Slavery, political attitudes and social capital: evidence from Brazil

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A Online appendix

A.1 Abolition in Brazil: historical background

The Empire of Brazil featured an oligarchical political system, with a limited enfranchised elite holding a strong influence over political decision-making (Klein and Luna, 2009; Conrad, 1972; Viotti da Costa, 1989). In spite of the institution's deep roots and the stark resistance from the old guard of the planter class, the 1888 abolition of slavery put an end to almost four centuries of systematic coercion. In an economy largely driven by agricultural exports and dominated by a planter elite heavily dependent on captive labor, one might wonder how such an achievement was possible.[1]

The abolition of slavery was the result of a drawn-out legislative process. After the extinction of the Atlantic slave trade (largely driven by pressure from the British Crown) in the 1850s, it took another twenty years (and the build-up of domestic and foreign abolitionist pressure, especially after the American Civil War) for a first emancipation bill to be voted in parliament. In 1871, the *Lei do Ventre Livre* (Law of the Free Womb) liberated every children born of enslaved mothers. Although it constituted an important step towards abolition, the 1871 law had limited effects in the short-run and reflected the lenience of the central power to the slaveholders (most liberated newborns remained enslaved and had to provide labor their majority). Moreover, the Lei do Ventre Livre became a powerful argument by which slavocrats were able to quell the abolitionists' voice for several years (Ridings, 2004).

A decade later, its relative failure was however widely acknowledged. The question of abolition was brought back into parliamentary discussions in the 1880s, especially after a wave of unrest from Northeastern abolitionists culminated with the *de facto* abolition of slavery in Ceará. This prompted a reaction from the Throne, and Emperor Pedro II charged a new cabinet to move forward with the question of emancipation in 1884. The proposal drafted by this new cabinet (known as the Dantas Project) gave rise to an unprecedented

[1] See figure 4 for maps of slavery-intensity and voting patterns on core emancipation-related roll calls.

rallying of pro-slavery interest groups (Ridings, 2004) and a parliamentary crisis of unrivalled proportions (Conrad, 1972; Viotti da Costa, 1989). The second half of the 1880s were marked by an intensification of parliamentary debates and a number of bills progressing towards the emancipation of labor. In 1885, the *Lei dos Sexagenários* emancipated enslaved individuals over sixty years old (with a number of provisions amicable to slaveholders' interests). Towards the end of the 1880s, several planters (mostly in São Paulo) started to gradually convert to abolitionism, especially after efforts to attract European migrants to work in the coffee plantations started paying off. Emancipation movements also began to radicalise, and when a new legislative session opened in May 1888, it had one priority: finally bring a solution to the question of emancipation. Merely days later, a bill—later known as the *Lei Áurea*, the Golden Law—proclaiming the abolition of slavery was voted and approved by the Princess Regent, thus putting an end to the last remnants of legal slavery in the Americas (Klein and Luna, 2009).

A.2 Instrumental variables strategy

A.2.1 Heteroskedasticity-based identification

Lewbel (2012) proposes to leverage heteroskedasticity to generate internal instruments, which can be easily built as functions of the empirical model's data. While traditional instruments are in general preferable, heteroskedasticity-based instruments are particularly useful to achieve identification of a model when no traditional instruments are available, or to test the validity of existing instruments.

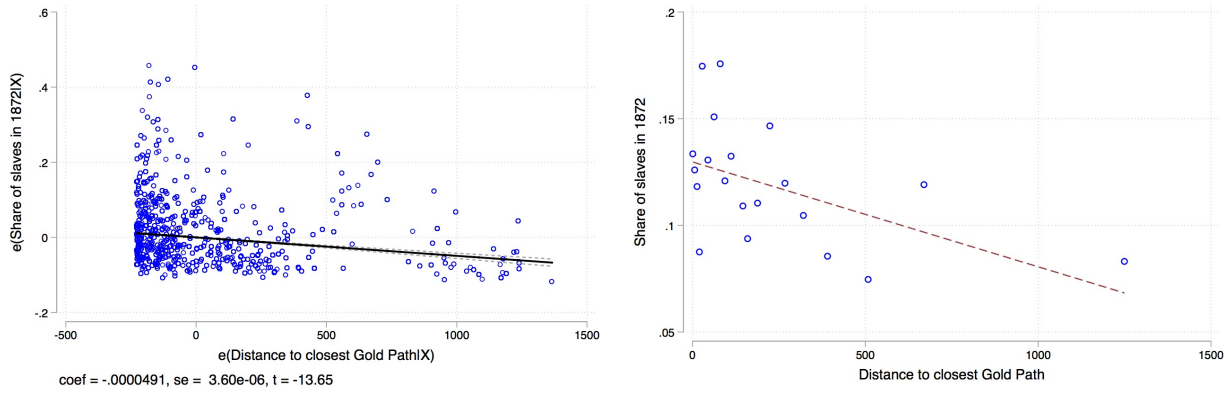
Instruments built using Lewbel's approach exploit heteroskedasticity with respect to exogenous regressors. Their construction can be summarized as follows: *i)* retrieve the estimated residuals from the regression of the endogenous regressor on exogenous regressors, and *ii)* generate the instruments as the product of a mean-centered vector of exogenous regressors and the previously retrieved residuals.[2] In addition to standard OLS assumptions, their validity hinges on two key assumptions: *i)* exogenous regressors (or rather, the subset of exogenous regressors used to build the instruments) should be correlated with the conditional variance of first stage errors, and *ii)* they should be uncorrelated with the conditional covariance of first stage errors and the errors of the initial model.

This approach is particularly appropriate with triangular systems, i.e. if the source of endogeneity is mismeasurement or an omitted variable. Sufficient (but not necessary) conditions for the assumptions above to hold in this case are that *i)* first stage errors be heteroskedastic with respect to exogenous regressors, and *ii)* second stage errors be homoskedastic with respect to the subset of variables used to generate the instrument. The

[2]See Baum and Lewbel (2019) for advice on how to implement Lewbel's approach.

latter can be tested with the Pagan-Hall test, and the former with the Breush-Pagan test. If the Pagan-Hall test is unable to reject the null of conditional homoskedasicity, then the second assumption holds (although it may still hold if conditional heteroskedasticity is rejected). In turn, heteroskedasticity in the first stage is required to ensure that the generated instruments are indeed correlated with the endogenous variable, which the Breush-Pagan test allows to verify. In other words, if we have good reasons to believe that the source of endogeneity is a possible omitted variable or mismeasurement, and the Breush-Pagan test rejects homoskedasticity in the second stage while the Pagan-Hall test is unable to reject homoskedasticity in the second stage, then we can be confident that the estimator is consistent.

A.2.2 Supporting graphs and tables



(a) Added-variable (b) Binned

Figure 2: First stage unconditional plots

Notes: Added-variable plot and binned scatter plot between municipality-level share of enslaved individuals in 1872 and distance (in km) from the municipality's centroid to the closest gold path. No controls.

A.3 Additional evidence

A.3.1 Economic evidence

Table 10 decomposes the influence of slavery, abolitionist voting and their interaction on (the log of) municipal GDP between 1920 and 2000 by economic sector. Perhaps unsurprisingly, the main effect presented in table 4 appears to be driven by the industrial and services sectors, whereas the agricultural sector presents a different pattern. In general, slavery-intensive districts with low support for emancipation appear to have remained more agriculturally-driven after the abolition of slavery, and to have been late industrializers.

Table 8: 2SLS - Falsification

	ln(GDP 2000) (1)	% Pov. 1991 (2)
Ln(16th Ind. rep. area)	-0.037	0.049
	(0.050)	(0.859)
Ln(17-18th Ind. rep. area)	0.014	-1.399
	(0.060)	(1.112)
Ln(Dist. G. Path)	-0.108	0.799
	(0.114)	(2.389)
Ln(16th Ind. rep. area) × Ln(Dist. G. Path)	0.006	-0.097
	(0.011)	(0.243)
Ln(17-18th Ind. rep. area) × Ln(Dist. G. Path)	0.008	0.107
	(0.014)	(0.272)
Observations	4,159	3,328
R-squared	0.243	0.630
Controls	All	All
State FEs	Yes	Yes

Notes: *p<0.1; **p<0.05; ***p<0.01. Electoral district-level clustered standard errors in parentheses. Controls include: share of enslaved individuals in 1872, average pro-abolition voting, population density in 1872, municipality area, coffee, sugar, and cotton suitability, rainfall, longitude and latitude, distance to the coast, human mobility index, party affiliation during the abolition period, share of free colored in 1872, literacy in 1872, a dummy for gold mining areas, and distance to the closest diamond mine.

Table 11 explores additional individual economic outcomes, focusing on the share of enslaved individuals employed in agriculture as an alternative measure of slavery prevalence. Again, the evidence suggests that all else equal, people tend to fare better in places where support for coercive institutions was lower.

A.3.2 Voting behavior

In table 12, I investigate the association between slavery prevalence, support for coercive institutions, and contemporary political behavior, namely participation (measured by turnout in presidential elections) and ideology (applying the left-right scale of Brazilian parties developed by Power and Zucco, 2009, to elected representatives in municipal elections). Before looking at the results, it is useful to discuss possible priors we might have regarding the long-run effects of slavery on political behavior.

Bearing in mind the literature on victimization and the influence of repression on political attitudes (Lupu and Peisakhin, 2017; Fontana et al., 2018; Rozenas and Zhukov, 2019; Iwanowsky and Madestam, 2019; Tur-Prats and Valencia Caicedo, 2020; Bautista et al., 2021), we might expect slavery to increase political participation and opposition to the party most associated with slavery's status quo. In the case of Brazil, pro-slavery legislators were overwhelmingly (though not always) Conservatives. The original Conservative party

Table 9: 2SLS - First stage

	Using heteroskedasticity in all regressors			*Using heteroskedasticity in one regressor*		
	(1) Sh. enslaved	(2) Av. abo. voting	(3) Interaction	(4) Sh. enslaved	(5) Av. abo. voting	(6) Interaction
Ln(16th Ind. rep. area)	-0.002	-0.006	-0.001	-0.002	-0.000	-0.002
	(0.002)	(0.005)	(0.002)	(0.002)	(0.007)	(0.002)
Ln(17-18th Ind. rep. area)	0.001	-0.033***	0.001	-0.001	-0.025*	-0.001
	(0.003)	(0.013)	(0.002)	(0.004)	(0.014)	(0.003)
Ln(Dist. G. Path)	0.007	-0.053***	0.003	0.004	-0.018	0.002
	(0.005)	(0.021)	(0.004)	(0.004)	(0.020)	(0.003)
Ln(16th Ind. rep. area) × Ln(Dist. G. Path)	-0.001	0.003**	-0.000	-0.000	0.001	-0.000
	(0.000)	(0.001)	(0.000)	(0.000)	(0.002)	(0.000)
Ln(17-18th Ind. rep. area) × Ln(Dist. G. Path)	-0.000	0.005**	-0.000	-0.000	0.003	0.000
	(0.001)	(0.002)	(0.000)	(0.000)	(0.002)	(0.000)
Het(Gold dummy): Sh. of enslaved individuals	-6.495***	-4.353	-2.039	-11.551***	2.896	-0.799
	(2.042)	(3.165)	(1.322)	(0.823)	(2.437)	(0.521)
Het(Gold dummy): Abo. voting	-0.645	-3.785**	-0.324	-0.900**	-5.939***	-0.405
	(0.392)	(1.838)	(0.259)	(0.433)	(2.162)	(0.294)
Het(Gold dummy): Interaction	2.699*	3.706	-1.595	4.929*	-6.099	-6.181**
	(1.416)	(4.558)	(1.556)	(2.535)	(4.927)	(2.505)
Observations	4,159	4,159	4,159	4,159	4,159	4,159
Controls	All	All	All	All	All	All
State FEs	Yes	Yes	Yes	Yes	Yes	Yes

Notes: *p<0.1; **p<0.05; ***p<0.01. Electoral district-level clustered standard errors in parentheses. Columns (1)-(3) use 45 different heteroskedasticity-based instruments, but only three are reported for the sake of space. Columns (4)-(6) use only the reported heteroskedasticity-based instruments. First stage results are qualitatively identical across outcomes (not numerically when there are differences in the number of observations). The results reported in this table correspond to the observations of a year 2000 outcome. Controls include: population density in 1872, municipality area, coffee, sugar, and cotton suitability, rainfall, longitude and latitude, distance to the coast, human mobility index, party affiliation during the abolition period, share of free colored in 1872, literacy in 1872, a dummy for gold mining areas, and distance to the closest diamond mine.

disappeared with the Empire in 1889, but we might still expect individuals located in municipalities where slavery was more prevalent/where legislators strongly supported coercive institutions to show greater support for more progressive/leftist parties (assuming these municipalities retained a relatively large number of former enslaved individuals and enslaved individuals' descendants over the years). Additionally, we may expect greater support for leftist (i.e. more redistributive) parties because—as the results presented in the main text indicate—the median voter is poorer in municipalities where legislators supported slavery.

Alternatively, one might also expect lower turnout in municipalities with historically more slavery prevalence/support for coercion if, as in the US, former enslaved individuals continued to be *de facto* disenfranchised and excluded from the political arena (Bertocchi and Dimico, 2014; Acharya et al., 2016). If, has been shown for slavery at the sending end of the spectrum (Nunn and Wantchekon, 2011) and violence/conflict in general (Rohner et al., 2013;

Table 10: Municipal GDP by sector, slavery and average pro-abolition voting (by census year)

	log GDP							
	1920	1939	1949	1959	1970	1980	1996	2000
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PANEL A: Industrial GDP								
Share enslaved	-0.558	1.067	0.460	1.390	-0.763	-0.575	-0.944	-0.183
	(1.020)	(1.501)	(1.251)	(1.392)	(1.120)	(1.258)	(1.660)	(1.019)
	{0.964}	{1.391}	{1.173}	{1.012}	{1.064}	{1.365}	{0.881}	
Av. abo. voting	0.323	-0.630	-0.605	0.247	-0.220	0.102	-0.583	-0.304
	(0.326)	(0.579)	(0.501)	(0.464)	(0.413)	(0.440)	(0.618)	(0.385)
	{0.354}	{0.548}	{0.424}	{0.450}	{0.371}	{0.380}	{0.526}	{0.323}
Sh. enslaved × Av. abo. voting	0.977	2.811	2.191	0.871	4.659**	4.043*	6.069**	2.785
	(1.766)	(2.806)	(2.492)	(2.679)	(2.269)**	(2.442)*	(3.011)**	(1.980)
	{1.621}	{2.367}	{2.004}	{2.151}	{1.790}***	{1.900}**	{2.369}**	{1.542}*
R-squared	0.440	0.200	0.360	0.255	0.310	0.279	0.289	0.279
PANEL B: Agricultural GDP								
Share enslaved	1.780	0.366	1.554	0.248	1.208	1.188	0.862	0.365
	(1.043)*	(0.873)	(0.826)*	(0.979)	(0.795)	(0.764)	(1.042)	(0.923)
	{0.826}**	{0.682}	{0.654}**	{0.854}	{0.626}*	{0.633}*	{0.748}	{0.700}
Av. abo. voting	0.701	0.708	0.636	0.008	0.252	0.297	0.369	0.086
	(0.388)*	(0.270)***	(0.337)*	(0.335)	(0.267)	(0.267)	(0.306)	(0.258)
	{0.334}**	{0.237}***	{0.247}**	{0.282}	{0.224}	{0.208}	{0.242}	{0.208}
Sh. enslaved × Av. abo. voting	-2.593	-2.043	-3.564	-0.542	-1.379	-1.448	-0.765	0.555
	(1.587)	(1.357)	(1.372)***	(1.508)	(1.244)	(1.235)	(1.472)	(1.360)
	{1.425}*	{1.218}*	{1.126}***	{1.306}	{1.003}	{0.952}	{1.074}	{0.930}
R-squared	0.418	0.280	0.368	0.237	0.272	0.289	0.198	0.295
PANEL C: Services GDP								
Share enslaved	-0.102	-0.025	0.741	0.966	-0.535	-0.668	-0.779	-0.765
	(0.632)	(0.629)	(0.962)	(1.017)	(0.771)	(0.836)	(0.733)	(0.721)
	{0.626}	{0.647}	{0.942}	{1.017}	{0.776}	{0.812}	{0.721}	{0.652}
Av. abo. voting	0.000	0.031	-0.043	0.170	-0.079	-0.029	-0.309	-0.287
	(0.249)	(0.285)	(0.386)	(0.347)	(0.265)	(0.298)	(0.290)	(0.256)
	{0.235}	{0.252}	{0.354}	{0.360}	{0.251}	{0.275}	{0.260}	{0.233}
Sh. enslaved × Av. abo. voting	2.061	1.702	-0.414	0.298	2.451	3.292	3.119	2.665
	(1.124)*	(1.181)	(1.981)	(1.904)	(1.469)*	(1.665)**	(1.364)**	(1.431)*
	{1.092}*	{1.127}	{1.693}	{1.658}	{1.236}**	{1.397}**	{1.224}**	{1.130}**
R-squared	0.279	0.306	0.252	0.208	0.252	0.246	0.214	0.246
Observations	1,277	1,278	1,818	2,596	3,902	3,944	4,913	5,435
Controls	All	All	All	All	All	All	All	All
State FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: *p<0.1; **p<0.05; ***p<0.01. Electoral district-level clustered standard errors in parentheses. Conley standard errors (with a 50km window) in curly brackets. Controls include: population density in 1872, municipality area, coffee, sugar, and cotton suitability, rainfall, longitude and latitude, distance to the coast, human mobility index, party affiliation during the abolition period, share of free colored in 1872 and literacy in 1872.

Cassar et al., 2013; Tur-Prats and Valencia Caicedo, 2020), exposure to coercive institutions negatively affected the consolidation of social capital, we may also expect lower participation

Table 11: Development outcomes, agricultural slavery and average pro-abolition voting

	Development outcomes					
	Ln(GDP 2000)	% Poverty 1991	Theil index 1991	HH inc. 1991	% Lit. 2000	Inf. Mort. 1991
	(1)	(2)	(3)	(4)	(5)	(6)
Share enslaved in agr.	-1.426	28.607	0.220	-0.229	-0.500	0.517
	(1.298)	(24.059)	(0.133)	(0.493)	(8.563)	(19.033)
	{1.143}	{15.058}*	{0.105}**	{0.342}	{6.106}	{13.385}
Av. abo. voting	-0.141	0.219	-0.004	0.020	-1.385	2.640
	(0.275)	(5.492)	(0.030)	(0.096)	(2.620)	(5.848)
	{0.221}	{3.104}	{0.022}	{0.060}	{1.664}	{3.336}
Sh. enslaved in agr. × Av. abo. voting	3.856	-84.101	-0.289	1.398	23.325	-47.387
	(2.916)	(47.321)*	(0.246)	(1.009)	(18.394)	(43.051)
	{2.101}*	{27.552}***	{0.183}	{0.684}**	{11.790}**	{24.902}*
Observations	5,435	4,443	4,443	4,443	5,435	5,435
R-squared	0.258	0.679	0.106	0.562	0.762	0.790
Mean dep. var.	10.464	62.823	0.504	0.725	78.230	67.230
Controls	All	All	All	All	All	All
State FEs	Yes	Yes	Yes	Yes	Yes	Yes

Notes: *p<0.1; **p<0.05; ***p<0.01. Electoral district-level clustered standard errors in parentheses. Conley standard errors (with a 100km window) in curly brackets. Controls include population density in 1872, municipality area, coffee, sugar, and cotton suitability, rainfall, longitude and latitude, distance to the coast, human mobility index, party affiliation during the abolition period, share of free colored in 1872 and literacy in 1872.

in politics, preferences for less redistributive policies, or both. Another reason why we may expect less redistributive policies is ongoing elite persistence and state capture. It is possible that former slavery-supportive municipalities feature more clientelistic relationships today, leading to vote buying and increased support for right-wing parties (Baland and Robinson, 2008; Robinson and Verdier, 2013; Anderson et al., 2015).

Table 12 paints a somewhat mixed picture. By itself (columns 1-2 and 5-6), slavery prevalence does not appear significantly associated with either participation or ideology of elected representatives. However, individuals from high prevalence-high support for coercion municipalities were more likely to participate in 1994 elections (column 3), but this association is no longer present in 2002 (column 4). In turn, individuals from high prevalence municipalities where legislators were more inclined to vote for emancipation were also less likely to elect representatives from right-wing parties in 1996 (column 7), but this association also disappears by 2004 (column 8). A (possibly transitory) higher participation in high prevalence-high support for coercion municipalities is consistent with both increased victimization in these municipalities (e.g. as in Lupu and Peisakhin, 2017) and the existence of ongoing clientelism and vote-buying (e.g. as in Anderson et al., 2015). In turn, the evidence presented in columns 7-8 appears to a certain extent inconsistent with the existence of a political backlash of descendants of victims of slavery on parties more associated with the status quo. Moreover, voters from poorer municipalities as a result of slavery do not appear to vote for representatives aligned with more redistributive parties. This is consistent with

Table 12: Political outcomes, slavery and average pro-abolition voting

Political outcomes								
	Participation				Partisanship			
	1994	2002	1994	2002	P&Z 1996	P&Z 2004	P&Z 1996	P&Z 2004
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Share enslaved	0.059	0.048	0.128	0.065	-0.362	-0.052	0.208	-0.128
	(0.036)	(0.030)	(0.066)*	(0.052)	(0.272)	(0.238)	(0.415)	(0.341)
	{0.040}	{0.035}	{0.061}**	{0.049}	{0.236}	{0.229}	{0.406}	{0.325}
Av. abo. voting			0.039	0.011			0.222*	-0.053
			(0.022)*	(0.018)			(0.129)*	(0.125)
			{0.020}*	{0.016}			{0.132}*	{0.112}
Sh. enslaved ×			-0.131	-0.031			-1.122	0.143
Av. abo. voting			(0.091)	(0.081)			(0.669)*	(0.577)
			{0.088}	{0.065}			{0.675}*	{0.551}
Observations	4,950	5,431	4,950	5,431	5,035	4,939	5,035	4,939
R-squared	0.595	0.359	0.597	0.359	0.042	0.030	0.043	0.030
Mean dep. var.	0.788	0.804	0.788	0.804	5.041	4.689	5.041	4.689
Controls	All	All	All	All	All	All	All	All
State FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: *p<0.1; **p<0.05; ***p<0.01. Electoral district-level clustered standard errors in parentheses. Conley standard errors (with a 100km window) in curly brackets. Controls include population density in 1872, municipality area, coffee, sugar, and cotton suitability, rainfall, longitude and latitude, distance to the coast, human mobility index, party affiliation during the abolition period, share of free colored in 1872 and literacy in 1872.

both persistent clientelistic relationships and lower social capital in these municipalities.

A.3.3 Social capital - additional outcomes

Table 13: Social capital, slavery and average pro-abolition voting - Additional outcomes

Social capital/political outcomes in 2018								
	Supp. for autocracy		Sat. with democracy		Qual. of democracy		View on the President	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Share enslaved	-0.559	0.105	-0.167	-0.174	-0.011	-0.184	-0.006	0.247
	(0.226)**	(0.253)	(0.041)***	(0.059)***	(0.077)	(0.108)*	(0.074)	(0.141)*
	{0.182}***	{0.281}	{0.052}***	{0.067}***	{0.087}	{0.118}	{0.074}	{0.149}*
Av. abo. voting		0.274		0.001		-0.053		0.086
		(0.100)***		(0.024)		(0.045)		(0.048)*
		{0.111}**		{0.027}		{0.046}		{0.049}*
Sh. enslaved ×		-1.539		0.022		0.417		-0.607
Av. abo. voting		(0.504)***		(0.084)		(0.187)**		(0.238)**
		{0.523}***		{0.085}		{0.191}**		{0.242}**
Observations	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204
R-squared	0.030	0.036	0.063	0.063	0.026	0.028	0.038	0.040
Mean dep. var.	0.138	0.138	0.011	0.011	0.027	0.027	0.056	0.056
Controls	All	All	All	All	All	All	All	All
State FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: *p<0.1; **p<0.05; ***p<0.01. Electoral district-level clustered standard errors in parentheses. Conley standard errors (with a 100km window) in curly brackets. Controls include population density in 1872, municipality area, coffee, sugar, and cotton suitability, rainfall, longitude and latitude, distance to the coast, human mobility index, party affiliation during the abolition period, share of free colored in 1872 and literacy in 1872.

Table 13 provides evidence regarding additional social capital outcomes, namely support for autocracy (columns 1-2), satisfaction with democracy (columns 3-4), individual views on the quality of democracy in Brazil (columns 5-6) and individual views on the President (columns 7-8).[3] According to this table, in 2018, respondents from former high prevalence-high support for coercion municipalities were more likely to believe an authoritarian government can be preferable under some circumstances, to be less satisfied with democracy, and to agree with the way the president is leading the country.

A.3.4 Clientelism

Table 14 provides suggestive evidence on clientelism, using specific questions from the 2018 Latinobarómetro. In this table, I examine whether slavery prevalence and support for coercion are associated with respondents stating that they saw "candidates or people from the parties distributing gifts or favors in [their] neighborhood" (columns 1-2), and that they think "the parties or the government can find out who [they] voted for" (columns 3-4). The evidence is rather mixed: respondents from slavery-prevalent municipalities with low political support for coercion are marginally significantly more likely to believe that their vote is secret, but they are not significantly less likely to have seen evidence of vote-buying. If anything, and perhaps somewhat surprisingly, respondents from municipalities with more enslaved individuals in 1872 are in general marginally less likely to have seen candidates or party members distributing gifts or favors.

A.4 Additional robustness checks

A.4.1 Determinants of pro-abolition voting

An important concern is that our equilibrium measure of support for coercive institutions may essentially be capturing underlying determinants of legislators' voting decisions. In other words, factors affecting legislators' voting decisions—especially related to local elites' reliance on captive labor—may themselves influence contemporary outcomes.[4] Seyler and Silve (2021) investigate the importance of intra-elite divisions as a driver of institutional

[3]Support for autocracy is measured by a dummy switching on when a respondent stated that "under some circumstances, an authoritarian government can be preferable to a democratic one"; satisfaction with democracy is measured by a dummy switching on when a respondent claimed to be "very satisfied with democracy"; individual views on the quality of democracy in Brazil is measured by a dummy switching on when a respondent stated that democracy in Brazil is a "full democracy", and views on the president are measured by a dummy switching on when a respondent claimed to "approve the way the president is leading the country."

[4]A related concern is that average pro-abolition votes might capture underlying nonlinearities in the influence of the prevalence of slavery. Controlling for a quadratic term shows that the effect of abolition voting is not driven by nonlinearities.

Table 14: Clientelism, slavery and average pro-abolition voting

	Clientelism outcomes			
	Gifts and favors		Non-private voting	
	(1)	(2)	(3)	(4)
Share of enslaved individuals	-0.351	-0.250	0.028	0.665
	(0.235)	(0.231)	(0.338)	(0.584)
	{0.208}*	{0.229}	{0.323}	{0.605}
Av. abo. voting		-0.127		0.159
		(0.148)		(0.188)
		{0.128}		{0.193}
Sh. enslaved individuals		-0.403		-1.604
		(0.620)		(0.992)
× Av. abo. voting		{0.517}		{0.961}*
Observations	1,192	1,192	1,157	1,157
R-squared	0.046	0.051	0.051	0.056
Mean dep. var	0.286	0.286	0.342	0.342
Controls	All	All	All	All
State FEs	Yes	Yes	Yes	Yes

Notes: *p<0.1; **p<0.05; ***p<0.01. Electoral district-level clustered standard errors in parentheses. Conley standard errors (with a 100km window) in curly brackets. Controls include population density in 1872, municipality area, coffee, sugar, and cotton suitability, rainfall, longitude and latitude, distance to the coast, human mobility index, party affiliation during the abolition period, share of free colored in 1872 and literacy in 1872.

change, and show that legislators' voting decisions in slavery prevalent municipalities depended on the cost of enforcing slavery faced by planter elites, and the extent to which these elites were able to secure alternative labor supplies. The latter is measured with the immigrant population in 1890, and the former with a set of functions of the allocation of quilombos across municipalities. The cost of enforcing coercive institutions depended on how difficult it was for enslaved individuals to escape from plantations. We use the presence of quilombos to measure the 'openness of the frontier': to what extent were enslaved individuals able to durably escape when they managed to run away.

In table 15, I verify that previous results are not driven by these determinants, despite their importance. I reexamine the results on poverty in columns 1 to 4, on inequality in columns 5 to 8, and on household income in columns 9 to 12. For each of these outcomes, I progressively introduce measures of labor availability (the share of foreigners in 1890) and coercion costs (the log of the area occupied by quilombolas' communities) both alone and interacted with the share of enslaved individuals. In all cases, the results are robust to the inclusion of drivers of pro-abolition vote and remain qualitatively identical.

A concern is that both the allocation of immigrants and quilombos may be endogenously determined. Seyler and Silve (2021) develop an instrument for each of these variables. To instrument immigration in the 1890s, they propose a religion-based shift-share instrument,

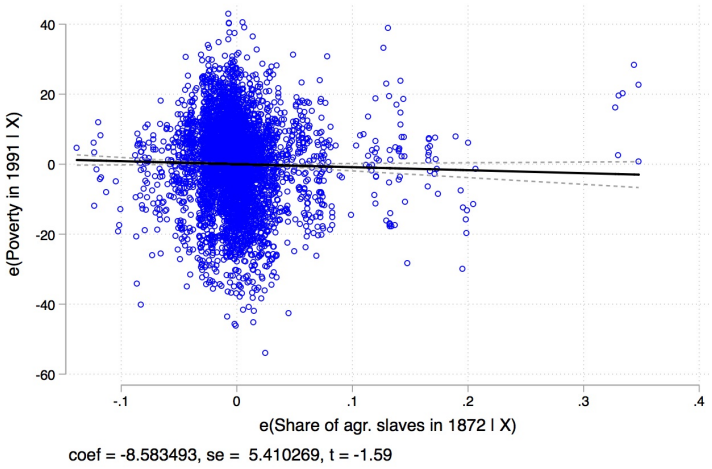
which relies on the empirical regularity that immigrants tend to cluster along religious lines and exploits the change in immigration between 1872 and 1890. To instrument the location and size of quilombos, they use the variation induced by the interaction between ruggedness and remoteness, local features that could facilitate successful escape from plantations. Ruggedness and remoteness act as substitutes: ruggedness provided a hiding and defensive advantage critical near heavily settled areas, but less important in remote locations. In both cases, results remain qualitatively similar when these instruments are used instead of the OLS in table 15 (results not presented for the sake of brevity).

Table 15: Contemporary outcomes and historical determinants of pro-abolition voting

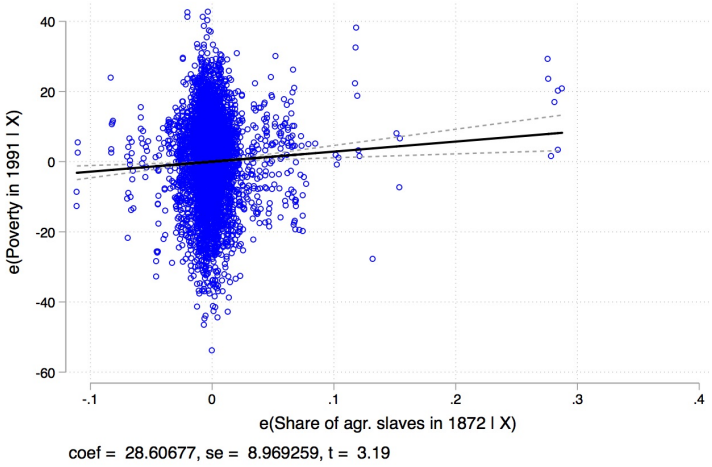
	Outcomes											
	% Poverty 1991				Theil index 1980				HH income 1991			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Share of enslaved individuals	4.711	9.297	2.823	2.935	0.153	0.142	0.143	0.142	-0.050	-0.095	0.003	0.003
	(14.219)	(14.000)	(15.363)	(15.413)	(0.073)**	(0.077)*	(0.074)*	(0.074)*	(0.250)	(0.245)	(0.281)	(0.281)
	{8.956}	{9.065}	{9.374}	{9.397}	{0.066}**	{0.065}**	{0.064}**	{0.064}**	{0.170}	{0.167}	{0.182}	{0.183}
Av. abo. voting	0.770	0.427	0.271	0.132	0.003	0.004	0.000	0.001	-0.024	-0.021	-0.010	-0.010
	(5.222)	(5.177)	(5.506)	(5.500)	(0.029)	(0.028)	(0.030)	(0.030)	(0.089)	(0.088)	(0.095)	(0.095)
	{3.261}	{3.258}	{3.349}	{3.347}	{0.024}	{0.024}	{0.024}	{0.024}	{0.060}	{0.059}	{0.062}	{0.062}
Sh. enslaved individuals × Av. abo. voting	-36.554	-46.094	-39.225	-39.343	-0.122	-0.098	-0.135	-0.134	0.784	0.877	0.860	0.861
	(23.811)	(24.648)*	(24.291)	(24.297)	(0.123)	(0.139)	(0.122)	(0.122)	(0.474)	(0.471)*	(0.487)*	(0.488)*
	{14.769}**	{15.280}***	{15.201}***	{15.210}***	{0.111}	{0.113}	{0.110}	{0.110}	{0.325}**	{0.315}***	{0.340}**	{0.340}**
1890 immigration	-42.860	-106.427			-0.199	-0.052			1.254	1.876		
	(24.561)*	(29.256)***			(0.153)	(0.280)			(0.433)***	(0.642)***		
	{14.720}***	{27.555}***			{0.112}*	{0.194}			{0.289}***	{0.613}***		
Sh. enslaved individuals × 1890 immigration		113.098				-0.269				-1.107		
		(59.302)*				(0.622)				(1.303)		
		{45.420}**				{0.377}				{1.114}		
Ln. quilombo area			0.119	-0.165			0.001	0.003			-0.000	0.001
			(0.128)	(0.310)			(0.001)	(0.003)			(0.003)	(0.007)
			{0.124}	{0.261}			{0.001}	{0.003}			{0.003}	{0.006}
Sh. enslaved individuals × Ln. quilombo area				0.418				-0.003				-0.001
				(0.444)				(0.003)				(0.010)
				{0.370}				{0.004}				{0.008}
Observations	4,443	4,443	4,443	4,443	3,944	3,944	3,944	3,944	4,443	4,443	4,443	4,443
R-squared	0.682	0.683	0.680	0.680	0.133	0.133	0.132	0.132	0.569	0.569	0.564	0.564
Controls	All	All	All	All	All	All	All	All	All	All	All	All
State FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: *p<0.1; **p<0.05; ***p<0.01. Electoral district-level clustered standard errors in parentheses. Conley standard errors (with a 100km window) in curly brackets. Controls include population density in 1872, municipality area, coffee, sugar, and cotton suitability, rainfall, longitude and latitude, distance to the coast, human mobility index, party affiliation during the abolition period, share of free colored in 1872 and literacy in 1872. Similar results are available for GDP, not included for the sake of space.

A.5 Additional figures



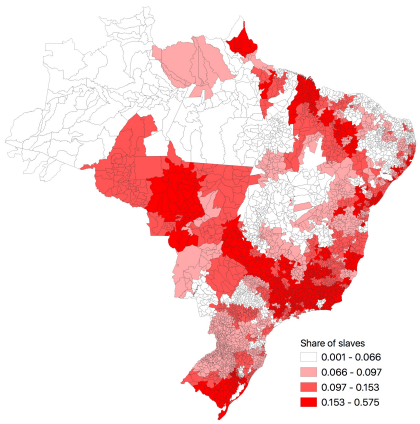
(a) Irrespective of abolitionist voting



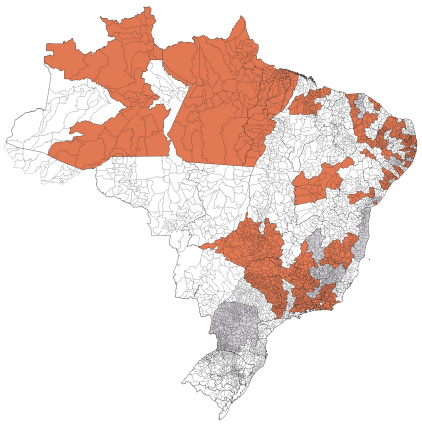
(b) In anti-abolitionist municipalities

Figure 3: Poverty in 1991 (%) and share of enslaved individuals in 1872

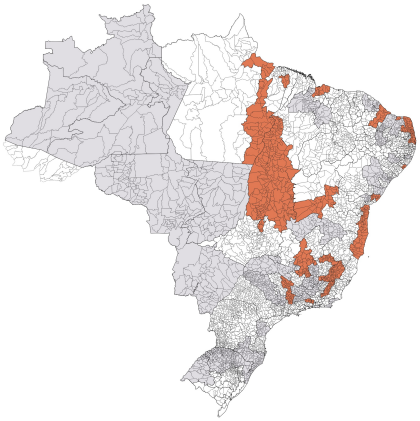
Notes: Added-variable plots between the municipality-level share of poor individuals in 1991 and the municipality-level share of enslaved individuals in 1872, both unconditional to abolition voting (top panel) and conditional to systematic anti-abolition voting (bottom panel). Poverty is defined as the share of individuals living with less than half the minimum wage in 1991. On the y-axis, e(Poverty in 1991|X) are the residuals from the regression of poverty on all controls and fixed effects, and on the x-axis, e(Share of agr. enslaved individuals in 1872|X) are the residuals from the regression of the share of enslaved individuals on all controls and fixed effects. The figure thus plots the variation in the share of enslaved individuals not correlated with X against the variation in poverty not correlated with X. Controls include population density in 1872, municipality area, average soil suitability for coffee, sugar and cotton, average rainfall, longitude, latitude, distance to the coast, human mobility index, average party affiliation in 1882-1888, share of free colored in 1872 and literacy share in 1872.



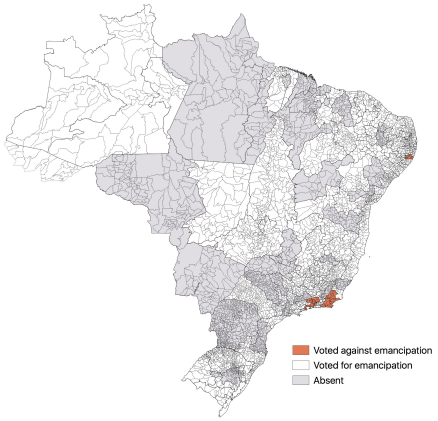
(a) Slavery intensity in 1872



(b) Votes against emancipation in 1884



(c) Votes against emancipation in 1885



(d) Votes against emancipation in 1888

Figure 4: Slavery intensity and core emancipation-related bills

Notes: (a) Share of enslaved individuals in 1872 (b) Distribution of anti-emancipation votes on the Dantas Project (1884). (c) Distribution of anti-emancipation votes on the Lei dos Sexagenários (1885). (d) Distribution of anti-emancipation votes on the Lei Áurea (1888). See section A.1 for additional details on the emancipation process.

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