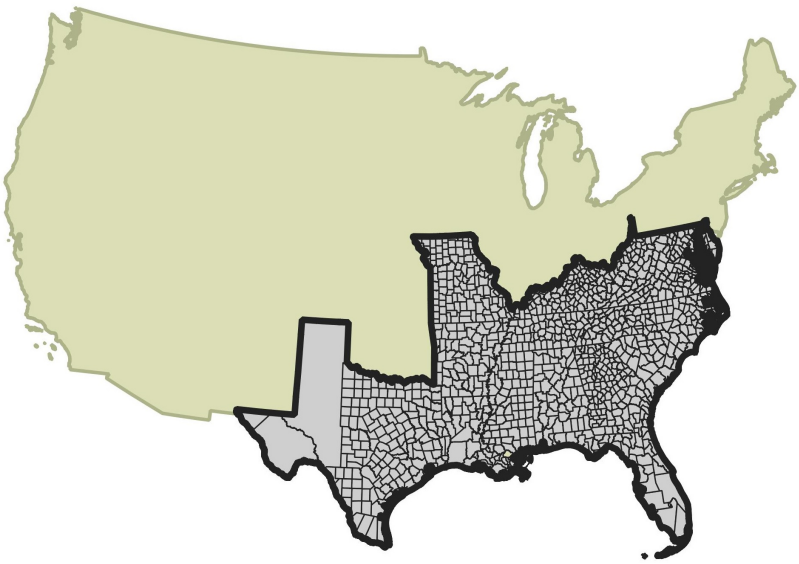
Table F.36: Wages and Price of Board - Changes

	Farm Laborer	Domestic Servant	Board	Laborer	Carpenter
	(1)	(2)	(3)	(4)	(5)
Land-Rank	-6.275**	-0.989*	-0.497	0.304	0.261
	(3.044)	(0.530)	(0.659)	(0.553)	(0.349)
Observations	1212	976	1176	1194	1218
Mean DV	11.13	1.478	2.002	0.846	1.764
Adj. Within R^2	0.00690	0.00438	0.0122	-0.00257	-0.00245
County FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Region × Year FE	Yes	Yes	Yes	Yes	Yes
ln(Distance North) × Year FE	Yes	Yes	Yes	Yes	Yes
Sample	1850-1860	1850-1860	1850-1860	1850-1860	1850-1860
SE Cluster Level	Couny	Couny	Couny	Couny	Couny

Note: The table reports the effect of changes in Land-Rank on wages between 1850 and 1860. Data are from the Census of Social Statistics.

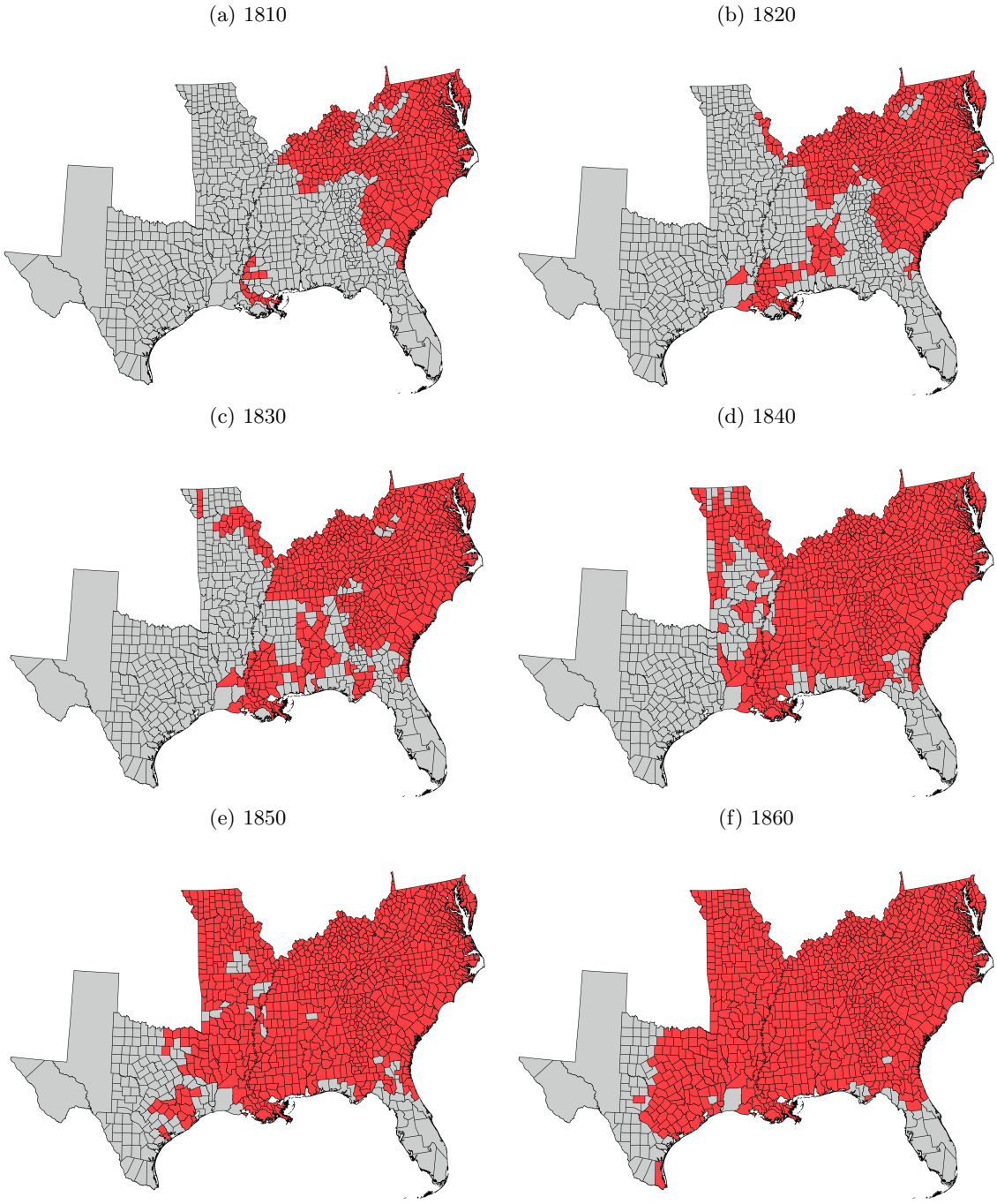
G Figures - Westward Expansion, Slavery and Agriculture

Figure G.15: Slave States



Note: The figure reports the counties belonging to a slave state which appear in at least two censuses between 1810 and 1860. These are: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, Virginia.

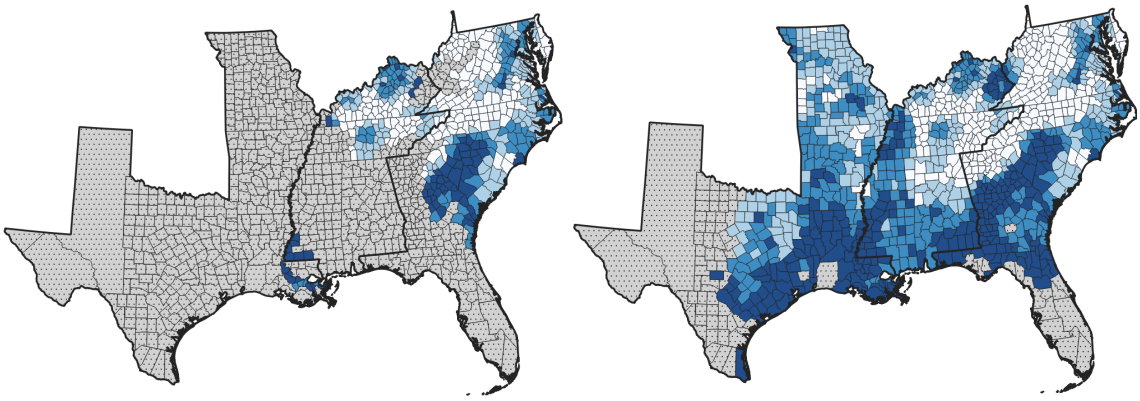
Figure G.16: Westward Expansion



Note: Red counties represents counties with a population density higher than 2 individuals per Km^2. Grey counties are counties belonging to the US Slaves State in 1860.

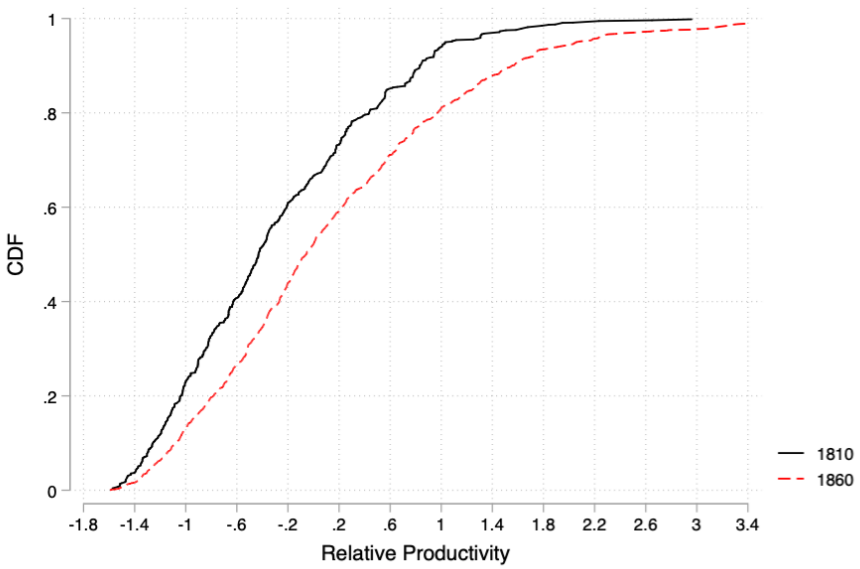
Figure G.17: Relative Productivity

(a) Relative Productivity in 1810 (b) Relative Productivity in 1860



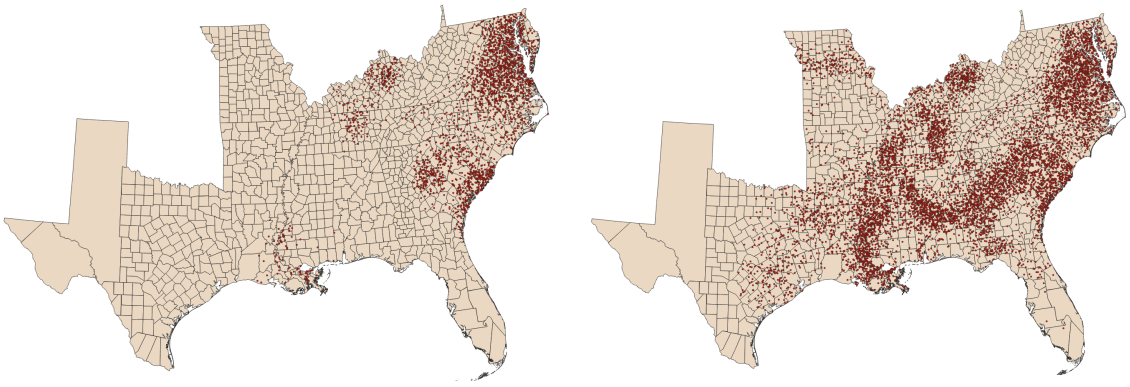
Note: Panel (a) and (b) show the distribution of relative productivity, $A_i = \frac{A^{cotton}}{A^{wheat}}$. The darkest counties represent the top 25% of the distribution in 1860, the lightest the bottom 25% in 1860. Panel (a) shows in gray the counties with a population density lower than 2 individuals per km^2 in 1810. Panel (b) shows in gray the counties with a population density lower than 2 individuals per km^2 in 1810.

Figure G.18: Distribution of Relative Productivity



Note: The figure shows the shift in the distribution of relative productivity from 1810 to 1860.

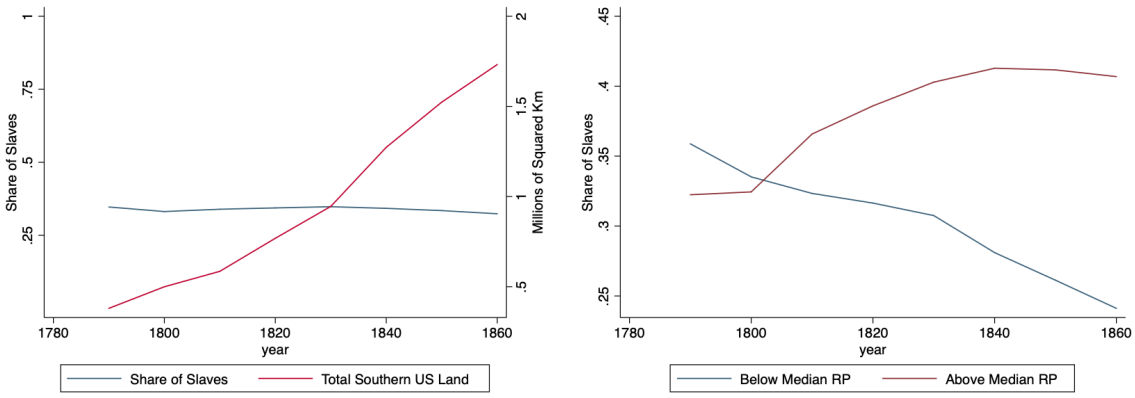
Figure G.19: Slave Relocation



(a) 1810 (b) 1860

Note: Panel (a) represents the distribution of slaves in 1810, panel (b) the distribution of slaves in 1860. Each dot corresponds to 500 slaves. The counties represented are those counties belonging to a Slave State in 1860.

Figure G.20: Share of Slaves and Land Expansion

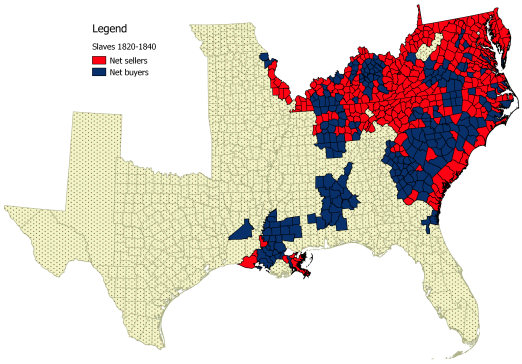


(a) Share of Slaves and Land (b) Share of Slaves by Relative Productivity

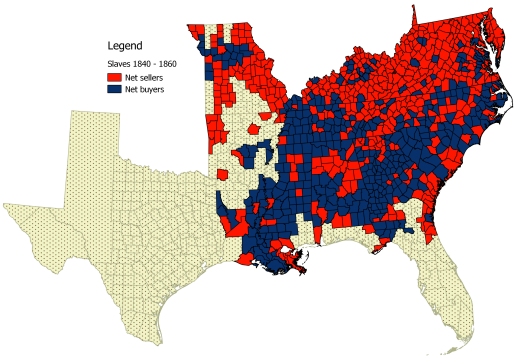
Note: Panel (a) represents the total number of slaves divided by total population and the total land inhabited over time. Panel (b) shows respectively the total number of slave over the total population in counties below and above median relative productivity with respect to the 1860 distribution.

Figure G.21: Agricultural Transformation and Slave Labor Adjustment

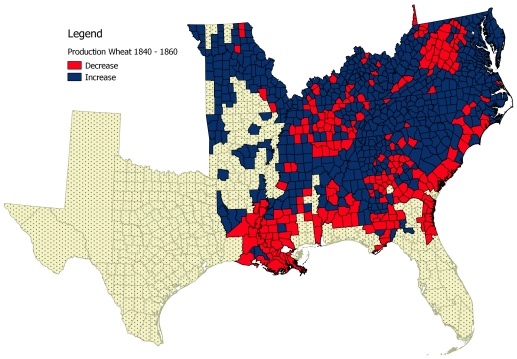
(a) Slave Labor 1820 - 1840



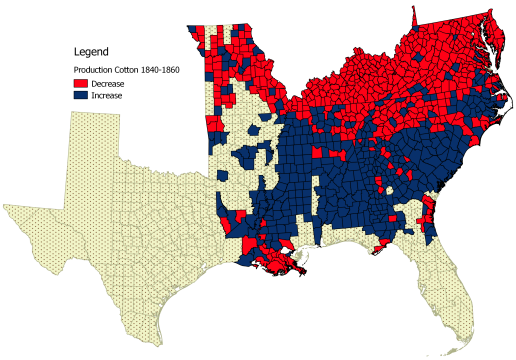
(b) Slave Labor 1840 - 1860



(c) Wheat Change 1840 - 1860



(d) Cotton Change 1840 - 1860



Note: Changes in production and slave labor allocation. Panel (a) represents in redo counties which decreased the number of slaves between 1820 and 1840 in counties with population density higher than 2 in 1820. Changes are net of the slave population growth. Panel (b) represents the same for the period 1840-1860. Panel (c) and (d) show respectively the change in production of wheat and cotton between 1840-1860 in counties with population density higher than 2 in 1840. Red counties decreased production while blue counties increased.