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 world 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 Southern US Westward territorial expansion 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 with respect to wheat changed their production decisions, reduced their use of slave labor, and decreased political support for slavery. Using information on Presidential and Gubernatorial elections, Congressional representatives roll-call behavior, Newspapers’ supply of slavery-related content, and free black population, our results show that the Westward expansion polarized the Southern productive, political and social system 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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1 Introduction

Slavery has been a widespread and long-lasting labor institution. Most of the ancient civilizations—Greece, Rome, and Egypt, among others—as well as most of the colonial societies, regarded slavery as essential to their economies (Patterson, 1982; Acemoglu and Wolitzky, 2011). In these societies, slave labor was not only the primary productive input, but also at the core of the social order. The Southern US is one of the most prominent examples. Hinging on the labor of 4 million enslaved African Americans, it 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 consensus on political and social norms (Wright, 2006).

Yet, by the end of the 19th century slavery was abolished in most of the world. This institutional transformation was accompanied by ideological changes that challenged the morality of slavery itself. What accounts for these changes is still heavily debated. On the one hand, the rise of abolitionist movements and humanitarian ideas has often been regarded as the fundamental driver of the demise of slavery during the nineteenth century (Fogel, 1989). On the other, as pointed out by Williams (2014), the rise of these abolitionists movements shows a “curious affinity with the rise and development of new interests and the necessity of the destruction of the old.” According to this view, changes in economic incentives were a precondition for the social and institutional changes experienced by slave economies. In line with this argument, this paper shows that shifts in agricultural comparative advantages in the Antebellum US South determined changes in the political support for slavery. These changes occurred within a few decades despite the profoundly entrenched character of slavery in the US South.

We study changes in economic incentives to slave-ownership by analyzing one of the central aspects of the evolution of slavery in the US South: the Westward territorial expansion. While 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 slaves were forcibly moved throughout the South, profoundly transforming its economic landscape. This paper examines the impact of the Westward expansion on slave relocation and emphasizes a link between economic incentives to slave-ownership, and the political support for the institution of slavery. Our results show how the Westward expansion polarized the productive, political and social system in the US South, eventually

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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

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1 Williams, 2014, p. 211. The idea has recently been revisited by Wright (2020). See Fogel (1989) for the role of humanitarian sentiments in the demise of slavery.
Our strategy exploits two elements. First, the fact that the Westward expansion, between 1810 and 1860, implied a significant variation in the amount and type of agricultural land, inducing local changes in the incentives to crop production. Second, the fact that no more slaves could be introduced into the US after 1808. The abolition of the Atlantic Slave Trade (1808) implied that any change in the local number of slaves resulted from relocation within the US South.\textsuperscript{2} We leverage these facts to compute changes in the county-level comparative advantage for the production of cotton relative to wheat and predict slave relocation. To establish a relationship between the comparative advantage in the production of cotton (vs. wheat) and the use of slaves (vs. free labor), we rely on the well-known empirical association in the US South between the intensity of cotton production and the use of slave labor (Wright, 1979; Fogel and Engerman, 1977) and provide evidence in favor of a specialization of slave labor in the production of cotton relative to wheat.\textsuperscript{3}

We measure changes in comparative advantage in the following way. First, we use information on soil characteristics at the county level (FAO-GAEZ, 2002) to estimate the relative productivity of cotton with respect to wheat.\textsuperscript{4} Second, we compute, for each decade, the changes in each county’s position in the distribution of relative productivity determined by the addition of land due to the Westward expansion. The size of the change in the distribution depends on the relative productivity of each county compared to the newly established counties in the West. These heterogeneous changes capture the level of exposure of a county to the competition generated by the newly available land. We expect a larger drop in the distribution of relative productivity to be associated with larger changes in both the crop mix and the use of slave labor: an increase in wheat and a decrease in cotton production; a reduction in slaves.\textsuperscript{5} We then show that these changes not only affected crop production decisions and local reliance on slave labor but also caused broader political and ideological transformation. Finally, we provide a quantification of the potential channels and rule out migration as the main mechanism. This shows that our results are at least partially due to changes in preferences and social norms.

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 are correlated with changes in the position of a county in the relative productivity distribution. To ensure and

\textsuperscript{2}The Abolition of the Slave Trade Act was voted on February 23, 1807 but became effective only from January 1st 1808. This was a consequence of the temporal limit established by the Constitution to the effectiveness of federal law in regulating matters relates to the Save Trade. Article 1 Section 9 of the Constitution establish that “[the trade] shall not be prohibited by the Congress prior to the Year one thousand eight hundred and eight [...]”. Total number of slaves over total number of white people between 1810 and 1860 was 34% from 1810 to 1840, 33% and 32% in 1850 and 1860 respectively.

\textsuperscript{3}Section B of the Appendix, we provide evidence in support of the link between crop and the propensity to use slave or free labor and discuss the main hypothesis in the literature (Fogel and Engerman, 1974; Earle, 1978; Fenoaltea, 1984; Hanes, 1996; Wright, 2006). In section C.3 of the Appendix, we expand the analysis to include tobacco, sugar, and corn, other crops often associated to slavery.

\textsuperscript{4}From now on, for ease of exposure, instead of writing “comparative advantage in the production of cotton with respect to wheat” we write “comparative advantage for cotton”.

\textsuperscript{5}Section 2.3 derives the relationship between changes in a county position in the distribution of relative productivity and the size of slave labor relocation.
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 and census year. 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 productivity of cotton with respect to wheat. We always control for the distance to the northern border (non-slave states) interacted with year fixed effects, and Census region fixed effect interacted with year fixed effects. Therefore, in our analysis, we always compare counties that are 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 position. For example, counties closer to the Northern border might be influenced by the changing northern ideological environment more than counties further away.

We then estimate a series of alternative specifications. First, we compute changes in comparative advantage by exploiting national changes in the prices of labor inputs (wages and slave price) and agricultural outputs (cotton and wheat prices) as a source of time variation. We show that as the cost of producing cotton increased, counties with lower relative productivity adjusted crop production and decreased their share of slaves. Second, we include sugar, tobacco, and corn in our analysis, the other main cash crop of the Antebellum south. Third, we exploit the fact that the timing of the effect of the Westward expansion was not the same for all crops. We then show that our estimates are robust to restricting the analysis to the sample of counties belonging to the US in 1810 and also only to counties formed during the Westward expansion. Finally, we allow for different trends depending on the share of slaves before the end of the Atlantic slave trade (1808), when the amount of slave labor available was not restricted.

In the first set of empirical results, we look at the effect of agricultural shocks on slave relocation and production decisions. We find that when a county loses comparative advantage in the production of cotton, it reduces the use of slave labor. A county that in 1810 had a median relative productivity experienced a substantial loss in comparative advantage between 1810 and 1860. Over this period, almost 1 million squared kilometers of land with higher relative productivity was added. Due to the competition generated by the new land, this county experienced a 10.7 percentage points reduction in the share of the enslaved population. This reduction is substantial when taking into account 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.

Exploiting information in the Census of Agriculture — available for 1840-1860 — we show that these results are associated with changes in crop production. As expected, we show that counties that lost comparative advantage reduced their production of cotton and increased their production of wheat. A county that in 1840 had a median relative productivity of cotton with respect to wheat
experienced a 71% reduction in the production of cotton and a 58% increase in the production of wheat between 1840 and 1860 due to the loss in comparative advantage.

Next, we study the effects of changes in economic conditions on the politics of slavery. Our results show that the frontier expansion led to a political polarization of geographical regions. To show this transformation, we analyze two newly collected datasets: Legislators’ voting behavior for all the 222 votes regarding slavery held in the history of the House of Representatives and voting behavior by the secession convention delegates to ratify the Ordinance of Secession for 9 secessionist states. We show, in both instances, that changes in the local comparative advantage in the use of slave labor influenced the politics of slavery. A congressman that in 1810 was representing a congressional district with a median relative productivity of cotton by 1860 doubled the probability of voting against slavery in Congress due to the loss in comparative advantage in cotton production. These large changes in the voting behavior regarding slavery are present even when comparing legislators’ behavior with the same party affiliation. When studying the secession conventions, we are constrained by the cross-sectional nature of the data. After controlling for many observable characteristics of the local agricultural sector, manufacturing sector, and religious affiliation, we find that a one standard deviation increase in the relative productivity of cotton with respect to wheat increases the likelihood that a county voted in favor of secession by 11 percentage points. This result is particularly striking given that in all but 3 states, the secession conventions were decided by less than 10 percentage points.

We then study how changes in agricultural comparative advantage determined broader changes in the political equilibrium by looking at parties’ vote shares and legislators’ roll call voting behavior (using the DW-Nominate score). To discipline our analysis, we show that the Southern sections of the two main parties (Democrats and Whig)\(^6\) behaved differently when voting on slavery. Our estimates show that southern members of the Whig party were consistently more willing to compromise on slavery. With these party differences in mind, we use county-level electoral returns to study how economic conditions affect not only the politics of slavery, but the political landscape more broadly. Counties that lost comparative advantage in the use of slave labor saw a decrease in the share of votes for the Jacksonian Democratic party both in the presidential and gubernatorial elections. In a county with median relative productivity in 1828, the vote share in favor of these parties dropped by 12 percentage points between the 1828 and the 1860 elections due to the loss in comparative advantage. The effect is large if compared to the average Democratic share of 54%. We then examine the full roll-call history of all Congressional representatives to study the ideological transformation of elected members of Congress. We show that congressional districts that lost comparative advantage in the use of slave labor were represented by legislators more ideologically distant from the Democratic party and closer to the Whig party, independently on their actual party affiliation. This result is both due to the selection of new politicians and to changes in the voting behavior of re-elected representatives.

\(^6\)Democrats and Whig were preceded by the Jacksonian and Anti-Jacksonian parties
In the last part of our empirical analysis, we examine the transformation of the public debate on slavery, studying newspapers’ behavior; and changes in social norms, studying patterns of the free black population. We first create a unique dataset of 282 Southern local newspapers spanning from 1810 to 1860, which include approximately 2.6 billion words. Using text analysis techniques, we investigate changes in the narrative related to slavery. We build on Gentzkow and Shapiro (2010) to model newspapers’ supply of ideological content. There are two key ingredients to the model: first, because readers have preferences for like-minded newspapers, outlets minimize the distance between their ideological slant and the preferences of their potential readers. Second, partisan newspapers cannot change their political position on a given topic but can strategically modify its level of supply to move toward the reader’s preferences. Under these conditions, a partisan newspaper located in an area were citizens become less pro-slavery reacts by modifying the supply of content related to slavery. We expect a newspaper affiliated to a pro-slavery party to reduce their supply of slavery-related content as its position on the topic become less aligned with the preferences of potential readers. Partisan newspapers affiliated with political parties more critical towards slavery should instead increase their supply of content related to slavery. With these theoretical predictions at hand, we show that changes in agricultural comparative advantage imply different underlying ideological patterns. The empirical analysis shows that pro-slavery newspapers decreased the discussion of slavery-related topics when located in an area losing comparative advantage in the use of slave labor. The effect is the opposite in the case of newspapers on the other side of the political spectrum.

Finally, we show results on the dynamics of the free black population. Our estimates show that places that lost comparative advantage in the use of slave labor experienced an increase in free blacks. This is consistent with several interpretations. On the one hand, free blacks might have chosen to move in places where slavery was declining, seeking economic opportunities. On the other hand, because free blacks were considered a threat to the institution of slavery, an increase in the number of free blacks can be interpreted as a decline in social norms in support of the institution.

We conclude with a discussion of the potential mechanisms behind our results. We show that our findings cannot be fully explained by slave-owners migration. We estimate that the upper-bound of the change in voting behavior that can be explained by slave-owner migration is 30%. The rest of the effect must be due to other mechanisms. We propose two complementary interpretation. First, the idea that the local decline of a slave-based economy reduces incentives to patronage for the local planters. This, in turn, relaxes local constraints to political behavior and might lead to a decline of the social norms in support of slavery. Second, we rely on the theory of cognitive dissonance (Festinger, 1957) to argue that a decline in the incentives for slave-ownership might have reduced individual commitment to pro-slavery.

Taken together, our results show that the Westward Expansion generated polarization of the productive, political and social system within the US South. As the frontier moved to the West, some counties lost comparative advantage in cotton production others gained it. These differences in the productive system led to diverging political forces and narratives over slavery eventually shaping
the coalition that ultimately led to the Secession from the Union. These findings are consistent with an economic tradition that sees changes in the economic condition 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 and ideology. Karl Marx has famously proposed a view in which material conditions determine both the political and ideological structure of society: “It is not the consciousness of men that determines their existence, but their social existence that determines their consciousness.” More recently a similar approach has been interpreted by the Chicago school — “Marxian in spirit, but without class-struggle” — where Becker and Stigler (1977) treated consumer’s preferences as endogenous and by North (1990) 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.” Very close to our interpretation, Greif (1994) has explicitly pointed to mechanism of motivated cognition to explain how changes in economic conditions can affect value systems: “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.”

Our paper contributes to the effort to substantiate this historical and theoretical perspective.

In a related literature, several papers have studied the deep origins of culture and institutions (Nunn and Wantchekon, 2011; Alesina et al., 2013; Grosjean and Khattar, 2019), mechanisms of persistence (Bisin and Verdier, 2001), and their causal effect on economic outcomes (see Guiso et al., 2006, Guiso et al., 2015, and Giavazzi et al., 2019 among others). On this front, our analysis, instead, is closer to a relatively small literature that has engaged in the study of the short term effects of technological innovations and changes in the economic environment on institutional and ideological equilibria. Greenwood et al. (2014) look at the role of contraception in determining changes in attitudes toward premarital sex; Doepke and Zilibotti (2008) and Doepke and Zilibotti (2017) study models of cultural transmission where forward-looking parents socialize their offsprings to the optimal cultural traits given the changing economic environment. Di Tella et al., 2007 shows that land squatters randomly granted property rights adopted more “pro-market” beliefs, relative to their less-lucky neighbors. In a more historical setting, Becker and Pascali (2019) argues that the Protestant Reformation opened up competition in sectors previously dominated by Jews, leading to an increase in anti-Semitism and Bazzi et al. (2017) shows the effect of the material conditions embedded in the US frontier on individualism. In the same spirit, our analysis shows that a decrease in the economic importance of the institution of slavery led to a decrease in the prevalence of pro-

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8Guiso et al., 2006, p. 27
9See North, 1990, p. 84.
10See Greif, 1994, p. 917. 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., 2015a; Bénabou, 2013; and Bénabou and Tirole, 2016)
slavery attitudes captured by changes in several types of political and ideological measures.

Our paper also contributes to an extensive 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 free labor.\textsuperscript{11} This debate was intertwined with the problem of slave labor sector specialization. A plurality of competing hypothesis were proposed — gang labor (Fogel and Engerman, 1974), seasonality of labor requirement (Earle, 1978), risk diversification (Wright, 1979), effort intensity (Fenoaltea, 1984), scale effects (Irwin, 1988), turnover costs (Hanes, 1996).\textsuperscript{12} Building on this literature, we propose a new approach and show the link between agricultural comparative advantage and slave labor allocation. By studying the effect 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 the technology of production. Our estimates suggest a lower-bound of 30\% for the movement of slaves through trade. Tadman (1989), Pritchett (2001) and, Steckel and Ziebarth (2013) have quantified the movement of slaves and provided estimates for the Interregional Trade. Consistently with our findings, most of the estimates in the literature are in the range between 50 and 70\%.

Finally, our paper contributes to the literature on the politics of slavery. The sources of political and ideological support (and opposition) to the institution of slavery in the South has been the object of several studies. While there exists a large qualitative literature,\textsuperscript{13} quantitative analysis are relatively scarce. Calomiris and Pritchett (2016) study slave price fluctuations and news in the month preceding the Civil War; Chacón and Jensen (2019) show that counties with more slaveholders and planters were systematically overrepresented in the secession conventions; Hall et al. (2019) show that slave-owners were more likely to volunteer for the confederacy; González et al. (2017) study the role of slave property as a source of collateral before and after emancipation in Maryland. There is instead a rich literature on the long term effect of slavery both inside and outside the US.\textsuperscript{14} In particular, Acharya et al. (2016) study the long term effects of slavery on political preferences. They show that the number of emancipated slaves in 1870 explains 21st century political preferences.

The rest of the paper is organized as follows. Section 2 introduces the historical background and discusses the relationship between slave labor allocation and the choice of crops. Section 3 presents the data. Section 4 lays out the empirical strategy. Section 5 studies the effect of the Westward territorial expansion on crop mix adjustment and slave labor allocation. Section 6 investigates the political consequences of changes in agricultural comparative advantage. Section 7 studies the effects on the supply of slavery-related content by newspapers and the changes in the free black


\textsuperscript{12}More recently Esposito (2018) studied the role of Malaria in the rise of slavery in the 17th and 18th century.


Section 8 discusses the potential mechanisms that relate changes in economic incentives to our political and ideological results. Section 9 concludes.

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, abolished in the Northern States, and widely used as labor factor in the southern agricultural economy. The number of slaves available to the southern economy was of about one million people in 1810 over a total population of fewer than three million people. The proportion has been roughly stable, with a slave population of four million people in 1860 over a total southern population of twelve million. The US economy was highly rural, even in the last period of our analysis. For the whole US, in 1800 and 1860, the agricultural sector employed over 74% and 55% of the labor force 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 who never surpassed 8% before the end of the civil war. The main economic activities consisted in the production for the market of few cash crops in which slave labor was both the major capital investment and an important labor input, North (1961). The most relevant product within the Southern economy was cotton, which accounted for 38% of the total agricultural value in 1860, followed by sugar (30%), corn (27%), wheat (8%) and tobacco (5%).

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, impeding the legal introduction of new slaves from abroad. Between 1810 and 1860, about one million slaves were relocated throughout the US South (Tadman, 1989, Pritchett, 2001 and Steckel and Ziebarth, 2013), both through the interstate trade and through slaveowners 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.

The Antebellum is 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) estimated a rate of growth in per capita income of 1.7 percent in the period between 1840 and 1860 which - the author maintains - not only was one third higher than the Northern one but also quite high for historical standards.

15 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).

16 On the relative importance between trade and slaveowners migration in the movement of slaves we refer to Tadman (1989), Pritchett (2001) and Steckel and Ziebarth (2013). Different estimates suggest that trading outweighed planters' migration by numerical importance, accounting for more than 50% of the overall movement of slaves.
During this period, a major transformation reshaped the Southern landscape: the increase in the land available for agricultural production through the Westward expansion of the frontier. Between 1810 and 1860, the inhabited land increased by three times in the southern States and led to a major shift in the geographical position of the best land for cotton production toward the West. Although international cotton demand grew at approximately 5% per year from 1830 to 1860 (Wright, 1975), cotton price steadily decreased over this period while slave price steadily increased. Figure 1 shows the expansion from 1810 to 1860.

Figure 2 panel (a) shows the distribution of relative productivity of cotton and wheat of the inhabited land in 1810 against the one of the land inhabited between 1820 and 1860; panel (b) shows prices of cotton and slave over time.

**Figure 1: Westward Territorial Expansion**

The Figure represents the Westward territorial expansion in the South US between 1810 and 1860. Blue counties have a population density higher than 2 individuals per squared Km. Yellow counties have a population density below 2 individuals per squared Km and represent the Southern territory in 1860. The gray area represent the non Slave Staes. Source: NHGIS and ICPSR.

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17 Figure 1 in Appendix G shows the Westward expansion decade by decade, from 1810 to 1860.
Figure 2: Change in Comparative Advantage

(a) Relative Productivity

(b) Prices of Cotton and Slaves

The figure on the left plots the distribution of relative productivity of the counties inhabited in 1810 against the one of counties that became inhabited during the period 1820-1860. The figure on the right plots 10-years moving average of cotton and slave prices. Cotton prices is for the New Orleans market, in Cole (1938). Slave prices are from Phillips (1905).

2.2 The Choice of Labour Inputs: Slavery vs. Free Labor

That a large share of slaves in the US South was employed in the cultivation of cotton is hardly a controversial statement. In 1860, the average share of cotton in the gross value of farm output varied from 29 percent on slaveless farms to 61 percent on plantations with more than 50 slaves (Wright, 1979; Fogel and Engerman, 1977).\(^{18}\) The relationship is reversed in the case of wheat, with slaveless farms producing 5 times more wheat than plantations with more than 50 slaves. Nevertheless, what accounts for such specialization, and more generally for the heterogeneous distribution of slaves across sectors in colonial and Antebellum America, has been the object of extensive debate.

Different theories have been proposed to explain these patterns of specialization. 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 for (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.

Whether the heterogeneous distribution of slave labor can be explained by one or a combination of several arguments, revealed preferences show that slave labor was preferred to free labor in the production of cotton. The opposite seems true for wheat. Using farm level information from the

\(^{18}\)In the same year 75% of the enslaved population lived in counties that produced more than 1000 bales of cotton.
Gallman and Parker (1976) subsample of the 1860 US Agricultural census, we observe two main patterns: first, the negative correlation between wheat and cotton at the farm level; second, the negative correlation between the share of slaves on the farm and the share of wheat in the gross value of farm output. Table B.2 and figure B.1 in section B of the appendix show these trends and the distribution of the share of slaves by cotton and wheat production.

Moreover, part of the literature suggests that because of their distinctive seasonality (Earle, 1978, Hanes, 1996, Wright, 2006),
\[ \text{cotton and wheat represent sharp cases of slave-intensive crop and non slave-intensive crop.} \]
Guided by these considerations, we expect a higher productivity for cotton relative to wheat to be associated to a higher use of slave labor. In Appendix C.3 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 \( i = 1, \ldots, N \). 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 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 \( S \leq M \).

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 \( M_w = \sum_{i=1}^{N_2} L_i \) 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 to \( S \).

Slaves are relocated through a market close to 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

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19Figure B.1 in section B 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 free labor, recognize that their distinctive seasonality implies an advantage in the use of different sources of labor. Section B of the Appendix develop the argument more in detail.

20It is important to mention that our argument is not to be considered in absolute terms, but in relative ones. 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, ceteris paribus a cotton (sugar and tobacco) producer has an advantage in the use of slave labor than a grain producer and that this has to be reflected in the allocation of slaves.

21See section 2.2 for a discussion and empirical justification of this assumption.
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 \( M_w \).\(^{22}\) Assuming that the trading pairs are randomly formed, each seller’s probability to be matched with any buyer is \( M_w/S. \)^{23}\) For a seller in county \( i \), the probability that the matched buyer has an evaluation higher then \( A_i \) is \( Pr(A_j > A_i) = \frac{\sum_{j=N_1}^{N_2} I(A_j > A_i)}{M_w} \), therefore the probability of a transaction for a seller in county \( i \) is

\[
p_i = \frac{\sum_{j=N_1}^{N_2} L_j I(A_j > A_i) M_w}{M_w S}
\]

Define now, for county \( i \), the number of plots with a relative productivity higher than \( A_i \) in period 1 as land-rank, \( LR_{it} = \sum_{j=1}^{N_1} L_j I(A_j > A_i) \). The change in land-rank from period 1 to period 2 for county \( i \) is given by \( \Delta LR_{it} = \sum_{i=N_1}^{N_2} L_j I(A_j > A_i) \). Therefore \( p_i = \frac{\Delta LR_{it}}{S} \) and the expected number of slaves sold in county \( i \) is \( \frac{\Delta LR_{it} L_i}{S} \). Proposition 1 summarize 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 \( \Delta LR_{it} \).

## 3 Data

Our analysis relies on information at the county level from 1790 to 1860. Following the definition of the frontier in Turner (1920) and Bazzi et al. (2017), our sample includes all counties with a population density above two individuals per square mile. To obtain a constant geographical unit over time, we harmonize all historical Census data in the NHGIS to 1860 boundaries, following 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 up 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. To conduct the analysis, we combine information from several sources.

\(^{22}\)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.

\(^{23}\)If \( M_w \geq S \) the probability is 1.
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. The measure we employ has been used in several studies in economics. Recent examples are Nunn and Qian (2011), which uses a suitability measure to estimates the contribution of potatoes to the world population; Bustos et al. (2016) uses the dataset to show that changes in agricultural productivity led to structural transformation in Brazil. In the context of slavery, Baiardi (2018) looks at the effect of the gender division of labor across agricultural sectors in US slavery and Acharya et al. (2016) uses cotton suitability as an instrument in the prediction of slavery’s political legacy.

Census data Data are taken from the decennial US Census of Population, made available by Haines and ICPSR (2010), which includes information on white, slaves, and free black 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 Attack (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, 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. 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

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24 All census data were obtained through the Natural Historical Geographic Information System (NHGIS) available at www.nhgis.org (see Minnesota Population Center, 2011), and the Inter-university Consortium for Political and Social Research (ICPSR) available at www.icpsr.umich.edu.

25 For papers employing the same methodology see Autor et al., 2017 and Tabellini, 2019.
over time, we use the same technique described in the case of counties to homogenize geographic unit over time, proposed by Hornbeck (2010). We then aggregate at the Congressional District 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 House of representatives when voting on issues related to slavery using roll-call votes database 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 State of Virginia, Tennessee and Texas referenda were held to ratify the Ordinance of Secession. In those cases, we collect information on the popular vote. 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.26 In the case of Georgia, Arkansas and Florida, we refer to Wooster (1954, 1956, 1958); for Alabama to the original Journal of the Convention Smith (1861); for Louisiana to Dew (1970); for Mississippi to Rainwater (1938). We collected data for 9 out of 11 secessionists State. 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 Newspaper (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 in case it was reported. We manually coded the remaining newspapers.

## 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).27 In the Appendix, we expand

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26 The information for the State of Texas are reported in Timmons (1973); in the case of Tennessee the data are available at the link [www.arcgis.com/home/item.html?id=377f57406e51466699edf05b41bb7d77data](http://www.arcgis.com/home/item.html?id=377f57406e51466699edf05b41bb7d77data); in the case of Virginia the data are available at the link [www.newrivernotes.com/historical_antebellum_1861_virginia_voteforsecession.htm](http://www.newrivernotes.com/historical_antebellum_1861_virginia_voteforsecession.htm).

27 The most prevalent crop in the Southern economy was cotton, accounting for 38% of the total value produced in the agricultural sector in 1860. Wheat accounted for 8% of the total agricultural value.
the analysis by taking into account the other primary crops: sugar and 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 composing each county. For each county $i$ and crop $c$, we obtain a measure of crop-specific productivity, $A_c^i$. We use these measures of crop-specific productivity to estimate the relative productivity of each county: $RP_i \equiv \frac{A_{cotton}^i}{A_{wheat}^i}$. 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 $i,j \in \mathbb{N}$, 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 the other. 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 $RP_i$:

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

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 land-rank in 1810 faced the competition of 297,000 $Km^2$ of agriculturally active land with a higher level of relative productivity. The same county by 1860 faced 1,239,000 $Km^2$ of land with a higher level of relative productivity. Therefore for this county, the amount of land with a higher relative productivity increase between 1810 and 1860 by 942,000 $Km^2$.

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 is added to the US South. 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 median land rank in 1810. Panel (b-d) includes counties with a land-rank higher than the maximum land rank in 1810. Part 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.

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28 As a measure of productivity we use the suitability index described in section 3.
29 We include the counties with a population density higher than 2 individuals per squared Km.
30 Figure G.13 in Appendix G, shows the maps representing relative productivity comparing the inhabited counties in 1810 and 1860.
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 white (therefore no county in 1810 is white). Counties with a land-rank in between these two numbers are light blue. In all panels, the darkest lines represent the borders between census regions.

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. Hand-in-hand with production changes, we expect counties to adjust their use of slave labor accordingly. We test this hypothesis by estimating the following equation:
where $i$ represents county, $t$ represents the census-year from 1810 to 1860. Our baselines outcomes of interest, $y_{i,t}$, are measures of slave labor use. Section 5.2 presents results for cotton and wheat production. In Section 6, we use the same identification strategy to study whether changes in comparative advantage had any political or ideological effects.

The term $\alpha_i$ 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 $\alpha_t$ accounts for census year fixed effect which captures changes over time common to all the counties: federal policy, broad cultural, economic or technological changes. $\alpha_t$ also captures the 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 $\beta$ is estimated only using 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 $\beta$ to be negative. The counties most affected by the competition from the new land added to the US should experience the largest change in agricultural production away from cotton and towards wheat and therefore the largest changes in the use of slave labor.

### 4.3 Identification

The variation that identifies $\beta$ 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 US. This generates a non-linear and time-varying relationship between relative productivity and land-rank.

The critical identification assumption is 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.

First is important to notice that given the inclusion of time fixed effects in all our regression the
identification strategy is not threatened by aggregate characteristics of the Westward expansion. For example, settlers may have decided to move in territories based on some specific soil characteristics found in the West with respect to the land already available in the US. 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.13, relative productivity, displays geographical clusters. These clusters may overlap with some institutional, cultural, and economic forces that 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 similar time-varying function as the relation between relative productivity and changes in land-rank, this would generate a bias.

We address this issue by including regional fixed effects multiplied by year fixed effects and control for distance from the North (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 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 therefore, may be more reluctant to the use of slave labor. Similarly, geographical proximity may imply stronger economic ties and influence production decisions, which would affect labor input choices. Furthermore, the closeness to the border increases the likelihood of fugitive slaves both because of the geographical proximity to the Northern free states and of the higher concentration of the “underground railroad”: a network of secret routes and safe houses that facilitated the escape to freedom of slaves. Overall the increased probability of losing a slave increased the risk and cost of owning a slave. Controlling for the distance to North interacted with year fixed effect is a way to address the likely economic and cultural spillovers.

In Appendix C, we present estimates for alternative specifications to address other related concerns. In particular, we present the estimates restricting to variation coming from within states and we control for the share of the enslaved population in the pretreatment period (1810). We further decompose the shocks into crop-specific variation and propose an alternative specification using changes in prices. Finally, we show that our estimation is robust to restricting our analysis to the sample of those counties belonging to the US in 1810 and restricting our analysis to the counties formed during the Westward expansion. In our baseline specification, our identifying variation compares the rate of change of the enslaved population in two counties net of regional trend and trend varying with the distance to the Northern border, both exposed to the same change in the quality and quantity of available agricultural land.
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 experienced a greater loss in the comparative advantage of cotton vs. wheat went through a greater decrease in the slave labor employed. All the coefficients show the effect of an increase in land-rank on the presence of slaves at the county level. $LR_{i,t}$ is standardized so that the county with the median $RP_i$ in 1810 experienced an increase in $LR_{i,t}$ of 1 by 1860. Column (1) in table 1 shows that the share of the enslaved population in a county with a median $RP$ in 1810 dropped by 10.8 p.p. between 1810 and 1860 due to the Westward expansion.

Table 1: Slave Relocation - Baseline

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Slaves</td>
<td>Slaves per 1000 km$^2$</td>
<td>N. Slaves</td>
</tr>
<tr>
<td>Land-Rank$_{i,t}$</td>
<td>-0.108$^{***}$</td>
<td>-1864.7$^{****}$</td>
<td>-2587.3$^{***}$</td>
</tr>
<tr>
<td>Observations</td>
<td>4471</td>
<td>4471</td>
<td>4471</td>
</tr>
<tr>
<td>County FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Region * Year</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ln(Distance North) * Year</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: This table shows the effect of changes in the land-rank on slaves’ relocation between 1810 and 1860. The variable of interest is $\text{Land-Rank}_{i,t} = \sum_{j=1}^{N_t} w_j I(RP_j \geq RP_i)$ with $RP_i = \frac{A_{\text{cotton}} - A_{\text{wheat}}}{2}$. The measure Land-Rank$_{i,t}$ is standardized so that the county with the 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 1,000 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 and census regional trends. Robust Standard Errors clustered at the county level are shown in parenthesis. $*** p < 0.01$, $** p < 0.05$, $* p < 0.1$.

The reduction in the percentage of the enslaved population is substantial when compared to an average share of slaves of 28% in 1810. Overall, the estimates imply that between 1810 and 1860, almost 800,000 slaves (20% of the slaves) were relocated due to the competitive forces generated by the Westward expansion.\footnote{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.}

Columns (2) and (3) show that the estimates are robust to different measures of slave labor at the county level. In column (2) the outcome of interest is the amount of slaves per 1,000 K$m^2$ of land. Estimates show that a county with the median $RP$ in 1810 lost 1,865 slaves per 1,000 K$m^2$ between 1810 and 1860 due to the Westward expansion. Column (3) shows that a county with the median RP in 1810 lost 2,587 slaves between 1810 and 1860 due to the Westward expansion. Again,
the size of the coefficient has to be compared to an average number of slaves in 1810 of 2,517.

In Appendix C, we propose several alternative specifications to show the robustness of our results. First, in Appendix C.1, we estimate the effect of changes in comparative advantage using the interaction between national prices (cotton vs. wheat and slave vs. free labor) and local measures of RP. Second, Appendix C.2 shows that our estimation is robust to the restriction of the sample both to those counties belonging to the US in 1810 and to the counties formed during the westward expansion. In Appendix C.3, we reproduce the baseline results taking into account sugar and tobacco productivity. In Appendix C.4, 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 cotton or tobacco productive land. In Appendix C.5 we replicate the baseline regression exploiting only within-state variation. In Appendix C.6, 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 and changes in the value of the farm. Finally, in Appendix C.7, we show that the results are robust to including the interaction between share of slaves in 1800 and year fixed effect, log transformation of the main variable of interest, linear trends and to de-trended outcome variable with respect to the change between 1790 and 1800.

5.2 Mechanism: Agricultural Transformation

This section shows that the effect of the Westward expansion on slave relocation is associated to adjustments in the crop mix. Table 2 reports the results of our baseline specification, where the outcomes of interest are measures of cotton and wheat production: both physical output and value. Because of data limitation, we perform the analysis only for the years 1840 - 1860.

As expected, counties that lost comparative advantage in the production of cotton with respect to wheat reduced the production of cotton and increased the production of wheat. A county that in 1840 had a median relative productivity of cotton with respect to wheat lost around 300,000 $Km^2$ in land-rank between 1840 and 1860. This county experienced, between 1840 and 1860, a 66% reduction in the production of cotton and a 46% increase in the production of wheat. This corresponds to a 58% drop in the value of cotton production and a 48% increase in the value of wheat production. The interpretation of the coefficient is obtained using the following transformation. The coefficient associated to the loss in land-rank between 1840 and 1860 is $\hat{\beta} \times 3$, therefore the percentage change in cotton production can be obtained as $e^{-3.633 \times 3} - 1 = -66$, which implies a decrease of 66% in cotton production.

In Appendix C.6 we explore alternative mechanisms mentioned in the literature. We show that the estimates of the change in comparative advantage are robust to the inclusion of changes in the availability of means of transportation (proximity to navigable rivers) and to the value of the farm.

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32 The first one proposed by Fogel (1989), the second by Wright in several instances, see Wright (2003) for a recent discussion.
33 The US census started to collect information on agricultural output from 1840.
34 We do not study the railroad expansion because of its reduced presence in the South up to the 50s.
Table 2: Mechanism - Agricultural Transformation

<table>
<thead>
<tr>
<th></th>
<th>ln(Production)</th>
<th>ln(Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td></td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>Cotton</td>
<td>-3.633***</td>
<td>1.276***</td>
</tr>
<tr>
<td>Wheat</td>
<td>1.276***</td>
<td>-2.858***</td>
</tr>
<tr>
<td></td>
<td>(1.082)</td>
<td>(0.396)</td>
</tr>
<tr>
<td></td>
<td>(0.888)</td>
<td>(0.409)</td>
</tr>
<tr>
<td>Observations</td>
<td>2790</td>
<td>2785</td>
</tr>
<tr>
<td>County FE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year FE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Region * Year</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ln(Distance North) * Year</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sample</td>
<td>1840-1860</td>
<td>1840-1860</td>
</tr>
</tbody>
</table>

Note: This table shows the effect of changes in the distribution of relative productivity on agricultural production between 1840 and 1860. The variable of interest is $L R_{i,t} = \sum_{j=1}^{N} w_{j} I(R P_{j} \geq R P_{i})$, which captures the number of $(1'000,000) K m^{2}$ of land with higher relative productivity with respect to county $i$ in year $t$. The coefficients in columns (1) and (2) report the effect on the log of production of cotton and wheat, respectively. Columns (3) and (4) report the effect on the value produced in cotton and wheat and column (5) and (6) on cotton and wheat as a share of the total agricultural value produced in the county. Each regression includes county and year fixed effect, trends in distance from the North, and Region trends. Errors clustered at the county level are shown in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

6 Political and Ideological Effects of Economic Incentives

In this section, we explore the political and ideological consequences of changes in economic incentives in the use of slave labor. First, in section 6.2, we analyze the immediate political implication this economic transformation had on the politics of slavery. We analyze two aspects: first, we look at members of Congress’ voting behavior on issues concerning slavery; second, we look at voting behavior in the secession conventions, linking local economic conditions to pro-secession political preferences. Second, in section 6.3, we extend our analysis to political parties competition and changes in the ideological position of legislators on issues different from slavery.

6.1 Historical Background: The Politics of Slavery

The period studied saw 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), the Federalist and the Republican-Democrat came to dominate the political scene. During the First Party System (1792 - 1824), partisanship was minimal, and parties’ role in shaping mass participation into politics was very reduced. Up until the Missouri crisis, the issue of slavery was relatively little debated in Congress. The crisis played a central role in shaping the sectional conflict and in focusing the national attention on slavery. The House Speaker, Henry Clay, remembered the crisis as an event which “monopolized all our conversation, all our thoughts and . . . all our time. Nobody seemed to think or care about anything else.”

The crises ended up with the Missouri compromise (1820), establishing the Mason-Dixon line as the demarcation of slave and free territories. From the end of the 1820s congressional debates on slavery grew in importance, leading to controversies both around sectional lines (North vs. South) and party lines.

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35A congressional crisis centered around the acceptance of Missouri as a slave state.

36See Mason, 2006, p. 177

37Due 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...
Appendix D.1 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 Democratic and Whig parties. The two parties came to dominate Federal and State politics up until the eve of the Civil War. Despite their apparent equal commitment to slavery, we show that during the Second Party System, parties did differ substantially in their share of votes in favor of slavery even in the South.

We establish this fact analyzing the differences in the roll-call voting behavior of Southern Congressmen over the issue of slavery, in 3 distinct periods. First, between 1818 (first vote on slavery since 1810) and 1828. In this period, 14 votes regarding slavery were held, when the two main parties representing Southern voters were the Federalist and the Republican-Democrat party. Second, during the Jacksonian era between 1828 and 1838 were Congress held 34 votes regarding slavery. Finally, from 1838 to the eve of the Civil War, 187 votes regarding slavery were held. 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 and the debate on fugitive laws.

Table 3: Party Difference in Votes Regarding Slavery

<table>
<thead>
<tr>
<th>All Votes</th>
<th>Drop Abstain</th>
<th>All Votes</th>
<th>Drop Abstain</th>
<th>All Votes</th>
<th>Drop Abstain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference</td>
<td>-0.0211</td>
<td>-0.0183</td>
<td>-0.1046***</td>
<td>-0.1378***</td>
<td>-0.0951***</td>
</tr>
<tr>
<td>(0.0301)</td>
<td>(0.0324)</td>
<td>(0.0150)</td>
<td>(0.0178)</td>
<td>(0.0053)</td>
<td>(0.0056)</td>
</tr>
<tr>
<td>Observations</td>
<td>1009</td>
<td>835</td>
<td>2915</td>
<td>2280</td>
<td>15851</td>
</tr>
<tr>
<td>Number of Laws</td>
<td>14</td>
<td>14</td>
<td>34</td>
<td>34</td>
<td>187</td>
</tr>
</tbody>
</table>

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 value 1 if a vote in favor of slavery is cast, value 0 if against slavery, value .5 in case of abstention. The sample includes all roll-call votes on slavery from 1818 (when the first vote on slavery was held) to 1860, in Congress. The table reports estimates only for congressmen elected in Southern congressional districts. Robust standard errors in parentheses, *** p < 0.01, ** p < 0.05, * p < 0.1.

Table 3 shows the difference in the party fixed effect for the two main parties for each of the three periods. Two results emerge from the analysis. 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. Since then, the (Southern) Jacksonian party and the (Southern) Democratic party systematically voted more in favor of slavery with respect to 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 Democrats, on average, voted only 6.2% of the time against slavery. 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 3 reflect differences in the willingness to compromise on the defense of slavery.

39 Because the Whig party embraced state intervention as a tool for economic development, the southern 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)

38 The Consensus historians have long maintained that slavery was the cornerstone of southern politics, independently on 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 slaveowners, Watson (1985); Bolton (1994); Merritt (2017)

39 Although marginal during the last decades of the Antebellum period, an antislavery movement existed in the
section seemed willing to compromise on slavery to push for the adoption of these measures.\footnote{For example, the ad valorem tax on slavery became the main point of contention in the North Carolina gubernatorial 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).}

With time, divisions over the expansion of slavery in the territories became more salient, and, in 1854, the Whig Party broke down, opening the space to the rise of the Republican Party in the North. The 1860 election saw the Republican presidential nominee, Abraham Lincoln, winning the election with the support of only the Northern states. The victory led to the last sectional crisis before the Civil War. During the weeks after the elections, several southern states called for representatives conventions to discuss the opportunity of seceding from the Union. Between December 1860 and February 1861, South Carolina, Mississippi, Florida, Alabama, Georgia, Louisiana, and Texas seceded from the Union. At stake, it was the defense of the Southern property and the “right” to maintain the institution of slavery. Mr. Morgan, 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.”\footnote{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 [...]”\footnote{From the Declaration of Causes of the Georgia Secession Convention, 1861. See Smith, 1861}

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6.2 Political Support for Slavery

6.2.1 Legislators’ Roll-call Behavior on Laws Regarding Slavery

In this section, we study the effects of changes in local agricultural incentives on the roll-call behavior of congressmen when voting on the issue of slavery. Because changes in incentives to 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. In columns (1) and (3) abstentions are dropped while in columns (2) and (4) are coded as 0.5. As in the other sections, our main variable of interest is land-rank (this time computed at the congressional district level).

Results in Table 4 show that members of Congress elected in districts that lost comparative advantage in the use of slave labor are less likely to vote in favor of slavery. To interpret the magnitude of these results, notice that at the time of the first vote in Congress regarding slavery (15th Congress 1817-1819), the median congressional district competed with 430,000 km\(^2\) of land with a higher level of relative productivity. The same county, by the time of the last vote regarding slavery (36th Congress 1859-1861), was facing 1,280,000 km\(^2\) of land with a higher level of relative productivity. This implies an increase of 850,000 km\(^2\) between 1818 and 1860. We normalize land-rank to have a unit change between the 15th and the 36th Congress. 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 11 to 15 percentage points. Given that the Southern share of votes against slavery was 19%, 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 3). Column (3) and (4) of table 4, exploiting only within party variation, show that these changes are almost entirely independent of the Congressman’s party affiliation.
Table 4: Votes on Laws Regarding Slavery - Pro-slavery Vote

<table>
<thead>
<tr>
<th>Pro Slavery Votes</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land-Rank_{it}</td>
<td>-0.111***</td>
<td>-0.148***</td>
<td>-0.107***</td>
<td>-0.143***</td>
</tr>
<tr>
<td></td>
<td>(0.0346)</td>
<td>(0.0495)</td>
<td>(0.0333)</td>
<td>(0.0485)</td>
</tr>
<tr>
<td>Observations</td>
<td>15170</td>
<td>14910</td>
<td>15148</td>
<td>14891</td>
</tr>
<tr>
<td>Cong. District FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Vote FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Region * Vote FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ln(Distance North) * Vote FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Party * Vote FE</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Drop Abstain</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Standard errors in parentheses

∗ p < 0.10, ∗∗ p < 0.05, ∗∗∗ p < 0.01

Note: The table shows the effect of Land-Rank_{it} on representatives’ propensity to vote in favor of slavery in the House. The main outcome of interest is equal to 1 if the representative voted in favor of slavery and 0 if against. In columns (1) and (3), abstentions are coded as 0.5. In columns (2) and (4), abstentions are dropped. All regressions include county and vote fixed effect, regional FE * Vote FE and ln(Distance to the North) * Vote FE. Errors clustered at the Region * Vote level are shown in parenthesis.

6.2.2 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 6.1, 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 cases, 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, focusing on the year 1860 allows us to fully exploit the information contained in the 1860 Census — the richest of the census year we can rely on.

Table 5 show several specifications including a large number of covariates. Our baseline specification — column (1) — includes state fixed-effect and distance from the Northern border. Our independent variable is \( RP_i \). The variable represents the relative productivity of cotton with respect to wheat. We expect the share of votes in favor of secession to be increasing in \( RP_i \). \( RP_i \) is standardized to have standard deviation of 1. A one standard deviation higher level of comparative advantage in the production with slave labor (\( RP_i \)) increases the votes share for secession from 10 to 11 pp. depending on the specification. 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 percentage points. 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 the institution of slavery.
Table 5: Secession Conventions

<table>
<thead>
<tr>
<th></th>
<th>% Votes for Secession</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>$RP_i$</td>
<td>0.111***</td>
</tr>
<tr>
<td></td>
<td>(0.0153)</td>
</tr>
<tr>
<td>Observations</td>
<td>660</td>
</tr>
<tr>
<td>State FE</td>
<td>Yes</td>
</tr>
<tr>
<td>ln(Distance North)</td>
<td>Yes</td>
</tr>
<tr>
<td>Agricultural Controls</td>
<td>No</td>
</tr>
<tr>
<td>Manufacturing Controls</td>
<td>No</td>
</tr>
<tr>
<td>Religion Controls</td>
<td>No</td>
</tr>
</tbody>
</table>

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 in parenthesis *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

6.3 Party Politics and Ideological Change

6.3.1 Presidential and Gubernatorial Election

In this section, we move beyond the direct implication economic incentives had on pro-slavery (pro-secession) voting behavior and explore the deeper consequences that this underlying economic transformation had on southern political competition. In table 6, we study how changes in agricultural comparative advantage determined voting patterns in presidential and gubernatorial elections. Given the differences in voting behavior described in section 6.1, we study the share of votes received by the Jacksonian and Democratic parties at the county level (ICPSR, 1999) between 1828 and 1860. Our sample includes 9 presidential elections. The frequency of gubernatorial election varies by state (2 or 4 years). Additionally, some governors did not complete their mandate; therefore, elections may happen in off-years.

The results show that, both in the case of the presidential elections and gubernatorial elections, counties that lost comparative advantage in the use of slave labor decreased their vote share for the Jacksonian Democratic party. A median county in 1828 had a land-rank of 530,000 $Km^2$. Because of the Westward expansion, by the time of the 1860 presidential election, the same county shifted to a land-rank of 1,210,000 $Km^2$. Land-Rank$_{i,t}$ of the median county is normalized to a one-unit change between 1828 and 1860. The estimates in Table 6 imply that the vote share for the Democrats (Jacksonian) for this county dropped by 12 percentage points between 1828 and 1860 because of the comparative advantage lost in the use of slave labor. These effects are large given that the average vote share for the Jacksonian Democratic party was 54%.

6.4 Legislators’ Voting Behavior

In this section, we investigate whether changes in agricultural comparative advantage of cotton with respect to wheat translated in changes in the ideological position of Congressmen. To summarize ideology, we use the DW-Nominate

$^{43}$ Hold every 4 years.
### Table 6: Electoral Results

<table>
<thead>
<tr>
<th></th>
<th>Presidential Election</th>
<th>Gubernatorial Election</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Jacksonian or Democratic</td>
<td>% Jacksonian or Democratic</td>
</tr>
<tr>
<td>Land-Rank_{it}</td>
<td>-0.120***</td>
<td>-0.114***</td>
</tr>
<tr>
<td></td>
<td>(0.0394)</td>
<td>(0.0397)</td>
</tr>
<tr>
<td>Observations</td>
<td>5960</td>
<td>6344</td>
</tr>
<tr>
<td>County FE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year FE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Region * Year</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ln(Distance North) * Year</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: The table shows the effect of changes in Land-Rank_{it} on the share of votes received by the Jacksonian - Democratic party. The variable Jacksonian - Democratic is the share of the Jacksonian party up to 1836 and the Democratic party afterwards. All regressions include county and year fixed effect, trends that vary with distance from the North and regional trends. Errors clustered at the region *year level are shown in parenthesis. *** \( p < 0.01 \), ** \( p < 0.05 \), * \( p < 0.1 \).

score (Poole and Rosenthal (1985)), a score constructed based on roll-call voting behavior of congressmen. As Autor et al. (2017) and Tabellini (2019), we use the first dimension of the DW-Nominate score.

We use three different ways to measures the nominate score: the first, “Nominate” measures the ideology of each legislator for every Congress. The second, “Nominate - NP” is computed using the whole roll-call career of a legislator. Finally, “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. The higher the ideological score of a given member of Congress, the closer is his voting behavior to the Jacksonian Democratic party. Table D.11 in Appendix D.2 shows the ideological position of the antebellum political parties. The geographical unit is the congressional district. Overall we study changes in ideology analyzing 26 Congresses from the 11th (1809-1811) to the 36th (1859-1861).

Results in Table 7 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 Jacksonian Democratic party on all policy areas voted in Congress. This result holds for all measures of ideology. After a loss in comparative advantage in the use of slave labor: members of Congress closer to the Jacksonian\Democratic party are less likely to be elected (Column(1)). Once elected, Congressmen tend to vote less in accordance with the Jacksonian\Democratic party (Column (2)). With respect to other Southern members of Congress in that same Congress, they vote less in accordance with the Jacksonian\Democratic party (Column (3)). In appendix D.2, table D.12 shows that the results are unchanged if we compute a nominate score excluding all the votes held on slavery.

Also in this case, land-ranking has been normalized so that a median congressional district increase land-ranking by 1 unit between the 11th Congress (1809-1811) and the 36th Congress (1859-1861). Because of this normalization, estimates imply that due to the loss in comparative advantage in the use of slave labor, the ideology index of this congressional district increased by 12 points between the 11th and the 36th Congress. This effect is particularly large given that the average ideological distance between Jacksonian\Democratic party and the Anti-Jacksonian \Whig party is of 23 points. This same congressional district saw the ideological position of its representative compared to the distribution of the other southern Congressmen in the same Congress shift markedly towards Anti-Jacksonian

\footnote{In appendix D.2 we also examine the roll-call behavior of senators. In the period studied, senators were not elected by voters but instead appointed by each state legislature. Because of this, we expect them to be less responsive to the preferences of their constituencies. Additionally, there is less variation to be exploited as the geographical unit of interest is the state. Furthermore, senators are reappointed only every 6 years.}
Table 7: Legislator’s Ideology

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Land-Rank(_{it})</td>
<td>-11.91***</td>
<td>-12.04***</td>
<td>-25.87***</td>
<td>-10.52***</td>
<td>-9.744***</td>
<td>-21.86***</td>
</tr>
<tr>
<td></td>
<td>(3.433)</td>
<td>(3.939)</td>
<td>(8.419)</td>
<td>(1.700)</td>
<td>(2.944)</td>
<td>(6.458)</td>
</tr>
<tr>
<td>Observations</td>
<td>1575</td>
<td>1575</td>
<td>1575</td>
<td>1570</td>
<td>1570</td>
<td>1570</td>
</tr>
<tr>
<td>Cong. District FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Congress Num. FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Region * Cong.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ln(Distance North) * Cong.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Party * Cong.</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Standard errors in parentheses

*\(p < 0.10\), **\(p < 0.05\), ***\(p < 0.01\)

Note: The table shows the effect of Land-Rank\(_{it}\) on three different measures of Ideology for the House of Representatives. 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. Errors clustered at the region *year level are shown in parenthesis. ***\(p < 0.01\), **\(p < 0.05\), *\(p < 0.1\).

\(\text{Whig position. Overall, between the 11th and the 36th Congress, the representative of this congressional district shifted by 26 positions.}\)

In Columns from (4) to (6), we show that the results still hold even after controlling for Party * Year fixed effects. Therefore these results are not only driven by changes in the party affiliation of congressmen representing a certain congressional district.

### 7 Public Discourse and Free Blacks

These systematic changes in voting behavior, of both politicians and citizens, indicate an ongoing pattern of political transformation. To what extent this political transformation reflected changes in social norms and attitudes toward slavery it is hard to assess. To shed further light on the link between economic incentives to slave-ownership and the transformation of the political environment, we investigate two interrelated aspects of the social context. First, we look at changes in the public debate held on slavery by the media. Because newspapers reflect the equilibrium slant of local communities, they provide useful information on potential ideological shifts on the issue of slavery. Second, we analyze changes in the free black population. Free blacks were regarded as a threat to the institution of slavery, and as such, their presence was considered with hostility by most of the advocates of slavery. Changes in the free black population as a consequence of changes in economic incentives to slave-ownership might indicate changes in the attitudes towards the free black population.

#### 7.1 Newspapers’ Supply of Slave-related Content

To better understand the effects of a change in agricultural incentives on the ideological environment, we study the content of historical local newspapers. The study of newspapers is particularly relevant given that during the first half of the 19th-century, newspapers had a crucial importance for the public debate as the press was the only source of political information. Even though circulation records are not available before 1870, scholars (see references in Pasley, 2002 p. 415) suggests that newspapers diffusion was extensive. Two main characteristics of the press are
worth noticing: newspapers were highly local and highly partisan (Song, 2016). Although we do not have complete information about antebellum newspapers’ partisanship, a good approximation can be given by its figure in 1870, when as little as 11% of the newspapers declared themselves independent (Gentzkow et al., 2006).

Newspapers and their editors were significant players in the political process, linking parties, voters, and providing the arguments that shaped popular views. As noticed by Pasley (2002), “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.” […] “Party newspapers contributed in fundamental ways to the very existence of the parties and the creation of a sense of membership, identity, and common cause among political activists and voters.”

In a context where 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 ideological views.

To study changes in the supply of content related to slavery, we build a model based on Gentzkow and Shapiro, 2010. Two are the key ingredients of the model: first, because readers have preferences for like-minded newspapers, outlets minimize the distance between their ideological slant and the preferences of their potential readers. Second, newspapers can be either partisan or not. A partisan newspaper cannot change political position on a given topic but can strategically modify its level of supply to move toward reader’s preferences.

Under these conditions, a partisan newspaper located in an area were citizens become less pro-slavery reacts by modifying the supply of content related to slavery. The model predicts that a newspaper affiliated to a pro-slavery party to reduce their supply of slavery-related content as its position on the topic become less aligned with the preferences of potential readers. Partisan newspapers affiliated to political parties more critical towards slavery should instead increase their supply of content related to slavery. Non-affiliated newspapers do not need to modify the supply of slavery-related content. The logic behind these results is formalized in Appendix E.7.

To test the prediction of the model, 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 79 pro-slavery newspapers. These include newspapers supporting the Jacksonian or Democratic party, Fire-Eaters, State-Rights or Confederate newspapers. Sixty newspapers are instead 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. All other newspapers are coded as non-partisan. On average, we observe a newspaper for 13 years and 55 issues per year for each newspaper. Newspapers may vary greatly in the frequency of their issues. 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 construct our baseline measure of supply of slave-related content, we first compute the number of times each issue mentions some slavery-related words. Then for each newspaper and year we calculate the average. We separate these words in the 2 topics related to the debate over slavery: abolition and the fugitive laws. 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 “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 10 slavery-related words.

Using these measures, we study changes in newspapers’ behavior, estimating the following equation.

---

45 See Pasley, 2002 p. 4 and p. 11.
46 When Chronicling America reported no information for the newspaper affiliation, we relayed on individual web searches. Section E.1 in Appendix reports few examples of the information on partisanship.
47 The * symbol represents a wildcard character.
\[ y_{ct} = \alpha_c + \gamma_t + \beta_1 LR_{ct} + \beta_2 LR_{ct} I\{\text{Pro-Slavery}\}_c + \beta_3 LR_{ct} I\{\text{Other Affiliation}\}_c + \delta X_{ct} + \epsilon_{ct} \]  
\hspace{1cm} (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 taking an area of 20Km radius from the printing city.\(^4\) For each newspaper, we determine its circulation area and compute statistics for soil characteristics at the circulation area level. Equation 2 estimates changes over time \( t \) in the supply of 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 \( c \).

Table 8: Newspapers

<table>
<thead>
<tr>
<th>All Slavery Related Words</th>
<th>Abolition</th>
<th>Fugitive Runaway</th>
<th>Slave Slavery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pro-slavery ( \hat{\beta}_1 + \hat{\beta}_2 )</td>
<td>-0.920***</td>
<td>-1.223***</td>
<td>-0.790***</td>
</tr>
<tr>
<td>(0.286)</td>
<td>(0.311)</td>
<td>(0.231)</td>
<td>(0.234)</td>
</tr>
<tr>
<td>Other Affiliation ( \hat{\beta}_1 + \hat{\beta}_3 )</td>
<td>1.465***</td>
<td>1.564***</td>
<td>1.028***</td>
</tr>
<tr>
<td>(0.328)</td>
<td>(0.302)</td>
<td>(0.303)</td>
<td>(0.319)</td>
</tr>
<tr>
<td>Observations</td>
<td>1505</td>
<td>1505</td>
<td>1505</td>
</tr>
<tr>
<td>Year FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Newspaper FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Affiliation * Year</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Region * Year</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ln(Distance North) * Year</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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. All estimates are based on the estimation of equation (2). The estimates associated to pro-slavery 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, \( I\{\text{Pro-Slavery}\} \times \text{Year FE}, I\{\text{Other Affiliation}\} \times \text{Year FE, Distance to the North} \times \text{Year FE and Census Region} \times \text{Year FE} \). Standard errors are clustered at the newspaper level. *** \( p<0.01 \), ** \( p<0.05 \), * \( p<0.1 \).

Table 8 shows that changes in the comparative advantage in the use of slave labor had a substantial effect on the supply of content related to slavery. In line with our theoretical expectations, pro-slavery newspapers located in places that lost comparative advantage in the use of slave labor decreased the supply of content related to slavery. The other partisan newspapers instead increased the supply of this type of content. In order to interpret the magnitudes of the estimate notice that \( LR_{ct} \) is normalized so that a newspaper with a median land-rank in 1810 would have experienced, between 1810 and 1860, an increase of \( LR_{ct} \) of 1. On average, a pro-slavery newspaper that in 1810 had a median land-rank decreased by 60% the use of slavery-related words between 1810 and 1860 due to the loss of comparative advantage in the use of slave labor. A partisan newspaper located in the same area that instead was not affiliated with a pro-slavery party increased the use of slavery-related words by three times between 1810 and 1860. In Appendix E.4, we show that we do not observe a similar pattern of supply of newspaper content for some common non-slavery related words (Work, Tax, Price, Bible, Dollar). Table E.6 shows the most frequent bigrams when we restrict the sample to issues mentioning abolition and slavery. This section shows that changes in economic conditions changed the debate over slavery, differently for newspapers representing different political positions, suggesting changes in the underlying perception of slavery at the local level.

\(^4\)In Appendix E.2 we show the location of all newspapers by affiliation. In Appendix E.3 we replicate our results using a 50Km radius as a circulation area.
7.2 Free Black Population

[...] 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

We conclude this section with the analysis of the free black population. Free blacks were a small minority in the Antebellum South who accounted for 6 - 10% of the black population. Their particular status made them the object of rancor and hate. Because the ideology on which slavery was based and justified increasingly relied on racial arguments for the division between free and bond people, free back were perceived as a threat to the institution of slavery. A free black was considered a perverted element of the society as it represented a violation of its natural order. For this reason, differences in the number of free blacks could be an indicator of differences in local social norms and racial attitudes. In this section, we show that changes in the local advantage in the use of slave labor also affected the dynamics of the free blacks population.

Table 9 shows that counties that lost comparative advantage in the use of slave labor experienced an increase in the size of the free black population. We interpret this as an indication of a softening of the local social norms regarding the hierarchy of races. The county with the median land-rank in 1810 experienced an increase in the share of the free blacks of 1.6 percentage points. This represents almost a 30% increase in the free black population.

Table 9: Free Black Population

<table>
<thead>
<tr>
<th></th>
<th>% Free on Black</th>
<th>% Free on Total</th>
<th>ln(Free)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land-Rank\text{it}</td>
<td>0.0163***</td>
<td>0.00386***</td>
<td>0.283**</td>
</tr>
<tr>
<td></td>
<td>(0.00604)</td>
<td>(0.00144)</td>
<td>(0.116)</td>
</tr>
<tr>
<td>Observations</td>
<td>4470</td>
<td>4471</td>
<td>4471</td>
</tr>
<tr>
<td>County FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Region * Year</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ln(Distance North) * Year</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: This table shows the effect of changes in the land-rank on the free black population between 1810 and 1860. The variable of interest is \( \text{LandRank}_{it} = \sum_{j=1}^{N_t} w_j I(RP_j \geq RP_i) \) calculated in million Km\(^2\) of land and \( RP_i = \frac{A_{cotton}^i}{A_{wheat}^i} \). The county with the median RP in 1810 gained 0.942 land-rank between 1810 and 1860. The coefficients in column (1) reports the effect on the share of free blacks on the black population. Column (2) reports the effect on the share of free blacks on the overall population. Column (3) reports the effect on the ln of the free black population. Each regression includes county and year fixed effect, trends in distance from the North and census regional trends. *** \( p < 0.01 \), ** \( p < 0.05 \), * \( p < 0.1 \).

A few possible mechanisms can explain these outcomes. Changes in the number of free blacks could be the result of either migration or changes in local demographic patterns. The former could be explained by economic considerations (free blacks moving to economic opportunities) or immaterial ones (free blacks moving toward counties were the pro-slavery/ anti-free black ideology was lower). The latter could be the result of changes in fertility rates or changes in manumission rates.

Several economic drivers could explain the observed patterns. We study the role of cities and proximity to rivers. Urban areas not only offer better job opportunities but are also places where it is easier to pass as unperceived and move in as foreigners or fugitive slaves. Finally, navigable rivers were a fundamental source of income for the free black population (see Berlin, 1974 for a discussion).

In Appendix F.5 we study the relevance of each one of these mechanisms. Estimates show that the results do not
seem to be driven by economic factors. We further show that fertility cannot not be held responsible for the observed patterns. These results seem to indicate that the differential changes in the free population are better explained by either changes in manumission rates in counties that suffered a loss in the comparative advantage for cotton or free blacks moving to places less hostile to their presence.

8 Discussion of Potential Mechanisms

Our results show the joint transformation of the economic, political, and social environment behind slavery in the US South. Two main mechanisms can explain the results. First, selection could be the primary driver of the political transformation: slave-owners migration could lead to changes in the political equilibrium. Second, changes in the preferences or constraints faced by the local population could determine changes in the observed outcomes. This can be the result of a decrease in the political control exerted by local planters or changes in preferences induced by cognitive dissonance.

8.1 Selection, Age and Gender Structure

In this section, we investigate the proportion of slave relocation and of changes in voting behavior explained by slave-owning household migration. First, we explore differences in the effect of land-rank on the age and gender structure across slave and non-slave-owning households. Significant differences in the distribution of age and gender across slave-ownership status would imply significant differences in migratory patterns, therefore indicating selection as an important mechanism behind the movement of slaves and changes in voting behavior. Appendix F reports the effect of land-rank on age and gender structure, and several moments of the distribution of slaves per slave-owning households. The estimates show a large reduction of the number of slaves per household along all the distribution as a consequence of changes in Land-Rank. Also, gender and age structure is affected, suggesting that changes in comparative advantage affected incentives to migrate to young males. However, Table 10 column (1-3), show that the propensity to migrate determined by land-rank does not differ from members of slave-owning households and members of non-slave-owning households, indicating a limited role for selection as an explanation for our results.

Second, we quantify the importance of the selection channel estimating the upper-bound of the effect passing through slave-owners migration. Table 10 shows the effect of \( LR_{it} \) on the presence of slave-owners (4-6),\(^49\) and on the share of votes for the democratic party during the same period (7-8). To compute the share of the decrease in slaves explained by migration, consider the decline in the number of slave-owning households (164) determined by \( LR_{it} \). A decrease in the number of slave-owning households can result either from migration or from households selling their slave. Assuming that all the 164 households left the county and that these were the 164 largest slave-owning households since the average slave-holding household within the top 164 in 1830 had 14 slaves, we obtain that migration can explain at most 70% of the decline in the number of slaves, \((164 \times 14) / 3188 = .72\). Furthermore, we can compare the change in the share of votes in favor of the Jacksonian / Democratic party to the decline in the number of slave-holding households. Given that the average number of potential voters (white male above 19 years old)\(^50\) per slave-holding household is 1.375 as opposed to 1.25 in non-slave-holding ones, a drop in one pp. in the share of share of slave-holding families implies at most 1.1 pp. change in the share of votes for the Jacksonian / Democratic party. Therefore, a change in 10.6 pp. in the share of slave-owning households can account for 11.7 pp drop in the share of votes. Estimates in Table 10 indicate that migration can account for at most less than a third of the effect for the presidential election and one-fifth of the effect in the gubernatorial election.\(^51\)

\(^{49}\)We only report the change from 1830 to 1840 because these are the only two decades for which we have both household-level data and significant differences across parties in their voting behavior on slavery.

\(^{50}\)The age categories allow aggregation from 20 years old on.

\(^{51}\)1.375/1.25 = .11 so a drop of 10.6 pp in the share of slave-holding household leads to a drop in the share of votes of 10.6 \times 1.1 = 11.7 pp ca.
Table 10: Migration, Slave Relocation and Voting Behavior

<table>
<thead>
<tr>
<th></th>
<th>Male (26-44) per Households</th>
<th>Slave Relocation</th>
<th>Electoral Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Slave Owners</td>
<td>Non Slave Owners</td>
<td>Difference</td>
</tr>
<tr>
<td>$LR_{it}$</td>
<td>0.0210***</td>
<td>0.0181***</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.00517)</td>
<td>(0.00381)</td>
<td>(0.006)</td>
</tr>
<tr>
<td>Observations</td>
<td>2034</td>
<td>2034</td>
<td>2034</td>
</tr>
<tr>
<td>Mean</td>
<td>0.381</td>
<td>353.0</td>
<td>2911.9</td>
</tr>
<tr>
<td>County FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Region * Y FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ln(Dist.)* Y FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sample</td>
<td>1810 - 1840</td>
<td>1810 - 1840</td>
<td>1810 - 1840</td>
</tr>
</tbody>
</table>

Note: The table shows the effect of $LR_{it}$ on the proportion of white males between 26 and 44 years old across slave-owning and non-slave-owning households. The dependent variables are the total number of males of age between 26 and 44 in a given county divided by the total number of households (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), dependents variables are the share of slave-owning households, the number of slave-owning households, and the number of slaves by county between 1830 and 1840. In columns (8-9), the share of votes in favor of the Jacksonian / Democratic party in the presidential and gubernatorial election, between 1830 and 1840. 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. Robust Standard errors, clustered at the county level are in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

8.2 Voting Behavior, Coercion, and Public Goods

A second hypothesis is that the local planters controlled the political system through a paternalistic mix of coercion and private provision of public goods. Counties that lost economic relevance to the planters also became less attractive from a political point of view. This reduced incentives to patronage. Estimates in table 11 show a strong reduction of the presence of planters (households with at least 50 slaves) given a change in $LR_{it}$. The decline of planters is accompanied by a strong increase in voters turnout. These results are considerably larger in States without franchise restriction. Columns (3-4) in table 11 show large differences in the share of votes cast as a share of the male adult population (up to 30 pp.) given a unit difference in $LR_{it}$. In appendix F, we provide additional evidence in favor of this hypothesis. We look at public good provision. Although limited in scope and only available for the 1850 census, our estimates show that counties with higher relative productivity ($RP_i$) in 1850 had a higher level of

52The notion of paternalism has a long tradition in the scholarship on slavery. See for example Fox-Genovese (2005). The term has also been used to describe the labor relation in the postbellum agrarian South by Alston and Ferrie (1993).

53A drop of 2.6 pp. over a sample mean of .08 percent. An effect three times larger the mean.

54By the 1820s, only Virginia and North Carolina imposed property qualifications. These restrictions remained in place until, respectively, 1850 and 1856. Mississippi and Louisiana required voters to be taxpayers to access the ballot until 1832 and 1845 (Engerman and Sokoloff, 2005). Even so, the actual votes cast between 1828 and 1860 show a very large share of voters: on average, 70% of the adult (above 20 years of age) male population cast a ballot. Estimates in table 11 are computed for States and periods with no franchise restriction.
schooling, literacy rates, and books in libraries.\textsuperscript{55} These results are consistent with a view in which individuals in counties that are no more under the control of planters are less constrained in their political and social behavior.

Table 11: Planters and Electoral Turnout

<table>
<thead>
<tr>
<th></th>
<th>Planters</th>
<th>Turnout</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N. of Planters</td>
<td>% of Planters</td>
</tr>
<tr>
<td>$LR_{it}$</td>
<td>-18.23***</td>
<td>-0.0271***</td>
</tr>
<tr>
<td></td>
<td>(2.242)</td>
<td>(0.00307)</td>
</tr>
<tr>
<td>Observations</td>
<td>2128</td>
<td>2128</td>
</tr>
<tr>
<td>Mean</td>
<td>5.732</td>
<td>0.00788</td>
</tr>
<tr>
<td>County FE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year FE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Region * Year FE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ln(Distance North) * Year FE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: The table shows the effect of $LR_{it}$ on the number of planters and the electoral turnout. Planters are defined as those households owning at least 50 slaves. Turnout is computed as the ratio between the casted ballots and the number of white males with more than 20 years of age. Only states and years when the franchise was not restricted are included. Virginia and North Carolina imposed property qualifications until, respectively, 1850 and 1856. Mississippi and Louisiana required voters to be taxpayers, respectively, until 1832 and 1845. All the regressions include 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, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

8.3 Cognitive Dissonance and Social Norms

Finally, a possible interpretation of the results follows the idea that changes in the economic environment, by affecting the decision to own a slave, lead to changes in individual beliefs on the institution of slavery. Central to this notion is the theory of cognitive dissonance.\textsuperscript{56} According to the theory, when individuals are incentivized to act in a manner that is contrary to their beliefs, individuals experience discomfort and adjust their beliefs to minimize the dissonance between their actions and their beliefs. These models predict that attitudinal changes can be a consequence of behavioral changes, rather than their precondition. We interpret the action of owning a slave as behavior involving a certain cognitive cost, which is accommodated with the production of belief on the justifiability of the institution. Motivated beliefs lead to the emergence of interdependence on how people think, determining collective values and social norms. The case of slavery is emblematic of such interdependence since an agent’s payoff is a function of his own action (holding slaves) and the group’s average action. A community with a “healthy” slave system not only reassure the individual slave owner about the economic demand for his assets but also implies a series of positive spillover related to his social image. Such interdependence reinforces themselves through horizontal and intergenerational transmission (Bisin and Verdier, 2001). A decline of the local importance of the slave economy can, therefore, reduce

\textsuperscript{55}Consistently, Clegg (2019), using newly digitalized census information for both 1850 and 1860, has shown that wages were systematically higher in plantations counties with respect to the rest of the South, suggesting that patronage relationship implied better working conditions for the local white population.

\textsuperscript{56}First proposed by Festinger (1957) and later introduced in economics by Hirschman (1965) and by Akerlof and Dickens (1982). For more recent works in economics, see Konow, 2000 and Di Tella et al., 2015b.

33
the need for the production of beliefs in favor of slavery, reduce the social costs involved in deviations from pro-slavery behavior, and eventually, through generations, can lead to the demise of the pro-slavery ideology. Changes in the demand for pro-slavery ideology captured by newspaper behavior and changes in the number of free blacks are best interpreted under this perspective.

9 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 territorial expansion, we find strong evidence in support of economic determinants of the political support for slavery in the Antebellum South. The incorporation of new land to the US territories brought a change in 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-placed counties in the West. The paper shows that this economic transformation had a profound impact on Southern politics leading to a process of polarization that started decades before the Civil War.

Using evidence from Congressman voting behavior, Presidential and Gubernatorial elections, we estimate the effect of a decline in the local slave economy on political support for slavery. We document that both the Jacksonian and Democratic parties voted systematically more in favor of slavery and show that declining economic conditions for slavery led to a decline of the support for these parties and to changes in Congressman behavior itself. We further analyze the link between the economics and politics of slavery. We show that local newspapers changed their coverage of slavery in opposite ways, depending on their political affiliation when exposed to the same economic change. Finally, we show that the free black population increased as a consequence of the decline of the slave economy.

Although restricted to the US South, our analysis suggests that the political and institutional transformation that characterized slavery during the nineteenth-century developed within an economic environment, which was both non-economically reliant on slave labor and carried competing political-economic interests.
References


missions,” Social Forces, 84, 941–966.


