

## Betting on Secession: Quantifying Political Events Surrounding Slavery and the Civil War<sup>†</sup>

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*Lincoln's election produced Southern secession, war, and abolition. Using a new dataset on slave sales, we examine connections between news and slave prices for the period 1856–1861. By August 1861, slave prices had declined by roughly one-third from their 1860 peak. That decline was similar for all age and sex cohorts and thus did not reflect expected emancipation without compensation. The decision to secede reflected beliefs that the North would not invade and that emancipation without compensation was unlikely. Both were encouraged by Lincoln's conciliatory tone before the attack on Fort Sumter, and subsequently dashed by Lincoln's willingness to wage all-out war. (JEL D72, D74, D83, G14, H77, N31, N41)*

*The slaveholders battle any policy which depreciates their slaves as property. What increases the value of this property, they favor.*

—Abraham Lincoln, March 5, 1860 (Huston 2003, p. 149)

*We are not enemies but friends. We must not be enemies.*

—Abraham Lincoln, Inaugural Address, March 4, 1861

The struggle between the Southern slave-based labor system and the Northern “free soil” movement produced bitter and violent conflict throughout the 1850s, which culminated in 1861 with Southern secession and four years of civil war. The American Civil War remains a puzzling event to historians, economists, and political scientists. The Southern decision to secede is clearly traceable, at least in

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large part, to a political push by Southern slave owners, especially in the Deep South. There is no doubt that the key issue in the minds of the advocates of secession was the future of slavery. Secessionists saw the risk that President Lincoln and the newly resurgent Republican Party posed to maintaining slavery as a labor system in the existing South, and to being able to expand the reach of slavery into the territories. But if the goal of secession was preserving the slave system, what were slaveholders' expectations regarding the cost of the war and its possible outcome? Did they anticipate that Lincoln and the North would passively permit secession, or decide to fight? Once war began, did they expect a short, painless war with a quick victory for the South (or at least Northern recognition of the Confederacy), or the long, bloody conflict that would ultimately result in the destruction of the slave labor system? How did the probability weights attached to these possibilities change in 1860 and 1861?<sup>1</sup> In this paper, we investigate those questions by examining the connections between political news related to slavery and the price of slaves during the five-year period leading up to the Civil War and the first months of armed conflict.

Our main contributions include the estimation of a model of slave prices using a new dataset on slave sales from New Orleans. We show that prior to 1860, few political events seemed to affect slave prices, and even the Dred Scott decision had only a small and temporary effect. After Lincoln's nomination for the presidency, slave prices fell, and they continued to fall once the war commenced. The overall decline in slave prices was large (more than one-third from their 1860 peak) and occurred prior to any battle losses by the South.

We also find that this steep initial decline in slave prices was the same for all age and sex cohorts of slaves sold. Thus, the early sharp decline in slave prices should not be interpreted as reflecting the expectation of a likely emancipation of Southern slaves without compensation to their owners. Instead, the decrease in slave prices seems to have reflected rising concerns by slaveholders regarding the consequences of Lincoln's election: most obviously, the potential effects of a protracted war on the value of their wealth, including slaves. In particular, Lincoln's resolve to prevent secession, and the actual waging of war in the late spring and summer of 1861, were perceived by slaveholders as a severe adverse shock in the market for slaves.

<sup>1</sup>Wright (1978) reviews both of these categories of economic arguments relating to secession, and considers the difficult economic calculations that are embedded within them. Wright shows how challenging it is to demonstrate the connection between the decisions to secede and an increase in the expected value of slaves. By leaving the Union, the South created a new Union, from which it was excluded, with a united and powerful supermajority in favor of precisely the policies it feared most. How would an isolated and hostile Confederacy be able to defend itself against the much more populous North, and how would the South be able to successfully compete militarily and economically against the North to expand into the Western territories? Furthermore, the permanent status of the territories of greatest obvious value for the potential expansion of slavery had already been determined (or could have been predicted) by December 1860. Most important, Kansas was finally admitted to the Union as a free state in January 1861. The secession debates, however, make one thing absolutely clear: slavery's future was perceived as being at risk, whether or not the South seceded. Although there was no imminent risk of the abolition of slavery (see the online Appendix for further discussion), the ability of the South to expand slavery into the West was in doubt, given that Lincoln vowed to prevent it. Furthermore, Southerners worried about the long-term prospects of slavery within the South. Both sides in the Southern secession debate recognized that the consequences of secession or remaining within the Union were highly uncertain, given Lincoln's electoral victory. There was no way to play it safe.

## I. Slave Prices, Dred Scott, and the Civil War

Why use slave prices to quantify the economic importance of political events? Slave prices measure market perceptions of the discounted present value of future income and other benefits that masters expected to gain from the labor of their slaves. In particular, the threat of war and its expected costs had important implications for the market value of slaves. One potential cost to slaveholders was expropriation: that is, emancipation without slaveholder compensation. An increased fear of emancipation without compensation would have shortened the expected economic lifetime of the slaves and consequently lowered their prices. Even if emancipation without compensation was not a major concern to slaveholders, the threat of war could have lowered slave prices, either because of anticipated higher taxes or anticipated reductions in the productivity of slave labor due to war-related disruptions. Furthermore, the desire to maximize the value of slave wealth clearly was an important underlying cause for the South's decision to secede from the Union.<sup>2</sup> Slave prices, therefore, are a natural measure of changing perceptions of the outcome of the South's bet on secession.

Slaves were valuable financial assets and represented a significant share of Southern wealth. Goldin (1973), for example, estimates the market value of slaves at \$2.7 billion, where Ransom and Sutch (1988) give a slightly higher figure of \$3 billion (in 1860 US\$). Because slaves were mobile, the prices of slaves in New Orleans should reflect those of other slaves deployed elsewhere in the South.<sup>3</sup> An analysis of slave prices, therefore, should provide a good indication of price movements throughout the South.

The Civil War was the culmination of many different political events involving slavery. Slave prices are forward-looking opinion aggregators that can help sort out the relative importance of various events and their perceived meaning, and therefore, can tell us whether news was a positive or a negative for slaveholders, and if so, how much. Absent the use of slave prices, it can be difficult to interpret the economic significance of these events.

<sup>2</sup>We will not review here the voluminous literature establishing that secession was motivated by concerns related to slavery, which we regard as beyond reasonable doubt, based on the simple facts surrounding the secession decisions (that is, the debates and conflicts that preceded and coincided with secession). That does not mean, however, that secession reflected a large expected gain in slave values, nor does it mean that secession was regarded as a low-risk decision. Opponents of secession argued strongly for remaining in the Union as a better way to preserve slave wealth. Proponents and opponents of secession engaged in protracted debates about the probabilities of various political scenarios. They disagreed about the probabilities to attach to prospective events, and those disagreements explain why the debates were so protracted. Participants considered a wide array of forward-looking possibilities about the economic consequences for slavery of secession, and both sides recognized substantial probabilities of loss from secession as well as gain. The debates were extremely sophisticated and balanced. Indeed, reading the speeches now, it is hard to come to the conclusion that there was an obvious economic case either for or against secession. Georgia and Virginia were particularly crucial cases in the sequence of seceding states, and in neither case could one say that secession was obviously in the interest of slave owners (see Freehling and Simpson 1992, 2010). For background on the struggle over slavery, from the perspectives of the North, the South, and the West, see, for example, Stamp (1965); Fehrenbacher (1962); Dusi (1965); Gaedert (1974); Wright (1978, ch. 5); Fogel (1989); Zarefsky (1990); Freehling and Simpson (1992, 2010); and Basler (2001).

<sup>3</sup>Ransom and Sutch (1988) estimate that slave capital represented 44 percent of all wealth in the cotton-growing states in 1859. The threat of war and/or emancipation would have been felt by all slaveholders, even if regional price movements were, in some sense, independent. Wright (1978, p. 142) writes that "slaves were moveable and saleable and their value was determined in an efficient region-wide market independently of local crops, local productivity, and local development... The value of slave property was a great unifying factor for the South, and an economic interest, largely separate from the interest in the success of Southern agriculture, developed around these values." See also Deyle (2009) and Ewing et al. (2002).

We illustrate that point by analyzing accounts from contemporary newspapers and journals to gauge the importance of the Dred Scott decision of March 6, 1857. As the discussion shows, often political events had ambiguous effects on the institution of slavery. The Supreme Court ruled that Dred Scott (a Southern slave who had temporarily resided on free soil) had to be returned to his Southern master, but the Supreme Court's decision went much further, arguing that federal actions to limit the spread of slavery, beginning with the Missouri Compromise, were unconstitutional. The implication was that all territories in America were open to slavery. States could still decide to exclude slavery within their borders, but even then, they had to respect the property rights of slave owners over slaves residing within their own borders.

The initial reaction to the Dred Scott decision was jubilant in the South.<sup>4</sup> On March 14, 1857, an article in New Orleans' *Daily Bee* predicted that the decision "... will exert the most powerful and salutary influence throughout the United States." Similarly, on March 15, the *Louisiana Courier* wrote that "[n]o judicial tribunal has ever rendered a more important decision than that of the US Supreme Court in the case of Scott versus Sanford ... It must be exceedingly gratifying to the advocates of democracy, who have so long and so vigorously contended against the odious Missouri restriction, to hear from the highest authority a confirmation of all they have heretofore maintained, as to the unconstitutionality of that act." New Orleans' *Daily Picayune* optimistically predicted on March 20, 1857 that "the Union men of the country, of all sections, who are for the constitution as it is, will be able, we trust, to put down effectively all forms of incendiary agitation, and restore quiet and harmony to the country."<sup>5</sup>

But as early as March 19, 1857, there was recognition of the fact that a political backlash in the North could offset or even eliminate the gains from the decision. On that date, the *Louisiana Courier* wrote about its concern that "Black Republican lamentations" might "succeed in electing Ethiopian presidents..." In New Orleans' *Daily Bee*, on March 21, 1857, similar fears were voiced: "But he is a shallow observer of events and an unskilful judge of human nature, who imagines that the verdict of the Supreme Court—though consonant with right and justice, and consistent with the soundest interpretation of the federal compact—will, as if by magic, dissipate all preconceived opinions, dispel hostile views, and restore the era of fraternal harmony and peace ... The verdict of the Supreme Court breaks like an angry wave against the impregnable rock of Northern fanaticism." The April 1857 issue of *De Bow's Review* expressed a similar sentiment, predicting that the North "is about to change its position" and will "organize upon the basis of this another party, which shall struggle again for the control, and as must be the result if successful, the overthrow of the Republic..."<sup>6</sup>

<sup>4</sup>There were rumors about the decision prior to March. On January 1, 1857, the *New York Herald* reported the false rumor that the Court had decided to rule that the Missouri Compromise was unconstitutional. In fact, we know from internal documents that the Court did not decide to broaden the case until mid-February 1857, so any such rumors were wrong. Nonetheless, they may have affected slave prices (Maltz 2007). See also "The Dred Scott Case." *The Daily Picayune*, January 10, 1857.

<sup>5</sup>"The Dred Scott Case." *Daily Bee*, March 14, 1857; "Untitled." *Louisiana Courier*, March 15, 1857; "The Supreme Court." *Daily Picayune*, March 20, 1857.

<sup>6</sup>"Black Republican Lamentations." *Louisiana Courier*, March 19, 1857; "The Dred Scott Case." *Daily Bee*, March 21, 1857; "Dred Scott in the Supreme Court." *De Bow's Review*, April 1, 1857.

It is interesting to note the level of sophistication of the discussion of Dred Scott's potential effects on slave prices, including the recognition of the possible harm to slave owners (and benefit to the North) from reduced commodity prices. Consider this passage from *De Bow's Review*, April 1857: "Economically, the extension of slavery will injure the South and benefit the North. It will cheapen the raw material and enhance the price of manufactured articles. It will increase the trade and commerce of the North, multiply her customers, cheapen cotton, sugar, molasses, rice, meats, wheat, and Indian corn, and thus injure the South whilst it benefits the North. The extension of free society will have the exact opposite effect, and rear up rivals and competitors, instead of customers, for the old free States. The South desires slavery extension only as a means of defence against the inroads of abolition." Clearly, as people thought about the consequences of the Dred Scott decision, they saw complex economic and political implications for the institution of slavery and for the South.<sup>7</sup>

From today's vantage point, the Dred Scott decision was a turning point in American political and legal history. Politically, it marked the beginning of Abraham Lincoln's prominence as a politician; seeking to overturn the Dred Scott decision became the focal point of Lincoln's speeches and his famous debates with Senator Douglas. Although Lincoln was defeated by Douglas in the race for Senate in 1858, Lincoln's successful presidential election campaign in 1860 continued to focus specifically on his advocacy against the Dred Scott decision. With respect to legal history, Dred Scott was the apogee of the Supreme Court's defense of "states' rights," and the Taney Court was the high-water mark of Southern influence; Lincoln's election, the Civil War, and its aftermath changed the direction of the court, and ushered in a new era of Supreme Court acquiescence with the will of the national government under Northern control.

The Dred Scott decision had important economic consequences for both the North and the South. Calomiris and Schweikart (1991) and Wahl (2012) argue that the Dred Scott decision was an important adverse shock to Northern immigration and infrastructure expansion plans. Along with other events that contributed to the conflict between free soil and slave interests, especially in Kansas, it rendered politically impossible for the time being the construction of a transcontinental railroad, which was disastrous for the speculation in Western railroad securities that was running very high in the mid-1850s. According to this view, the Dred Scott

<sup>7</sup> "The Conservative Principle; Or, Social Evils and Their Remedies." *De Bow's Review*, April 1, 1857. Slave prices equal the discounted present value of future earnings and the value of the marginal product of enslaved labor is approximated by the product of cotton prices and the marginal physical product of labor. Because of the South's near monopoly in cotton production, expanded cotton production as a result of the western expansion of slave territories would have increased the marginal product of enslaved labor and decreased the price of cotton. The net effect on slave prices depends on the elasticity of substitution of land and slaves, land's share of total output, and the price elasticity of demand for cotton. See Passell and Wright (1972); Kotlikoff and Pinera (1977); Lee (1978); and Schmitz and Schaefer (1981).

Because the author sought to quell Northern opposition to the Dred Scott decision, this quotation may exemplify ostensible economic sophistication in the service of political special pleading. The primary audience of *De Bow's Review* was Southern planters and it suggests that informed parties were debating the possible economic consequences of the decision. As such, we believe that this quotation provides additional support for the methodology used in our paper. Slave prices, as forward-looking opinion aggregators, allow us to weigh differing opinions regarding political events surrounding slavery.



decision—and the broader conflict over slavery—was instrumental in setting in motion the Panic of 1857.

The Dred Scott decision was just one of many widely discussed events during the period 1857 to 1860 that had potentially significant, but often ambiguous, implications for the value of slaves. Table 1 lists the principal political events related to the conflict over slavery from 1857 through mid-1861. Some of the other salient events of this era include the end of the bloody political struggle over whether Kansas would be admitted to the Union as a slave or free-soil state, which was resolved in pieces over the period 1855–1860; Lincoln’s defeat in 1858; the attack by John Brown on Harpers Ferry in October 1859; the Democratic National Conventions in April 1860 and June 1860; the nomination of Lincoln in May 1860; Lincoln’s election in November 1860; the secession of the various Southern states that occurred in the aftermath of Lincoln’s election (beginning with South Carolina’s decision to secede on December 20, 1860); the South’s attack on Fort Sumter on April 12, 1861; and President Lincoln’s response, which took the form of a massive troop mobilization, a blockade of Southern ports, and various military campaigns into the South in mid-1861. We gauge the importance of each of these events through our analysis of their effects on the prices of slaves sold in New Orleans.

## II. New Orleans Sales Data

To track responses of slave prices to political events, one needs a sufficient amount of sales price data at sufficiently high frequency. Because individual slaves and slave transactions were highly heterogeneous in several important respects, the construction of a comparable price measure requires a sample with many observations of sales for each time period.<sup>8</sup> The Fogel and Engerman database on slave sales is useful for many purposes (see, for example, Calomiris and Pritchett 2009), but it does not contain a sufficiently large number of observations for each month to make it usable for our purpose.

For our study, we developed a new database for all slaves sold in New Orleans, Louisiana between 1856 and 1861. During this time, New Orleans was the largest city in the South and the site of its largest slave market. Unlike states with a common law tradition, Louisiana treated slaves like real estate, and slave sales had to be recorded and notarized in order to establish title (Louisiana 1806).<sup>9</sup> Today, the records of these slave sales may be found in the New Orleans Conveyance Office (importantly, none of these records appear to be missing). Because of the availability of these records and the size of the market, New Orleans is the best source for data on slave sales within the United States.

For the period October 1856–August 1861, we have collected data for all slave transactions in New Orleans, representing the sales of more than 16,000 slaves.

<sup>8</sup>Cross-sectional regression analysis typically accounts for less than 50 percent of the variation in individual prices. For example, using Fogel and Engerman’s sample of New Orleans slave sales, Kotlikoff (1979) reports an  $R^2$  of 0.479. Much of the remaining price variation is due to individual characteristics which were not recorded by the notary at the time of sale. In this paper, we analyze the temporal variation in slave prices using regression covariates indicating the timing of sales. The greater precision of our estimation of time effects using the complete New Orleans sample reflects the larger number of observations for each month.

<sup>9</sup>*An Act Prescribing the Rules and Conduct to Be Observed with Respect to Negroes and Other Slaves of This Territory*, Act of June 7, 1806, Acts of the Territory of Orleans, 150, 154, 1807.

TABLE 1—SIGNIFICANT POLITICAL EVENTS RELATED TO THE CIVIL WAR, 1857 TO JULY 1861

March 6, 1857	Supreme Court's Dred Scott decision is announced
October 1857	Banking Panic of 1857
April 1, 1858	US House of Representatives rejects Kansas statehood under the Lecompton Constitution
November 2, 1858	Stephen Douglas defeats Abraham Lincoln for US Senate. Douglas advocates so-called "Freeport Doctrine," a de facto rejection of the Dred Scott decision
June 7, 1859	Kansas election of delegates to Wyandotte Constitutional Convention (in which Republicans elected 35 delegates against the Democrats' 17)
July 5, 1859	Wyandotte Constitutional Convention meets
October 4, 1859	Ratification (by popular vote) of Wyandotte Constitution, despite Democratic opposition
October 16, 1859	John Brown's Raid on Harpers Ferry
December 2, 1859	John Brown is executed
April 23 to May 3, 1860	Democratic National Convention in Charleston splits the party, helps to ensure Republican victory
May 8, 1860	Abraham Lincoln nominated as US Republican presidential candidate
June 18, 1860	Democratic National Convention in Baltimore nominates Douglas
November 6, 1860	Lincoln wins the presidential election
December 18, 1860	Crittenden Compromise proposed in US Congress to preserve slavery in the South
December 20, 1860	South Carolina secedes
January 9, 1861	Mississippi secedes
January 10, 1861	Florida secedes
January 11, 1861	Alabama secedes
January 18, 1861	Georgia secedes
January 21, 1861	Louisiana secedes
January 29, 1861	Kansas becomes admitted as a state
February 1, 1861	Texas secedes
February 4, 1861	Confederate States of America are formed
February 1861	Attempted Peace Conference
March 2, 1861	Corwin Amendment Passed by US Congress
March 4, 1861	Abraham Lincoln is inaugurated
March 11, 1861	Confederate States Constitution adopted
April 12, 1861	Confederacy fires on Fort Sumter
April 15, 1861	Lincoln mobilizes federal troops
April 17, 1861	Virginia secedes
May 6, 1861	Arkansas secedes
May 7, 1861	Tennessee secedes
May 13, 1861	Queen Victoria recognizes the Confederacy as having "belligerent rights," signaling possible British intervention on their behalf
May 20, 1860	North Carolina secedes
May 23, 1861	West Virginia secedes from Virginia
July 21, 1861	First Battle of Manassas, Confederate victory
July 25, 1861	Crittenden-Johnson Resolution to preserve the Union

As indicated by the histogram presented in Figure 1, New Orleans slave sales were highly seasonal; monthly sales were approximately three times greater in the winter than in the summer. In part, this reflects the well-known health hazards related to contagious disease in New Orleans during the summer months. In addition, slave sales decreased sharply following the political turmoil that began in late 1860.

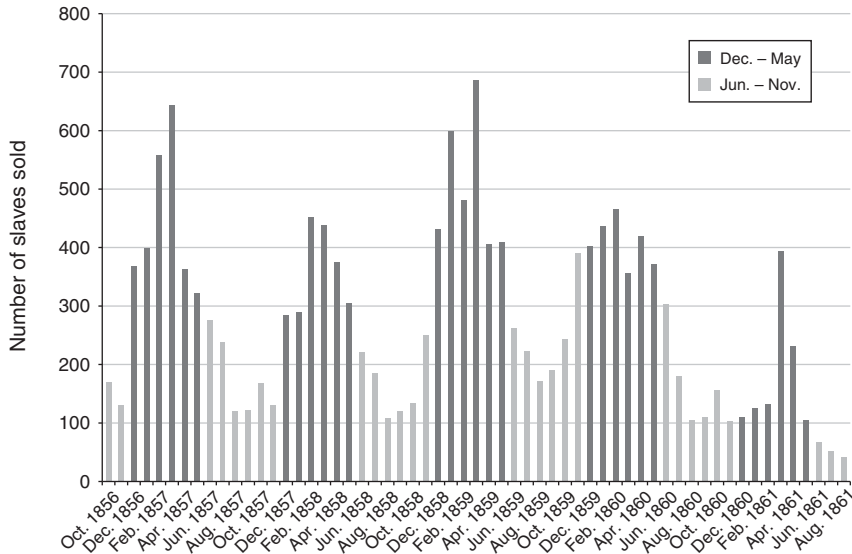


FIGURE 1. FREQUENCY OF NEW ORLEANS SLAVE SALES, 1856–1861

Source: New Orleans Conveyance Office

Variation in the volume of sales by interregional slave traders contributed to both of these effects. Although our focus is on price variation, the changes in trading volume are noteworthy as indicators of the politically driven upheaval in the slave market in 1860–1861.

Our initial sample includes the records of 16,657 slaves sold in New Orleans between October 1, 1856 and August 31, 1861. Under Louisiana law, children aged ten years or less were to be sold with their living mothers (Louisiana 1806). We find that 2,194 children were bundled with their mothers when sold, resulting in a sample of 14,463 principal slaves.

Not all observations may be used for our regression analysis (a summary of the dropped observations is presented in Table 2). Dropped observations include nonmarket transactions, rental or barter agreements, and exchanges. The records of slaves bundled with other property such as land, equipment, or a business were dropped from the sample. Observations corresponding to the sale of partial ownership of slaves were also dropped from the sample. We also dropped observations with missing age, gender, or credit information and sales between related individuals. Sales with special covenants (such as the right to repurchase within a specified time period) were also excluded from the sample. We also excluded observations where older children were bundled with their mothers.<sup>10</sup> The records of slaves sold in groups for a single price were also dropped from the sample.<sup>11</sup> Finally,

<sup>10</sup>For example, a 32-year-old male was sold with his (older) mother for a single price. Because the child likely was more valuable than the mother, using the mother's characteristics to determine the bundled price is inappropriate.

<sup>11</sup>A comparison on the prices for slaves sold singly and for those sold in groups can be found in Calomiris and Pritchett (2009).



TABLE 2—DATA OBSERVATIONS DROPPED FROM THE SAMPLE

	Sample	Dropped observations
<i>Original sample</i>	14,463	
Barter, exchanges, rentals, and non-sales		283
Slaves bundled with property and/or missing price data		769
Sale of partial ownership		66
Credit sales without credit terms		84
Not arm's length transaction		82
Special covenants (redemptions or retrocessions)		131
Missing age or gender information		139
Mother sold with older child (aged more than ten years)		270
Group sale without individual price information		2,414
Outliers		16
Total		4,254
<i>Working sample</i>	10,209	

we dropped the records of 16 outliers from the sample.<sup>12</sup> Overall, 4,254 observations are removed from the initial sample, resulting in a working sample of 10,209 observations.

### A. Constructing a Hedonic Price Index

We estimate an index of slave prices using regression analysis, where the unit of observation is the individual and the dependent variable is the natural logarithm of price. Formally, the slave's price is

$$(1) \quad \ln(P_{it}) = \beta_0 + X_{it}\beta_1 + Z_i\gamma + \delta_t + u_{it},$$

where  $P_{it}$  is the price of slave  $i$  at time  $t$ ,  $X_{it}$  is the time-variant covariate,  $Z_i$  is the time-invariant covariate,  $\delta_t$  is a market price index, and  $u_{it}$  is the error term.

Regression 1 in Table 3 reports estimated regression coefficients for relevant time-invariant covariates as identified by prior research (Fogel and Engerman 1974; Kotlikoff 1979, 1992; and Calomiris and Pritchett 2009). Other things equal, males sold for higher prices than females and a lighter skin color increased the price of females but not of males. Transactions that offered guarantees to buyers commanded higher prices (see Pritchett and Smith 2013). Mothers bundled with children sold for higher prices than comparable females and older children sold for more than younger children. Prices for credit sales may have been inflated due to the opportunity cost of the borrowed funds. Consequently, we substitute the present value of the payment stream, discounted at an appropriate discount rate, for the recorded

<sup>12</sup>Outliers include two runaways (one of whom was contemporaneously absent at the time of sale), two slaves who were blind in both eyes, a cripple, and two slaves who were guaranteed in title only. In addition, two slaves were sold at very low prices (\$5 each) with a condition that they be emancipated. Although we include covariates for slaves who were sold without warranty, or with a condition of emancipation, it appears that these instruments are a bit too blunt to capture the price variation for these lower-valued slaves. The effect of dropping almost 30 percent of the observations on the representativeness of the working sample is discussed in the online Appendix.

TABLE 3—OLS REGRESSION RESULTS FOR NEW ORLEANS SLAVE SALES, OCTOBER 1856 TO AUGUST 1861

Covariate	Regression 1		Regression 2		Descriptive statistics	
	Estimated coefficient	SE	Estimated coefficient	SE	Mean	SD
Dependent variable: logarithm of slave's price					6.865	0.503
Logarithm of British consol price			1.727**	0.735	4.549	0.022
Jan. 1, 1857–Feb. 28, 1857 (1=yes, 0=no)			-0.119***	0.019	0.057	0.232
Mar. 7, 1857–May 6, 1857 (1=yes, 0=no)			-0.043*	0.022	0.048	0.213
Oct. 1, 1857–Nov. 30, 1857 (1=yes, 0=no)			-0.020	0.046	0.017	0.129
Feb. 23, 1860–Apr. 22, 1860 (1=yes, 0=no)			0.139***	0.018	0.046	0.210
Jun. 25, 1860–Aug. 24, 1860 (1=yes, 0=no)			0.148***	0.022	0.020	0.141
Nov. 7, 1860–Jan. 6, 1861 (1=yes, 0=no)			-0.026	0.051	0.014	0.116
Apr. 12, 1861–Jun. 11, 1861 (1=yes, 0=no)			0.010	0.028	0.016	0.126
Jul. 21, 1861–Aug. 31, 1861 (1=yes, 0=no)			-0.132***	0.042	0.004	0.063
Sold during summer 1858 (1=yes, 0=no)			-0.090***	0.033	0.031	0.172
Sold during fall 1858 (1=yes, 0=no)			-0.106***	0.032	0.029	0.168
Male (1=yes, 0=no)	0.337**	0.155	0.355**	0.143	0.467	0.499
Light-colored female (1=yes, 0=no)	0.033***	0.010	0.032***	0.011	0.148	0.355
Light-colored male (1=yes, 0=no)	-0.003	0.012	0.002	0.012	0.090	0.287
Male sold with guarantee (1=yes, 0=no)	0.213***	0.030	0.157***	0.050	0.446	0.497
Female sold with guarantee (1=yes, 0=no)	0.345***	0.036	0.301***	0.048	0.510	0.500
Children, ages 1–2, sold with mother	0.036**	0.015	0.045***	0.016	0.057	0.245
Children, ages 3–5, sold with mother	0.172***	0.016	0.182***	0.016	0.038	0.204
Children, ages 6–9, sold with mother	0.356***	0.016	0.360***	0.017	0.039	0.217
Sold on credit (1=yes, 0=no)	0.045***	0.010	0.039***	0.011	0.242	0.428
Credit sale with 8 percent interest (1=yes, 0=no)	0.029**	0.012	0.038***	0.012	0.124	0.329
Skilled worker (1=yes, 0=no)	0.347***	0.135	0.236	0.190	0.002	0.045
Female with household occupation (1=yes, 0=no)	0.300**	0.147	0.234	0.147	0.001	0.028
Male with household occupation (1=yes, 0=no)	0.460***	0.145	0.333*	0.176	0.000	0.017
No recorded occupation (1=yes, 0=no)	0.145*	0.086	0.013	0.112	0.997	0.058
Seller is small slave trader (1=yes, 0=no)	0.066***	0.011	0.072***	0.013	0.110	0.313
Seller is large slave trader (1=yes, 0=no)	0.162***	0.008	0.164***	0.012	0.254	0.435
Sold with family member (1=yes, 0=no)	0.031*	0.017	0.011	0.021	0.104	0.305
Buyer from New Orleans (1=yes, 0=no)	-0.041***	0.007	-0.032**	0.013	0.659	0.474
Sold at estate sale (1=yes, 0=no)	-0.031	0.024	-0.017	0.036	0.029	0.168
Emancipation (1=yes, 0=no)	-0.153**	0.062	-0.156**	0.061	0.008	0.091
Self-purchase (1=yes, 0=no)	-0.360**	0.151	-0.378**	0.145	0.002	0.046
Sold in group of 2–5 slaves (1=yes, 0=no)	0.065***	0.009	0.070***	0.012	0.227	0.419
Sold in group of 6+ slaves (1=yes, 0=no)	0.024**	0.009	0.023	0.014	0.138	0.345
Age in years	0.390***	0.033	0.393***	0.036	25.483	10.852
Age2 · 10 <sup>-2</sup>	-2.456***	0.357	-2.448***	0.377	7.672	6.762
Age3 · 10 <sup>-3</sup>	0.850***	0.186	0.831***	0.193	26.681	37.174
Age4 · 10 <sup>-4</sup>	-0.175***	0.049	-0.167***	0.051	104.573	206.746
Age5 · 10 <sup>-5</sup>	0.019***	0.006	0.018***	0.007	450.685	1,199.825
Age6 · 10 <sup>-6</sup>	-0.001***	0.000	-0.001**	0.000	2,093.655	7,298.957
Male · Age	-0.113***	0.042	-0.119***	0.042	11.643	14.190
Male · Age <sup>2</sup> · 10 <sup>-2</sup>	1.410***	0.459	1.465***	0.472	3.369	5.577
Male · Age <sup>3</sup> · 10 <sup>-3</sup>	-0.706***	0.238	-0.728***	0.246	11.222	26.362
Male · Age <sup>4</sup> · 10 <sup>-4</sup>	0.174***	0.062	0.178***	0.064	42.450	138.596
Male · Age <sup>5</sup> · 10 <sup>-5</sup>	-0.021***	0.008	-0.021**	0.008	178.765	785.972
Male · Age <sup>6</sup> · 10 <sup>-6</sup>	0.001**	0.000	0.001**	0.000	820.825	4,738.155
Covariates indicating month and year of sale	Yes		No			
Intercept	3.788*	0.149	-3.786	3.332	1	
Observations	10,209		10,209			
F-statistic	194.47		1,860.59			
R <sup>2</sup>	0.641		0.605			
Root mean squared error (RMSE)	0.304		0.317			

Notes: Data are seasonally adjusted. The dependent variable is the natural logarithm of the slave's price. The omitted variable refers to an unguaranteed, unskilled, dark-colored female, sold singly for cash to an out-of-town buyer. For regression 1, standard errors are heteroscedasticity-consistent, and for regression 2, standard errors are clustered by month of sale. Small slave traders are defined as sellers who sold 10–49 slaves during the sample period. Large slave traders sold 50+ slaves.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

Source: New Orleans Conveyance Office

market price.<sup>13</sup> In addition, because Louisiana had a usury law, we include a covariate indicating credit sales at the maximum rate of 8 percent per annum.<sup>14</sup> Compared to slaves with unreported occupations, skilled slaves commanded higher market prices.<sup>15</sup> Calomiris and Pritchett (2009) show that other attributes of transactions included here (whether they are part of family or group sales, and the origin of the buyer) mattered for transactions through a variety of potential channels, including selectivity bias. We follow Kotlikoff (1979, 1992) and others in modeling the age profile of slave prices for males and females using a sixth-degree polynomial. The price-age profiles show the familiar pattern of a hump-shaped relationship between price and age. Boys and girls have similar prices, adult males command higher prices than adult females, the female profile peaks at age 22 and the male profile peaks at age 24.<sup>16</sup>

Because of yellow fever, New Orleans slave prices may have varied in a seasonal fashion. Yellow fever was especially deadly during the 1850s, with major epidemics occurring in the years 1853–1855 and 1858 (Carrigan 1961). The yellow fever virus is transmitted by the female *Aedes aegypti* mosquito and the mosquito is most active during the summer and early fall. Once infected, a person who recovers from yellow fever is immune from the disease in the future. Because they survived a previous infection, most long-term residents were not at risk during an epidemic (Pritchett and Tunali 1995). Consequently, nonresident market participants were most susceptible to yellow fever and they could minimize their mortality risk by making trips to New Orleans during the nonsummer months. Nonresidents were notably absent during major epidemics. The decline in market activity during the summer (visible in Figure 1) could affect prices through significant changes in supply and demand.

To capture the effect of seasonal variation in supply and demand, we seasonally adjust our data using quarterly indicator variables derived from Fogel and Engerman's (1974) sample for the period 1840–1860.<sup>17</sup> This seasonal adjustment removes the effect of an average price reduction of 4.3 percent for slaves sold during the summer months. In Regression 2 of Table 3, we control for the yellow fever epidemic of 1858 by including two additional indicator variables, one for the summer of 1858 and another for the fall of 1858. These variables exhibit negative coefficients in Table 3, reflecting the special risks to market participants during the summer and fall of 1858.

The types of slaves sold by traders may have also affected the seasonality of slave prices. Interregional traders selected higher-valued slaves for sale in New Orleans (as shown in Pritchett and Chamberlain 1993). Because slave sales by interregional traders were highly seasonal, selectivity bias could create seasonality in the

<sup>13</sup> See the online Appendix regarding the relative number of credit sales, and the estimation of the discount rate for those credit sales without recorded interest rates.

<sup>14</sup> For credit sales with a binding interest rate usury constraint, the nominal reported price may exaggerate the cash-equivalent price, hence the need to include this indicator variable. The positive estimated coefficient on this indicator confirms the hypothesis that sales prices overstate cash-equivalent prices for credit transactions at the binding usury rate of interest.

<sup>15</sup> Because the conveyance records underreport the occupations of slaves (Pritchett and Hayes forthcoming), the estimated coefficients for occupation should be viewed with caution.

<sup>16</sup> Age-price profiles using polynomials for age (as estimated in Table 3) and using bins for age are found in Figure A7 of the online Appendix.

<sup>17</sup> Our monthly sample is observed only for five years, which does not permit reliable estimation of seasonals within our short sample.

unobserved characteristics of slaves being sold (that is, characteristics not captured by the hedonic model). If traders selected higher-value slaves, then it follows that slave sales involving interregional traders as sellers should have higher unobservable value.

To control for selectivity bias, we include covariates indicating the seller's trading status. Because the seller's occupation was not recorded on the invoice at the time of sale, we infer the seller's trading status from the frequency of slave sales. In particular, sellers who sold 10–49 slaves during the sample period are classified as small traders and sellers who sold 50 or more slaves are classified as large traders. As seen in Table 3, these regression coefficients are positive and statistically significant, suggesting that traders selected slaves with higher-valued, unobserved characteristics.

Figure 2 plots the regression coefficients for each month as estimated in regression 1 of Table 3. For comparison, Figure 2 also plots the monthly average price for males aged 18 to 30 years without recorded occupation or defect. Although both indices follow similar temporal patterns, they are not identical, which shows the usefulness of taking into account the specifics of age and other characteristics of slave transactions rather than simply averaging sales prices for a subset of the population.<sup>18</sup> Our regression analysis includes all 10,209 observations in the working sample, of which 2,814 are prime-aged males.<sup>19</sup>

### III. Political and Economic Events Seen through the Lens of Regression Analysis

As illustrated in Figure 2, slave prices increased 9 log points between October 1856 and April 1857 (presumably reflecting the influence of Dred Scott). Prices then declined 10 log points by November 1857 (presumably reflecting the economic contraction of that time, related in part to the causes and consequences of the Panic of 1857). During the next two years, slave prices increased 33 log points (or approximately 39 percent, a rapid increase noted by many contemporary and current scholars). Although the turning point is uncertain, prices appear to peak in summer 1860 (possibly coinciding with Lincoln's nomination) and begin to decline during the fall presidential campaign. Compared with prices in May 1860, we find that slave prices fell 26 log points by December 1860.<sup>20</sup> Interestingly, slave prices appeared to stabilize between December 1860 and April 1861, increasing by 11 log points. The political turmoil caused by the secession crisis and the formation of the Confederacy was accompanied by relatively little change in slave prices. This is not surprising. Given that the decision to secede was made in large part to protect the value of slaves, and given that the vote to secede was very close in some key states,

<sup>18</sup>We note that the index constructed from the average price of prime-aged males reaches its peak in October 1859, coinciding with John Brown's raid on Harpers Ferry, whereas the hedonic index reaches its peak in September 1860. Both indices sharply decline during the fall 1860 presidential campaign. Covariates indicating month and year are jointly statistically significant ( $F(58, 10,117) = 24.3, p < 0.0001$ ) and including them in the regression equation increases the adjusted  $R^2$  by approximately 5 percentage points. On the construction of hedonic price indices for slaves, see Levendis (2007).

<sup>19</sup>In addition, relatively few prime-aged males were sold during the summer months, rendering price estimates that rely only on prime-aged males especially problematic during those months.

<sup>20</sup>Consistent with the decrease in New Orleans slave prices, Tadman (1989) reports falling prices in Richmond, VA, between September 11, 1860 and January 5, 1861.

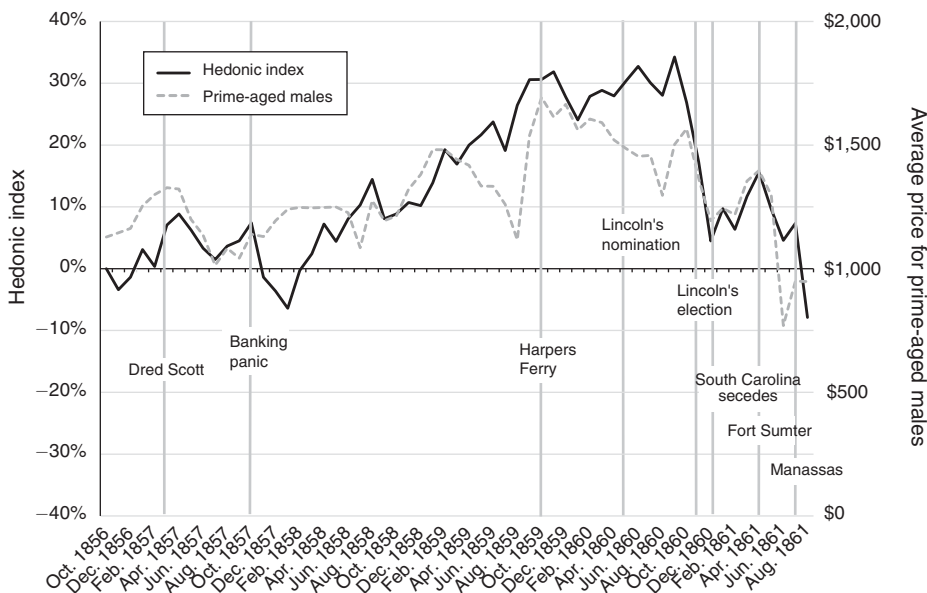


FIGURE 2. HEDONIC PRICE INDEX AND AVERAGE PRICE FOR PRIME-AGED MALES, 1856–1861

Source: Hedonic index from regression 1, Table 3, average price of prime-aged males calculated from New Orleans Conveyance Office.

it is likely that secession, per se, was not perceived either as obviously bad or good news about slave prices.<sup>21</sup>

Slave prices declined steadily following the firing on Fort Sumter and Lincoln's decision to mobilize federal troops in April. The decline continued into the summer. Compared with April 1861, we find that prices declined 24 log points by August 1861. Slave prices declined despite the Confederate victory at Manassas, the first major battle of the war.

Are there clear connections between historical narratives of the political struggle over slavery and slave prices? To draw inferences about events' consequences, we measure the extent, and statistical significance, of changes in the hedonic price index over time. We employ two different methods for doing so. First, using regression 1

<sup>21</sup>The fact that all the states in which large numbers of slaves resided ended up voting for secession does not indicate that secession was a predictable outcome. Georgia's vote in favor of secession, which many regard as a pivotal event, was quite close. On January 19, 1861, the Georgia Convention voted to secede by 166 to 130 (Freehling and Simpson 1992). Virginia (which contained more slaves than any other state in 1861) was deeply divided over secession. Its decision to secede made it the front line of the Civil War, and put it at risk of losing its western areas, which were pro-free soil. In the event, Virginia lost West Virginia almost immediately as the result of its decision to secede, and became the central battleground of the Civil War. Virginia's vote to secede happened very late and as a consequence of events overtaking its deliberations; secession was supported only after troops from both sides had already been mobilized. Virginians voted for secession after they had troops fighting in the field. Indeed, it is possible to argue that if secession had been voted on by the South as a whole, Union rather than secession would have carried the day. In fact, South Carolina and other states of the Deep South moved quickly to secede knowing that their actions would bring pressure on the states of the Upper South to secede. Virginia and other states of the Upper South ended up facing the choice between remaining in a Union without the Deep South, in which they would be a powerless minority, or seceding alongside the Deep South.

of Table 3, we estimate (unreported) time effects for each month in our sample and compare prices for slave sales made one month prior and one month following each political event. For example, because the Dred Scott decision was announced in March 1857, we difference the regression coefficients for April and February 1857. Our second method is similar but here we difference the event coefficients reported in regression 2 of Table 3. Regression 2 estimates more precisely defined indicator variables for the various events, and includes the British consol price (a measure that captures variation in long-term interest rates that are relevant for pricing assets such as slaves).<sup>22</sup> Table 4 reports the event analysis based on estimates derived from regression 1 of Table 3, and Table 5 reports the event analysis based on estimates derived from regression 2. The two approaches provide very similar perspectives on the importance of the various events.

As seen in Table 4, slave prices rose by 8.5 log points following the Dred Scott decision, a statistically significant increase. Table 5 indicates a similar 7.6 log points change associated with Dred Scott. The Banking Panic of 1857 is associated with a small decline in slave prices in Table 4, but not in Table 5. This accords with the view that the Panic had little effect on the Southern economy other than its influence on interest rates (which are taken into account in Table 5, but not in Table 4).

The first Democratic National Convention, held in Charleston, South Carolina, in late April 1860, split along sectional lines and helped to insure a Republican victory in November. Lincoln was nominated as the Republican presidential candidate on May 8, 1860. The Democrats reconvened in Baltimore on June 18 but once again failed to find a candidate who could unify the party. Because these three conventions followed in close succession, the window for this event was expanded to three months. Neither method of event analysis shows any economically or statistically significant change in slave prices around Lincoln's nomination. It appears that either Lincoln's election was considered unlikely at the time of his nomination, or that his election was not considered an important threat to slaveholders at that time. Lincoln's election, however, is associated with a large, statistically significant decrease in slave prices of 22.4 log points in Table 4 and 17.4 in Table 5. From the viewpoint of slaveholders, Lincoln's election clearly was bad news.

The immediate aftermath of the election was a time of upward drift in slave prices. As the epigraph to this article shows, Lincoln's speeches, delivered frequently between the November 1860 election and his March 1861 inauguration, often contained conciliatory comments about slavery and the South. He never made an explicit threat of invading the South in response to secession.<sup>23</sup> Figure 2 gives the impression that Southern slaveholders may have regarded these positive statements and ambiguity about military intentions as indicating a reasonable chance of avoiding war with the North.

<sup>22</sup>We considered including many other time-varying covariates in the model in Regression 2, such as cotton price changes and railroad stock returns. The problems with including these measures include the unstable covariance between cotton and slave prices over time (discussed at length in the online Appendix), and the possibility that railroad returns were likely affected by political risks; controlling for railroad stock returns could inappropriately diminish the estimated effects of political news on slave prices.

<sup>23</sup>For a detailed discussion of Lincoln's speeches and reactions to them between his election and inauguration, see Stashower (2014).



TABLE 4—PRICE TRENDS, 1856–1861

Event	Time period	Difference in regression coefficients
Dred Scott	April 1857–February 1857	0.085***
Banking Panic	November 1857–September 1857	−0.059
Lincoln's nomination	July 1860–March 1860	0.012
Lincoln's election	December 1860–October 1860	−0.224***
Fort Sumter	May 1861–March 1861	−0.021
First Bull Run or Manassas	August 1861–June 1861	−0.125*
Civil War	August 1861–March 1861	−0.196***
Lincoln's election and Civil War	August 1861–October 1860	−0.348*
Lincoln's nomination, election, and Civil War	August 1861–March 1860	−0.368***

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

Source: Table 3, regression 1

TABLE 5—PRICE TRENDS, 1856–1861

Event	Time period	Difference in regression coefficients
Dred Scott	Mar. 7, 1857 to May 6, 1857– Jan. 1, 1857 to Feb. 28, 1857	0.076***
Banking Panic	Oct. 1, 1857 to Nov. 30, 1857– Mar. 7, 1857 to May 6, 1857	0.023
Lincoln's nomination	Jun. 25, 1860 to Aug. 24, 1860– Feb. 23, 1860 to Apr. 22, 1860	0.009
Lincoln's election	Nov. 7, 1860 to Jan. 6, 1861– Jun. 25, 1860 to Aug. 24, 1860	−0.174***
Fort Sumter	Apr. 12, 1861 to Jun. 11, 1861– Nov. 7, 1860 to Jan. 6, 1861	0.036
First Bull Run or Manassas	Jul. 21, 1861 to Aug. 31, 1861– Apr. 12, 1861 to Jun. 11, 1861	−0.142***
Civil War	Jul. 21, 1861 to Aug. 31, 1861– Nov. 7, 1860 to Jan. 6, 1861	−0.106*
Lincoln's election and Civil War	Jul. 21, 1861 to Aug. 31, 1861– Jun. 25, 1860 to Aug. 24, 1860	−0.280***
Lincoln's nomination, election, and Civil War	Jul. 21, 1861 to Aug. 31, 1861– Feb. 23, 1860 to Apr. 22, 1860	−0.271***

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

Source: Table 3, regression 2

The firing on Fort Sumter by the South, per se, was not associated with any important immediate change in slave prices, whereas the Confederate victory at Manassas was associated with substantially lower slave prices in both Tables 4 and 5. Despite the Southern victory, this Northern attack demonstrated that Lincoln intended to invade the South to preserve the Union. Slave prices continued to fall, again according to both Tables 4 and 5, in the summer of 1861 as the duration and cost of the war became clearer. The cumulative negative reactions of slave prices to

events from mid-1860 through the summer of 1861, shown in the last rows of Tables 4 and 5, resulted in a cumulative price decline of roughly one-third. It is important to note that the declines in slave wealth coincided with declines in other forms of wealth, in both the North and the South. Over the period May 1860 to August 1861, the Smith and Cole index of railroad stocks declined by 15 percent. We also collected prices for Southern railroad stocks quoted in New Orleans and constructed an equally weighted index of these stocks. From May 1860 to April 1861, this index declined by 23 percent.<sup>24</sup>

#### IV. Selectivity Bias Concerns: Constructing a Repeat Sales Index

Our hedonic pricing model controls for observable differences in slave transaction characteristics. The results of our model, however, may be sensitive to the presence of unobservable transaction characteristics. As discussed in Section II, we control for selectivity bias that is related to the trading status of the seller (small or large slave traders). Of course, it is possible that other sources of selectivity bias may also be affecting our results. Of greatest concern is the possibility that political events may have influenced the characteristics of buyers and sellers in ways that our hedonic model does not capture. If, for example, our method of identifying slave traders is imperfect and if traders withdrew from the market following the nomination of Lincoln, then their departure might impart a downward bias in our price index.

Traders preferred to sell slaves with higher-valued, observable characteristics. If the slaves' unobservable characteristics were also correlated with price, then a temporal variation in observables may indicate a similar variation in unobservables. Gender and age are two observable characteristics which are correlated with price. *Ceteris paribus*, prime-aged males (aged 18 to 30 years) sold for higher prices than other slaves. We estimate a linear probability model where the dependent variable indicates a prime-aged male and the independent variables indicate the season and the year of sale. As seen in Table A4 of the online Appendix, the relative number of prime-aged males decreased during the 1860–1861 trading season, which is consistent with a decreased presence of traders in the market.

Given that evidence, we consider an alternative estimation approach to the hedonic pricing model. We construct an index of repeat slave sales, which avoids bias related to the unobservable characteristics of slaves sold.<sup>25</sup> We construct a sample of sequential sales by matching the records of slaves sold multiple times in New Orleans (Pritchett and Smith 2013). Using our working sample for October 1856 to August 1861, we match records using the first and last names of buyers and sellers, the slave's name, gender, skin color, and age (plus or minus one year). To adjust for

<sup>24</sup>The New Orleans index was calculated for the Carrollton, Pontchartrain, Opelousas, and Jackson railroads as reported in the New Orleans *Price Current*. New Orleans equity prices were not reported after April 1861. The New Orleans railroad index and the hedonic slave price index are plotted in Figure A10 of the online Appendix.

<sup>25</sup>The primary disadvantage of such an index is that it discards a lot of data (slaves that sell only once during the sample period). An additional concern is the possibility that the slaves sold twice were not representative of all slaves sold in the market. The question of repeat sales and sample selection bias is addressed in Pritchett and Smith (2013).

slight variations in spelling, we matched names using Soundex.<sup>26</sup> This initial procedure results in 1,028 matches or a total of 2,056 transactions. The frequency distribution for this matched sample, by dates of first and last sale, is presented in Figure A4 of the online Appendix. The subsample of matched sales exhibits seasonality, with more sales during the winter than summer months. By construction, relatively more initial sales occur during the early part of the sample period and relatively more secondary sales occur later in the period. Finally, we note that the frequency of sales declines in 1861, which may affect the precision of the repeat sales index for these months.

The duration of time between initial purchase and subsequent resale is illustrated in Figure A5. For our matched sample, the average duration between purchase and resale was 280 days, with a relatively large standard deviation of 290 days. We find that 16 percent of the slaves were resold within a month of initial purchase and approximately 72 percent were sold within a year. A small percentage (2.5 percent) of the slaves were resold more than three years after initial purchase.

The matched sample enables the estimation of a fixed effects model for the change in slave prices. Because we observe repeat sales for the same slave, his or her unobserved characteristics are the same for both transactions. In addition, we need to allow for the possibility that the slave's observable characteristics may have changed between the date of initial purchase and secondary sale. For our sample of repeated sales, the change in the slave's market value ( $\Delta V_i$ ) is expressed as the following summation:

$$(2) \quad \Delta V_i = \ln(P_{iS}) - \ln(P_{iI}) = \sum_{t=0}^T \ln(P_{it}) D_{it},$$

where  $I$  indicates the slave's initial sale,  $S$  indicates the secondary sale, and  $D_{it}$  is a dummy variable that equals 1 if the slave was sold for a second time ( $S$ ) at time  $t$ ,  $-1$  if the slave was sold for the initial time ( $I$ ) at time  $t$ , and zero otherwise. If we substitute equation (1) for  $\ln(P_{it})$ , equation (2) can then be expressed as follows:

$$(3) \quad \Delta V_i = (X_{iS} - X_{iI})\beta_1 + (\delta_S - \delta_I) + (u_{iS} - u_{iI}).$$

Note that the time-invariant and the unobserved individual effects are eliminated. Absent time-variant covariates, the percentage price change equals the difference in the price indices and the error term.

We use the results from the previous hedonic regression (Table 3) to estimate the effect of observables on price. Following convention, the records of slaves resold within a month of initial purchase were removed from the sample, reducing the sample size to 860 observations. Figure 3 shows that the repeat sales index looks similar to the hedonic price index. Slave prices increase in early 1857, decrease during fall 1857, increase during 1858 and 1859, plateau in early 1860, and then decline sharply. Although the temporal price movements are similar, the repeat sales

<sup>26</sup>Soundex is a phonetic index used to match names despite minor spelling inconsistencies. For more information, see "The Soundex Indexing System," updated May 30, 2007: <http://www.archives.gov/research/census/soundex.html>.

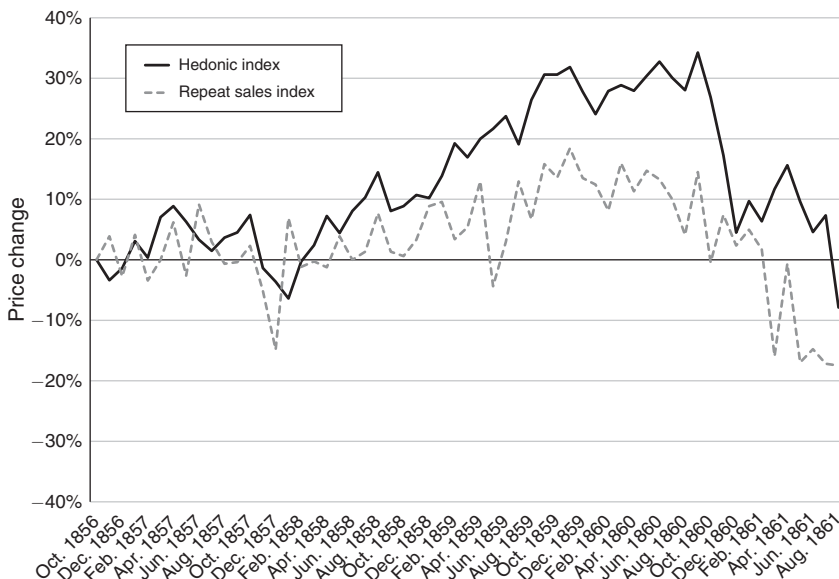


FIGURE 3. HEDONIC INDEX SHOWN IN FIGURE 2 AND REPEAT SALES INDEX

index exhibits less of an upward trend in 1859 and 1860, and greater volatility. It is measured with less precision than the hedonic index (reflecting the much smaller sample size for the repeat sales index).

In Table A5, we compare regression coefficients from the repeat sales index to estimate the statistical significance of political events surrounding slavery. Using a one-month window, we compare slave prices one month prior to an event with those one month following an event. Although, owing to the small sample size, the price difference is not statistically different for most political events, the index shows a large decrease in slave prices beginning in spring 1860. As seen in online Appendix Table A5, the repeat sales index indicates that slave prices decreased by 33 log points (or approximately 39 percent), between March 1860 and August 1861, a statistically significant difference. Overall, the two indexes appear to be broadly similar, and the similarities between the repeat sales index and the hedonic index give us confidence that selective shipments and temporal variation in unobservable characteristics are not dictating our empirical results.

## V. War Expectations and the Relative Prices of Slaves

Because slaveholders valued slaves as assets, slave prices should capture the discounted present value of their expected future earnings. The decrease in slave prices after summer 1860 reflects increased pessimism about the future cash flows from owning slaves. To the extent that political news led buyers of slaves to think that they might lose ownership of their slaves at some future date as the result of emancipation without compensation (for slaveholders), that would have reduced the price they were willing to pay for slaves. On the other hand, it is not clear that the political news of 1860 and 1861 should be seen primarily as affecting the probability of

emancipation without compensation. Southern railroad stocks declined by almost as much. Furthermore, emancipation without compensation would have been unprecedented. Given the legality of slavery in the rebel states and elsewhere, as of 1860 or 1861 it likely would have been seen as an illegal taking. As late as April 1862, emancipation of slaves in the District of Columbia was enacted with compensation for slaveholders.<sup>27</sup>

In addition to any risk of slave value loss through emancipation without compensation, the increased probability of regional conflict likely would have lowered expectations for the Southern economy's ability to sell its produce on international markets, which would have reduced expected slave labor productivity and slaveholder income and, in turn, would have also reduced the prices of slaves. Furthermore, because slaves constituted a large part of Southern wealth, any taxation to pay for the South's war efforts would have fallen largely on slaveholders. Whether taxes were expected to be levied on income or wealth, the effect would have been the same: even if the war was expected to end in a stalemate or a Southern victory, a large and costly Civil War would have hurt slaveholders and reduced the market value of their slaves. The disruptions of war (prospective invasion, physical destruction, and prospective flight of slaves in the midst of wartime turmoil) might also have contributed to the risk of loss.

Was the decline in slave prices primarily due to fears of emancipation without compensation or some other expected consequence of the struggle over slavery? Unlike an expected decline in labor productivity, or expected government taxation of slave wealth to pay for the war effort, changing expectations regarding possible emancipation without compensation at some future date should have affected the prices of some slaves more than others. In particular, in response to news that increased the perceived likelihood of future emancipation without compensation, the prices of children (and women of childbearing age) should have fallen by greater percentages than those of other slaves.<sup>28</sup> The earnings of young children, net of maintenance costs, were negative (Fogel and Engerman 1974). They sold for positive market prices only because buyers anticipated increased future earnings from young slaves as they matured. Because emancipation without compensation would eliminate that source of future income for the slaveholder, political news that increased the likelihood of emancipation without compensation should have reduced the prices of children relative to those of adults. Similarly, increased expectations of future emancipation without compensation should have reduced the market value of the childbearing capacity of a young adult female slave, thus decreasing her price relative to those of other slaves.

<sup>27</sup> Lincoln sought federal aid for any state willing to abolish slavery. In July 1862, he met with border-state representatives to consider a variety of compensated emancipation schemes. Their unwillingness to support Lincoln's proposals provides further evidence that slaveholders did not anticipate the possibility of future uncompensated emancipation (Goodwin 2005).

After the war, some ex-slaveholders sought compensation for financial losses associated with the emancipation of slaves. Such hopes of compensation were dashed by the passage of the Fourteenth Amendment, which states that "neither the United States nor any State shall assume or pay any debt or obligation incurred in aid of insurrection or rebellion against the United States, or any claim for the loss or emancipation of any slave; but all such debts, obligations and claims shall be held illegal and void."

<sup>28</sup> Expectations of emancipation may have affected the relative prices of slaves in various ways. The effect, however, depends on the details of the emancipation scheme. In the online Appendix, we consider different schemes and their predicted effects on the relative prices of slaves.

These considerations give rise to two testable implications about the “emancipation without compensation” hypothesis: if the probability of emancipation without compensation rose over time, then (i) the age-price profile should change to reflect the declining relative value of children and young women, and (ii) the regression residuals for children and childbearing women should decline relative to those for other slaves.

Age-price profiles have been estimated by different researchers using a variety of different data sources (Fogel and Engerman 1974; Kotlikoff 1979; Levendis 2007; Choo and Eid 2008; Chenny, St-Amour, and Vencatachellum 2003; Friginals, Klein, and Engerman 1983; Margo and Steckel 1982; Newland and Segundo 1996; Calomiris and Pritchett 2009). Although the exact regression specification varies, most authors use a high order (sixth degree) polynomial to estimate this relationship (Fogel and Engerman 1974).

Rising expectations of future emancipation without compensation should affect the shape of the age-price profile in a predictable fashion. As argued by Carvalho de Mello (1992), the prices of prime-aged slaves (those in their twenties) should fall relative to those of older slaves because of the reduced length of their working life under slavery. Indeed, Carvalho de Mello finds precisely that empirical result for Brazilian slaves immediately prior to emancipation in that country. And as we point out above, in anticipation of emancipation without compensation, the prices of children also should have fallen relative to those of adults. In unreported regressions, we estimate the age-price profiles that plot the relationship between a slave’s age and his/her price for sale prior to and post Lincoln’s election and plot the estimated age-price profiles in Figure 4. Both profiles exhibit the same basic shape: children command positive prices for all of the time periods, prices reach a maximum for slaves in their early twenties, and older slaves sold at discount relative to slaves aged 20 years. We do not observe a flattening of the age-price profile over time, as predicted by Carvalho de Mello (1992) if buyers increasingly expected slaves to be emancipated in the near future. The similarity of these profiles suggests that slave price declines were not the result of slaveholders reassessing the probability of the future emancipation of their slaves.<sup>29</sup>

A closely related test of the emancipation without compensation hypothesis focuses on the residuals of various subgroups in a model that does not allow the age-price profile to vary over time. Using Regression 1 from Table 3, we plot the residuals for different subgroups of slaves. If the assumption of a constant age-price profile were incorrect, then the residuals for the subgroups that include children (aged 0 to 12 years) and young women (aged 16 to 28 years) should decline relative to those for other slaves. As seen in Figure A9 (found in the online Appendix), the residuals for both children and young women are similar to those for all slaves in the sample. (Note that the residuals for children appear to be more volatile than those for other slaves because relatively few children were sold separately.) The distribution of residuals confirms the view that a rising expectation of

<sup>29</sup> We perform a simple *F*-test for the equality of the age-price profiles by estimating separate polynomials for the time periods before and after Lincoln’s election (November 1860). Not surprisingly, we reject the null hypothesis that the estimated regression coefficients of the polynomials are the same (as indicated in Figure 4, the post-November 1860 polynomial lies beneath the pre-November 1860 polynomial). We fail to reject the null, however, if we allow for different intercept terms before and after November 1860. In other words, the age-price profiles appear to be the same with the exception of their predicted heights.



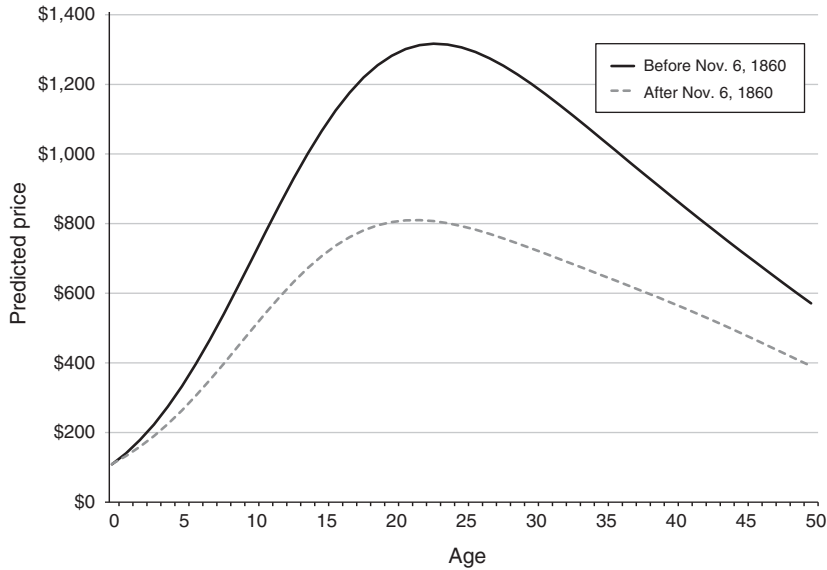


FIGURE 4. PREDICTED AGE-PRICE PROFILES FOR UNSKILLED MALES SOLD WITH WARRANTIES

emancipation without compensation was not the cause of the observed decrease in slave prices from the summer of 1860 to the summer of 1861.

Finally, changing expectations of future uncompensated emancipation may have affected the relative number of slaves sold at various ages. Increased expectations of delayed emancipation would have lowered slave prices toward the annual rental rate. Because the annual rental rate for children was negative (Fogel and Engerman 1974) and because prices cannot be negative, buyers would have refused to purchase children. Consequently, increased expectations of delayed emancipation should have reduced the relative number of children sold in New Orleans. Surprisingly, the relative number of children sold in New Orleans increased (from 16.5 to 19.7 percent) following Lincoln's election. That increased proportion of child sales is contrary to the prediction that Lincoln's election increased expectations of future uncompensated emancipation.

One complicating factor is the Louisiana Black Code, which required all children aged ten years or less to be sold with their living mothers. Children might have been bundled with their mothers, thus avoiding the nonnegative price constraint. We account for this possibility by restricting the sample to slaves aged ten years or more. We find that adolescents, aged 10 to 15 years, comprised 12.1 percent of sales prior to the election and 15.0 percent of sales after the election. Again, the increased number of adolescents contradicts the prediction of reduced child sales in anticipation of uncompensated emancipation.<sup>30</sup>

<sup>30</sup>The decreased number of slave traders following Lincoln's election may account for the increase in the relative number of children sold in New Orleans. Interregional slave traders preferred to traffic in prime-aged slaves. When traders withdrew from the market following Lincoln's election, fewer prime-aged slaves and relatively more children were sold.

## VI. Conclusions

The Civil War has been a puzzling event to US political and economic historians. Clearly, those who most pushed for secession—slave owners in the Deep South—were among those most harmed by the outcome of the Civil War. A close examination of slave prices from October 1856 through August 1861 shows that these prices can be a useful tool for gauging how slave market participants viewed the consequences of political events for the risks that attended slave ownership.

The slave price movements reported in Tables 4 and 5 and Figure 2 display patterns that coincide reasonably with some of the dominant political events of the time. Not all of the important political events, however, had large effects on slave prices. The Dred Scott decision was associated with only a small increase in slave prices. The election of Lincoln was associated with negative changes in slave prices, but the largest negative movements came in the late spring and summer of 1861, after Lincoln took office and demonstrated a resolve to blockade and invade the South, which apparently was an unpleasant surprise to slaveholders.

The slave price decrease in 1860–1861 seems not to have been driven primarily by fears of emancipation without compensation for slaveholders. Rather, the price decrease was more generally the result of rising fear of war and its economic consequences for slaveholders—something that slave-owning advocates of secession had bet against.

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