

# The Slave Trade and Conflict in Africa, 1400-2000

*Preliminary and Incomplete*<sup>\*</sup>

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October 2018

## Abstract

The violent coercion of individuals and ethnic groups was a fundamental aspect of the African slave trade. However, it is unclear the extent to which the African slave trade increased the propensity for these behaviors or whether more violent societies selected into the slave trade. Using geocoded conflict data going back to 1400 and instrumenting slave exports with the distance to the coast, we show that the African slave trade increased conflict propensities. We validate our distance to coast instrument by showing that it is unrelated with conflict propensity before the onset of the trans-Atlantic slave trade. We also show that the slave trade-conflict relationship responds to political and economic shocks—increasing at the waning moments of the slave trade while lying dormant during the colonial period before exhibiting a resurgence in the contemporary period. We find some evidence for national institutions being an important mechanism for this persistence.

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<sup>\*</sup>We thank Lilly Gaeto for her valuable research assistance. Funding was provided by the Immigration Policy Lab, the Institute for Humane Studies, the National Science Foundation (grant number: DGE-1656518), and the Farr Funds at Wake Forest University.

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# 1 Introduction

Violence and conflict were integral parts of the slave trading industry in Africa. Raiding was used to capture people for enslavement, and, of course, violence was used to protect against raiding, both forces giving rise to the familiar gun-slave cycle. It is estimated that conflict was the primary means by which slaves were acquired during the trans-Atlantic slave trade (Lovejoy 2012, p. 85). Were those ethnic groups more heavily exposed to the slave trade more likely to experience conflict? Despite the strong anecdotal connections between conflict and the slave trade, no empirical work has estimated the causal impact of the slave trade on conflict propensity in Africa during the pre-colonial period.

More generally, little is known empirically about the immediate impact of the slave trade on African societies. The seminal empirical studies on the slave trade focus on the long-run impacts (Nunn 2008, Nunn and Wantchekon 2011). Since then, studies have begun to examine outcomes dating back to the colonial period, e.g. Whatley and Gillezeau (2011) and Obikili (2015). This “compression of history” has been criticized as missing important dynamics relevant to growth and development (Austin 2008).

We address both of these gaps in the literature. Following Nunn and Wantchekon (2011), we instrument a given ethnic group’s slave export variable with the ethnic group centroid’s distance to the African coast. All else being equal, ethnic groups closer to the coast were easier to acquire and sell in the overseas slave trades. Using this instrumental variable strategy to control for endogeneity, we show that the slave trades caused more conflict in Africa in the pre-colonial period (pre-1860). This relationship is relatively consistent throughout the slave trade (1500–1860), but appears to strengthen during the waning moments of the trans-Atlantic slave trades (1800–1860) which aligns with previous work on the impact of the 1807 Slave Trade Act (Fenske and Kala 2017).

During this time period, there is little reason to suppose that distance to the coast is correlated with conflict for reasons outside of the slave trade. The primary European intervention in Africa during this time period revolved around the slave trade, and it was not until the late 19th century that colonial ambitions started to take root in Africa. To further lend credibility to our instrumental variables strategy, we perform a placebo test where we examine the impact of an ethnic group’s distance to the coast on its conflict propensity between 1400 and 1500 (before the rise of the trans-Atlantic slave trade). If the exogeneity assumption of our instrument is satisfied, we should expect distance to coast to be unrelated to conflict propensity. This is

precisely what we find. The coefficient on distance to coast is insignificant and actually positive (whereas it is negative during the slave trade periods). Running the same regression on data from the 1500–1860 time period when the trans-Atlantic slave trade was growing, we see a strong negative relationship between distance to the coast and conflict propensity. These two findings suggest that the correlation between the instrument and conflict is intricately linked to the slave trade. We also perform a number of different robustness checks on our findings between slave exports and conflict, none of which change our results qualitatively.

We also examine whether the impact of the slave trade on conflict changed during the colonial and modern periods. In general, propensity for inter-African conflict was lower during the colonial period (1860–1960), as African-European conflict increased. Consistent with this, we find limited evidence that the slave trade-conflict relationship persisted during this period. In contrast, the impact of the slave trade has a strong effect on contemporary conflict (1960–2000), suggesting the historical impact of the slave trade fundamentally shaped conflict propensity in African societies that persist today.

We examine several potential mechanisms for this persistence—national institutions, polygyny, and trust. We find that controlling for country fixed effects causes a large attenuation in the estimates, but only for the colonial and post-colonial time periods when national borders were in existence. These results suggest national institutions may play an important role in the persistent impact of the slave trade on conflict. We also examine the potential role of polygyny and inter-ethnic group trust by including these variables as controls in our baseline specification. If the impact of the slave trade is operating through these mechanisms, we would expect controlling for these variables to attenuate the estimates. We find little evidence for these other mechanisms despite previous literature showing an important impact of the slave trade on these outcomes (Dalton and Leung 2014, Nunn and Wantchekon 2011).

Simply looking at the impact of the slave trade on inter-African conflict in a single point in time misses important dynamics of the relationship. It is not a static relationship but varies with the social, economic, and political contexts. Shocks to the status-quo tend to heighten the relationship as individuals struggle to gain or maintain power. We see this in two critical eras: the abolition of the slave trade and the end of colonialism. The former is consistent with findings by Fenske and Kala (2017) where the 1807 Slave Trade Act increased conflict in W. Africa (where slavery was abolished) and in S.W. Africa (where the slave trade was shifted to).

Our paper also relates to a growing literature seeking to understand the determinants of the slave trade. Previous work has examined, among other factors, climate (Fenske and Kala

2015, Boxell 2018), market distortions and managerial ability (Dalton and Leung 2015, Dalton and Leung 2016), and the gun-slave cycle (Whatley 2018).

The remaining of our paper is outlined as follows. Section 2 gives the historical background. Section 3 presents the data. Section 4 includes the main results and robustness tests. Section 5 examines the persistence of the slave trade-conflict relationship overtime. Section 6 examines potential mechanisms for the previous results. And Section 7 concludes.

## 2 Historical Background

## 3 Data

### 3.1 Slave trade data

The data on slave exports is taken from Nunn and Wantchekon (2011). The dataset contains an estimate of the number of slaves exported from each Murdock (1959) ethnic group for each century between 1500 and 1900. The dataset contains a separate estimate for the trans-Atlantic and Indian Ocean slave trades.<sup>1</sup>

Our main slave trade variable is the cumulative total number of slaves (in millions) exported from a given ethnic group and their geographic neighbors in the current and preceding centuries divided by the area of the ethnic group in square kilometers. We then take the log transformation.<sup>2</sup> That is, for a given ethnic group  $i$  and century  $t$  our slave variable is  $S_{it} = \log \left[ \left( 1 + \sum_{j \in N(i)} \sum_{\tau \leq t} s_{j\tau} \right) / a_i \right]$  where  $s_{jt}$  is the number of slaves exported (in millions) from ethnic group  $j$  in century  $t$ ,  $N(i)$  is the set of neighbors of ethnic group  $i$  including  $i$ , and  $a_i$  is the area of ethnic group  $i$  in square kilometers. This measure of slave trade intensity captures the cumulative and dynamic nature of the slave trade along with its geographic spillovers.

### 3.2 Conflict data

Our data on conflict locations originally comes from Brecke (1999) who constructs a dataset of conflicts occurring across the globe from 1400-2000 with at least 32 fatalities. The Brecke (1999) data are known to be incomplete, but they represent the best known dataset on conflicts

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<sup>1</sup>The data excludes the trans-Saharan and Red Sea slave trades.

<sup>2</sup>We add one to the sum of slave exports to avoid taking the log of zero.

during this time period in Africa. The original dataset does not have latitude and longitude associated with the conflicts. We, therefore, construct a geocoded dataset of the Brecke (1999) conflicts that occurred in Africa using three sources. For conflicts occurring between 1400 and 1700, we use Besley and Reynal-Querol (2014)'s geocoded dataset. For conflicts occurring between 1700 and 1900, we use Fenske and Kala (2017)'s geocoded dataset. And, for conflicts occurring between 1900 and 2000, we construct our own geocoded dataset. We also construct an indicator for whether the conflict contained non-African actors to a significant degree and remove these observations from our data.<sup>3</sup>

Given the geocoded dataset, we can assign each conflict to its corresponding ethnic group based on the longitude and latitude locations. We then construct two variables. First, we create an indicator for whether any conflict occurred in the ethnic group during a given century. Second, we create a count of the number of years in the century in which a conflict occurred.<sup>4</sup>

## 4 Results

### 4.1 Empirical specification and main results

Our primary interest is understanding the manner in which the slave trade shaped Africa's propensity for conflict and how this relationship has changed overtime. There are two issues with this. First, the data on the slave and on conflict locations likely contains measurement error. Second, the slave trade-conflict relationship was likely a two-way street. Conflict was the primary mechanism through which slaves were acquired in Africa. As such, areas that are more prone to conflict for reasons unrelated to the slave trade, will likely have more slave exports as well.

To address both of these concerns, we use an instrumental variables strategy. Following Nunn and Wantchekon (2011), we instrument a given ethnic group's slave export variable with the ethnic group centroid's distance to the African coast. All else being equal, ethnic groups closer to the coast were easier to acquire and sell in the overseas slave trades. Furthermore, during this time period, there is no reason to suppose that distance to the coast is correlated with conflict for reasons outside of the slave trade. The primary European intervention in Africa during this time period revolved around the slave trade, and it was not until the late 19th century

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<sup>3</sup>The Fenske and Kala (2017) dataset already contains such a distinction.

<sup>4</sup>The Brecke (1999) dataset indicates the start and end years of each conflict.

that colonial ambitions started to take root in Africa. Later, we also show that an ethnic group’s distance to the coast is unrelated to conflict propensity in the period before the trans-Atlantic slave trade.

This leads to the following structural relationship:

$$c_{it} = S_{it}\beta_t + x_{it}\delta + \epsilon_{it} \quad (1)$$

$$S_{it} = x_{it}\gamma + z_{it}\alpha_t + \nu_{it} \quad (2)$$

where  $x_{it}$  is a set of control variables that we vary across specifications,<sup>5</sup>  $c_{it}$  is an indicator for conflict occurring in a given location, and  $z_{it}$  is the log of the distance (in km) of an ethnic group to the coast interacted with century indicators. Note that the interaction with century indicators allows us to estimate the time-varying relationship between slave exports and conflict  $\beta_t$ . We estimate equation (1) using quasi-maximum likelihood assuming a probit model. Standard errors are clustered at the ethnic-group level throughout.

Our main results are shown in Table 1. Column (1) only includes century fixed effects, Column (2) adds region fixed effects,<sup>6</sup> and Column (3) adds various ethnic group-level control variables. These control variables include the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Across specifications and centuries, we see a large, positive, and statistically significant coefficient on slave exports. As controls are added, the coefficients actually increase in magnitude, though estimates are less precise. The estimates also suggest that the slave trade-conflict relationship was strongest during the 17th and 19th centuries, but weaker during the 16th and 18th centuries. We get similar results when using a linear probability model as shown in Table 2, though in this specification, it is the latter periods in which conflict is more responsive to slave trade experience.

We also examine the impact of the slave trade on the intensive margin by replacing the conflict indicator in equation (1) with a count of the number of years in a century with conflicts and using a tobit specification rather than a probit. The structural equation for slave exports is left unchanged. The results for this are shown in Table 3. Again, the results align qualitatively with

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<sup>5</sup>The data for the ethnic group level controls comes from Besley and Reynal-Querol (2014), whose dataset contains 10 less ethnic groups than the slave trade dataset constructed by Nunn and Wantchekon (2011). As such, we exclude these 10 ethnic groups from our sample.

<sup>6</sup>Indicators for north, south, central, east, and west Africa.

our main results in Table 1. Slave exports increased conflict on the intensive margin throughout the slave trade period and this relationship appears strongest in the earlier periods of the slave trade.

Column (3) of Table 2 reports the output of the first-stage for Column (4) of Tables 1–3. Columns (1) and (2) of Table 2 report analogous first-stage regressions when dropping various control variables. We see that the F-statistic is greater than 10 across all specifications, which helps alleviate concerns about weak instruments.

We also estimate the equations ignoring the endogeneity of slave exports using standard probit, OLS, and tobit regressions. Table A5 shows a negative relationship between slave exports and conflict across specifications. This suggests that slave exports were negatively selected from regions with high conflict propensity. Instead, the slave trade altered these incentives for militarization and conflict.

## 4.2 Robustness

### 4.2.1 Placebo test

Of primary concern is the validity of the distance to sea instrument. If distance to sea only impacts propensity for conflict because of the slave trade, we would expect there to be no correlation between distance to the sea instrument and conflict in the period before the overseas slave trades. While the slave trade was an ongoing phenomenon across many centuries, it primarily occurred between 1500-1850 with the Brazilian abolition of the slave trade in 1850 marking the end of the era.

This motivates using the following reduced form relationship as a placebo test:

$$c_{it} = z_{it}\omega_t + x_{it}\delta + \eta_{it}. \quad (3)$$

Under our assumptions, we would expect the coefficient  $\omega_t$  on the log of the distance to the coast  $z_{it}$  to be zero before 1500 and negative after 1500. Table 5 report the results of this test using a linear probability model.<sup>7</sup> In these placebo tests, we break the data into 50 year intervals. We see insignificant positive coefficients before 1500 and negative (generally significant) coefficients after 1500. We repeat the same exercise using the conflict count variable and a tobit specification

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<sup>7</sup>We also use a probit model in Table A6 which has a significant negative coefficient for the 1400–1450 time period and a positive insignificant coefficient for the 1450–1500 time period. One drawback of the probit specification is that the sample changes across time periods due to perfect prediction by control variables.

in Table A7, which gives qualitatively similar conclusions. Distance to coast is unrelated with conflict propensity before 1500 and the rise of the trans-Ocean slave trades, but is strongly correlated with conflict during the slave trades.

#### **4.2.2 Other robustness tests**

Another potential concern is measurement error in the conflict data. European involvement in the slave trade may have increased the likelihood of historical accounts being kept for conflicts near slave trade activity (i.e., the coast). Part of this concern is already alleviated by our choice to restrict attention to conflicts with only African actors and excluding those with major European interventions. However, we can also examine whether controlling for other forms of European presence, such as pre-colonial explorer routes and colonial railroads, attenuates our findings. For this, we examine both dropping ethnic groups containing one of these lines, controlling for the number of lines passing through an ethnic group, and controlling for the distance of an ethnic group's centroid from the line. It is important to note that these additional controls and sample selection procedures are post-treatment and, thus, are susceptible to the general issues typically labelled as "bad controls". The results of this are shown in Table A1. The coefficients on slave exports remain positive and significant across all specifications.

We also perform various other robustness tests. Table A2 shows the results of dropping, one at a time, different regions of Africa (North, West, South, East, and Central) and repeating the probit regressions. Across all specifications, we qualitatively similar conclusions as our main result in Column (4) of Table 1. We also perform various transformations of the main variables, including removing the log transformation, restricting attention to a single slave trade, removing neighbor slave exports, and using the unlogged distance to coast as an instrument. The results of these specifications are show in Table A3 and, again, we see qualitatively similar conclusions as our main result in Column (4) of Table 1.

Table A4 examines the effect of restricting the sample by slave exports. We see that ethnic groups with a large number of slave exports actually have a negative estimate for the slave trade on conflict, but all other sample restrictions have a significant, positive coefficient. The negative impact for large export regions could be driven by state centralization and/or differences on the intensive versus extensive margins. Using robust standard errors rather than clustered standard errors, only increases significance, as shown in Column (4) of Table A4. Our results for the linear probability model are still significant when using Conley (1999) standard errors that

allow for spatial dependence of up to two degrees in both latitude and longitude, as shown in Column (5) of Table A4. As the degree of spatial dependence is increased from two to five to ten, the F-statistic weakens but the coefficients remain significant at the ten percent level.

## 5 Persistence

Did the impact of the slave trade on conflict propensity in Africa persist and contribute to Africa's high levels of conflict today? The first clue to this answer lies in the previous reduced form regressions. We see a strong negative coefficient on the 1950 to 2000 period across all three specifications in Table 5. However, this relationship is not consistent across all periods since the slave trade. During the colonial period (1900 to 1950), we see insignificant estimates that are close to zero. Tables 6 and 7 expand on this using the structural IV model. As the reduced form suggests, we see strong evidence that the slave trade-conflict relationship persisted into the modern period. This is consistent with results by Zhang and Kibriya (2016) who show a positive impact of the slave trade on contemporary conflict using a different conflict dataset and a different identification strategy. There is less evidence that such a strong relationship existed during Africa's colonial period. Overall, these results suggest that colonial involvement may have altered the relationship between the slave trade and conflict.

One issue with the above IV regressions is that the exclusion restriction is less plausible after the onset of Africa's colonial period, as colonial interactions were predominantly close to the coast which will be correlated with our instrument. However, we see that when including controls for colonial rails and explorer routes, the results for the colonial period in Table 6 tend to increase in magnitude and significance. In contrast, these same controls have little impact on results for the contemporary period in Table 7. These results help reduce concerns regarding endogeneity during this time period and suggest that colonial interactions were a temporary attenuating influence on the slave trade-conflict relationship.

Tables A8 and A9 examine various ACLED and UCDP conflict indicators and counts. While showing some variation, these results are broadly consistent with the slave trade increasing conflict propensity—suggesting the results are not unique to the Brecke (1999) conflict data.

## **6 Mechanisms**

We now examine potential mechanisms for the slave trade-conflict relationship, along with its heterogeneity and dynamics overtime.

## **7 Conclusion**

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Table 1: Main results, probit

	(1)	(2)	(3)	(4)
Slave exports:				Slave exports:
1500-1599	0.320 (0.177)	0.342 (0.200)	0.420 (0.241)	0.624 (0.120)
1600-1699	0.578 (0.177)	0.593 (0.189)	0.742 (0.206)	
1700-1799	0.355 (0.143)	0.359 (0.152)	0.421 (0.188)	
1800-1860	0.599 (0.124)	0.617 (0.133)	0.746 (0.157)	
Sample	3300	3300	3300	3300
Clusters	825	825	825	825
Century FE	Yes	Yes	Yes	Yes
Region FE	No	Yes	Yes	Yes
Other Controls	No	No	Yes	Yes

Notes: Table shows various instrumental variable probit regressions regressing an indicator for conflict in a given century on the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  using the log of the distance of an ethnic groups centroid to the African coast interacted with century indicators as instruments. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Column (4) collapses the century specific variables for slave exports and distance to coast into a single variable respectively to get the average impact of the slave trade on conflict over the time period. Standard errors clustered at the ethnic group level are in parentheses below.

Table 2: Main results, 2SLS

	(1)	(2)	(3)	(4)
Slave exports:				Slave exports:
1500-1599	0.023 (0.018)	0.022 (0.022)	0.025 (0.025)	0.056 (0.024)
1600-1699	0.055 (0.030)	0.054 (0.033)	0.057 (0.035)	
1700-1799	0.039 (0.023)	0.039 (0.023)	0.042 (0.024)	
1800-1860	0.089 (0.035)	0.088 (0.037)	0.091 (0.037)	
Sample	3300	3300	3300	3300
Clusters	825	825	825	825
Century FE	Yes	Yes	Yes	Yes
Region FE	No	Yes	Yes	Yes
Other Controls	No	No	Yes	Yes

Notes: Table shows various 2SLS instrumental variable regressions regressing an indicator for conflict in a given century on the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  using the log of the distance of an ethnic groups centroid to the African coast interacted with century indicators as instruments. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Column (4) collapses the century specific variables for slave exports and distance to coast into a single variable respectively to get the average impact of the slave trade on conflict over the time period. Standard errors clustered at the ethnic group level are in parentheses below.

Table 3: Main results, tobit

	(1)	(2)	(3)	(4)
Slave exports:				Slave exports:
1500-1599	6.668 (4.924)	6.903 (5.574)	6.852 (5.816)	12.879 (5.214)
1600-1699	14.452 (6.718)	14.399 (6.919)	15.606 (6.647)	
1700-1799	9.300 (5.019)	9.050 (4.996)	8.868 (4.817)	
1800-1860	14.702 (5.645)	14.694 (5.752)	15.289 (5.932)	
Sample	3300	3300	3300	3300
Clusters	825	825	825	825
Century FE	Yes	Yes	Yes	Yes
Region FE	No	Yes	Yes	Yes
Other Controls	No	No	Yes	Yes

Notes: Table shows various tobit instrumental variable regressions regressing a count for the number of years with conflict in a given century on the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  using the log of the distance of an ethnic groups centroid to the African coast interacted with century indicators as instruments. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Column (4) collapses the century specific variables for slave exports and distance to coast into a single variable respectively to get the average impact of the slave trade on conflict over the time period. Standard errors clustered at the ethnic group level are in parentheses below.

Table 4: First stage

	(1)	(2)	(3)
Slave exports:	-0.17999 (0.02917)	-0.16066 (0.03091)	-0.16178 (0.03279)
Sample	3300	3300	3300
Clusters	825	825	825
Century FE	Yes	Yes	Yes
Region FE	No	Yes	Yes
Other Controls	No	No	Yes

Notes: Table shows various OLS regressions regressing the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  on the log of the distance of an ethnic groups centroid to the African coast and various controls. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Standard errors clustered at the ethnic group level are in parentheses below.

Table 5: Placebo test

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Distance	3.536	37.296	-50.400	-76.620	-55.825	-75.203	3.879	-17.859	-70.923	-130.233	-4.832	-234.021
to Coast	(25.888)	(40.924)	(30.527)	(40.557)	(30.646)	(49.612)	(26.578)	(37.224)	(58.832)	(72.920)	(24.811)	(87.516)
Sample	825	825	825	825	825	825	825	825	825	825	825	825
Region FE	Yes											
Other Controls	Yes											
Century	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950

Notes: Table shows various OLS regressions regressing an indicator for conflict in a given half century on the log of the distance (in 10000 km) of an ethnic groups centroid to the African coast. Each column restricts the data to a given half century with the starting year indicated. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Robust standard errors are in parentheses below.

Table 6: Persistent impact of the slave trade, 1860–1960

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Slaves	-0.067 (0.276)	0.032 (0.309)	0.366 (0.251)	0.590 (0.215)	-0.007 (0.026)	-0.001 (0.033)	0.042 (0.037)	0.074 (0.046)	-0.421 (2.594)	0.681 (2.974)	4.605 (3.372)	7.571 (4.222)
Sample	825	825	825	825	825	825	825	825	825	825	825	825
Clusters	825	825	825	825	825	825	825	825	825	825	825	825
F-statistic	46.248	33.385	29.772	22.154	46.248	33.385	29.772	22.154	46.248	33.385	29.772	22.154
Region FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Pre-Colonial Controls	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Colonial Controls	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes

Notes: Table shows various instrumental variable regressions regressing various measures of conflict between 1860 and 1960 on the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  using the log of the distance of an ethnic groups centroid to the African coast as an instrument. Columns (1)-(4) use an indicator for conflict in the century along with a probit specification. Columns (5)-(8) are the same as Columns (1)-(3) but use a linear probability model. Columns (9)-(12) use a count of the number of conflict years in a tobit specification. ‘Pre-Colonial Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. ‘Colonial Controls’ include the count of the number of railways and the count of the number of explorer routes. Standard errors clustered at the ethnic group level are in parentheses below.

Table 7: Persistent impact of the slave trade, 1960–2000

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Slaves	0.373 (0.121)	0.464 (0.117)	0.669 (0.114)	0.728 (0.133)	0.074 (0.041)	0.092 (0.050)	0.123 (0.055)	0.133 (0.070)	7.442 (3.642)	10.528 (4.412)	15.193 (5.371)	17.773 (7.087)
Sample	825	825	825	825	825	825	825	825	825	825	825	825
Clusters	825	825	825	825	825	825	825	825	825	825	825	825
F-statistic	46.248	33.385	29.772	22.154	46.248	33.385	29.772	22.154	46.248	33.385	29.772	22.154
Region FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Pre-Colonial Controls	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Colonial Controls	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes

Notes: Table shows various instrumental variable regressions regressing various measures of conflict between 1960 and 2000 on the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  using the log of the distance of an ethnic groups centroid to the African coast as an instrument. Columns (1)-(4) use an indicator for conflict in the century along with a probit specification. Columns (5)-(8) are the same as Columns (1)-(3) but use a linear probability model. Columns (9)-(12) use a count of the number of conflict years in a tobit specification. ‘Pre-Colonial Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. ‘Colonial Controls’ include the count of the number of railways and the count of the number of explorer routes. Standard errors clustered at the ethnic group level are in parentheses below.

Table 8: Role of Institutions

	Pre-Colonial		Colonial		Post-Colonial	
	(1)	(2)	(3)	(4)	(5)	(6)
Slave exports:	0.090 (0.045)	0.071 (0.049)	0.042 (0.037)	-0.002 (0.033)	0.123 (0.055)	0.050 (0.039)
Sample	825	825	825	825	825	825
F-statistic	29.772	32.446	29.772	32.446	29.772	32.446
Century FE	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	Yes	No	Yes	No	Yes
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table shows various linear instrumental variable regressions regressing an indicator of conflict for various time periods on the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  using the log of the distance of an ethnic groups centroid to the African coast as an instrument. Columns (1) and (2) use conflict data from 1800–1860. Columns (3) and (4) use conflict data from 1860–1960. Columns (5) and (6) use conflict data from 1960–2000. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Robust standard errors are in parentheses below.

Table 9: Role of Trust and Polygyny

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Slave exports:	0.124	0.115	0.628	0.594	0.728	0.663	1.097	1.090
	(0.081)	(0.076)	(0.818)	(0.763)	(0.190)	(0.224)	(0.198)	(0.201)
Sample	524	524	183	183	524	524	182	182
Polygyny Control	No	Yes	No	No	No	Yes	No	No
Trust Control	No	No	No	Yes	No	No	No	Yes
Region FE	Yes							
Other Controls	Yes							

Notes: Table shows various instrumental variable regressions regressing an indicator of conflict for 1960–2000 on the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  using the log of the distance of an ethnic groups centroid to the African coast as an instrument. Columns (1)–(4) use 2SLS. Columns (5)–(8) use an IV probit specification. Columns (1), (2), (5), and (6) restrict the sample to ethnic groups with non-missing measures of polygyny. Columns (3), (4), (7), and (8) restrict the sample to ethnic groups with non-missing measures of inter-group trust. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Robust standard errors are in parentheses below.

## 8 Online Appendix

Table A1: Robustness to additional colonial controls

	(1)	(2)	(3)	(4)	(5)	(5)
Slave exports:	0.484 (0.205)	0.565 (0.135)	0.754 (0.157)	0.763 (0.174)	0.757 (0.121)	0.581 (0.123)
No. of rails:		0.247 (0.051)				
Distance to rail:			0.000 (0.000)			
No. of explorers					0.295 (0.061)	
Distance to explorers						0.000 (0.000)
Sample	2856	3300	3300	2048	3300	3300
Clusters	714	825	825	512	825	825
F-statistic	22.152	30.185	7.697	6.832	15.110	28.990
Century FE	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table shows various probit instrumental variable regressions regressing an indicator for conflict in a given century on the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  using the log of the distance of an ethnic groups centroid to the African coast as an instrument. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Column (1) restricts attention to ethnic groups with no colonial railway; Column (2) includes a count of the number of colonial railways passing through each ethnic group as an additional control; Column (3) includes the distance (in km) of an ethnic group’s centroid from the nearest colonial railway as an additional control; Column (4) restricts attention to ethnic groups with no pre-colonial explorer routes; Column (5) includes a count of the number of pre-colonial explorer routes passing through each ethnic group as an additional control; and Column (6) includes the distance (in km) of an ethnic group’s centroid from the nearest pre-colonial explorer routes as an additional control. Standard errors clustered at the ethnic group level are in parentheses below.

Table A2: Robustness to dropping regions

	(1)	(2)	(3)	(4)	(5)
Region dropped:	North	South	Central	East	West
Slave exports:	0.695 (0.124)	0.547 (0.129)	0.528 (0.149)	0.692 (0.140)	0.726 (0.127)
Sample	3052	2952	2464	2432	2300
Clusters	763	738	616	608	575
F-statistic	20.142	32.301	18.638	11.336	11.996
Century FE	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes	Yes	Yes

Notes: Table shows various probit instrumental variable regressions regressing an indicator for conflict in a given century on the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  using the log of the distance of an ethnic groups centroid to the African coast as an instrument. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Column (1) drops ethnic groups in northern Africa; Column (2) drops ethnic groups in southern Africa; Column (3) drops ethnic groups in central Africa; Column (4) drops ethnic groups in eastern Africa; and Column (5) drops ethnic groups in western Africa. Standard errors clustered at the ethnic group level are in parentheses below.

Table A3: Robustness to alternative variable transformations

	(1)	(2)	(3)	(4)	(5)	(6)
Slave exports:	0.015	0.628	0.652	0.654	0.656	0.811
	(0.006)	(0.121)	(0.121)	(0.121)	(0.121)	(0.095)
Sample	3300	3300	3300	3300	3300	3300
Clusters	825	825	825	825	825	825
F-statistic	8.617	26.022	22.126	22.321	21.679	25.313
Century FE	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table shows various probit instrumental variable regressions regressing an indicator for conflict in a given century on various measures of slave exports using the log of the distance of an ethnic groups centroid to the African coast as an instrument. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Column (1) uses the un-logged version of the slave exports variable (in individuals); Column (2) constructs the logged slave exports variable after restricting attention to the trans-Atlantic slave trade; Column (3) constructs the logged slave exports variable after restricting attention to the trans-Indian slave trade; Column (4) constructs the logged slave exports variable after restricting attention to the trans-Atlantic slave trade and excludes neighbor exports; Column (5) constructs the logged slave exports variable after restricting attention to the trans-Indian slave trade and excludes neighbor exports; and Column (6) uses the original slave exports variable but uses the unlogged distance to coast as the instrument. Standard errors clustered at the ethnic group level are in parentheses below.

Table A4: Other robustness tests

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Slave exports:	0.768	0.861	0.456	0.624	0.056	0.056	0.056
	(0.126)	(0.256)	(0.176)	(0.083)	(0.027)	(0.028)	(0.028)
Sample	2504	1112	2188	3300	3300	3300	3300
Clusters	626	278	547	—	—	—	—
F-statistic	11.152	0.153	31.488	105.673	14.948	9.468	9.119
Century FE	Yes						
Region FE	Yes						
Other Controls	Yes						

Notes: Table shows various instrumental variable regressions regressing an indicator for conflict in a given century on various measures of slave exports using the log of the distance of an ethnic groups centroid to the African coast as an instrument. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. All regressions are probit regressions unless otherwise specified. Column (1) restricts observations to ethnic groups with non-zero total slave exports from their own ethnic group or their neighbors; Column (2) restricts observations to ethnic groups with at least 1 slave export per square kilometer from their own ethnic group or their neighbors; Column (3) restricts observations to ethnic groups with at most 1 slave export per square kilometer from their own ethnic group or their neighbors; Column (4) uses robust standard errors; Column (5) estimates a linear probability model and uses Conley (1999) spatial dependent standard error estimates that allow for spatial correlation up to two degrees in both latitude and longitude; Column (6) is the same as Column (5) except that it uses five degrees rather than two; and Column (7) is the same as Column (5) except that it uses ten degrees rather than two. Standard errors clustered at the ethnic group level, unless otherwise specified, are in parentheses below.

Table A5: Naive regressions

	(1)	(2)	(3)
Slave exports:	-0.23090 (0.06840)	-0.01200 (0.00394)	-0.07444 (0.03258)
Sample	3300	3300	3300
Clusters	825	825	825
Century FE	Yes	Yes	Yes
Region FE	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes

Notes: Table shows various regressions regressing an indicator or count of conflict on the log(1 + slave exports / ethnic group area in sq. km) and various controls. 'Other Controls' includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Column (1) uses a probit specification and a conflict indicator; Column (2) uses a linear probability model and a conflict indicator; and Column (3) uses a tobit specification and a conflict count. Standard errors clustered at the ethnic group level are in parentheses below.

Table A6: Placebo test, probit

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Distance	-2079.571	393.293	-2063.725	-3356.982	-1549.921	-2217.793	188.836	-31.685	-1142.167	-1370.912	-528.515	-2089.386
to Coast	(1067.611)	(1367.430)	(963.883)	(1065.246)	(721.657)	(756.857)	(705.836)	(842.690)	(728.829)	(643.932)	(886.901)	(568.032)
Sample	456	763	714	763	763	825	738	529	825	825	743	825
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950

Notes: Table shows various probit regressions regressing an indicator for conflict in a given half century on the log of the distance (in 10000 km) of an ethnic groups centroid to the African coast. Each column restricts the data to a given half century with the starting year indicated. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Robust standard errors are in parentheses below.

Table A7: Placebo test, tobit

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Distance	—	2909.554	-11335.329	-13517.406	-19773.291	-22443.848	2618.606	271.595	-17769.422	-15058.936	-1064.420	-27117.614
to Coast	(—)	(6775.054)	(6122.536)	(4371.314)	(12201.062)	(10532.345)	(9125.270)	(8430.541)	(10275.625)	(6852.953)	(1721.019)	(7715.317)
Sample	—	825	825	825	825	825	825	825	825	825	825	825
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Century	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950

Notes: Table shows various tobit regressions regressing the number of years with conflict in a given half century on the log of the distance (in 10000 km) of an ethnic groups centroid to the African coast. Each column restricts the data to a given half century with the starting year indicated. ‘Other Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. Robust standard errors are in parentheses below.

Table A8: Persistent impact of the slave trade with alternative conflict data, probit

Dependent variable:	(1) All conflicts	(2) Excludes riots	(3) Excludes riots/non-violent	(4) Battles	(5) Violence against citizens	(6) Riots	(7) State conflict	(8) One-sided conflicts	(9) Non-state conflict
Slaves	-0.148 (0.354)	-0.221 (0.326)	-0.193 (0.319)	-0.260 (0.310)	0.035 (0.306)	0.769 (0.096)	-0.054 (0.328)	0.533 (0.180)	-0.129 (0.357)
Sample	825	825	825	825	825	825	825	825	825
Clusters	825	825	825	825	825	825	825	825	825
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pre-Colonial Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Colonial Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table shows various instrumental variable probit regressions regressing various measures of conflict between 1960 and 2000 on the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  using the log of the distance of an ethnic groups centroid to the African coast as an instrument. Column (1) is an ACLED civil conflict indicator; Column (2) is an ACLED civil conflict indicator excluding riots and protests; Column (3) is an ACLED civil conflict indicator excluding riots, protests, and nonviolent events; Column (4) is an ACLED battle indicator; Column (5) is an ACLED indicator for violence against citizens; Column (6) is an ACLED indicator for riots; Column (7) is an UCDP indicator for state conflict; Column (8) is an UCDP indicator for one-sided civilian conflict; and Column (9) is a UCDP indicator for non-state conflict. ‘Pre-Colonial Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. ‘Colonial Controls’ include the count of the number of railways and the count of the number of explorer routes. Standard errors clustered at the ethnic group level are in parentheses below.

Table A9: Persistent impact of the slave trade with alternative conflict data, tobit

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	All	Excludes	Excludes	Battles	Violence	Riots	State	One-sided	Non-state
	conflicts	riots	riots/non-violent		against citizens		conflict	conflicts	conflict
Slaves	72.994	69.545	64.855	30.414	26.095	44.655	18.239	28.299	5.756
	(43.008)	(43.749)	(41.069)	(28.130)	(23.030)	(15.439)	(27.126)	(13.105)	(37.011)
Sample	825	825	825	825	825	825	825	825	825
Clusters	825	825	825	825	825	825	825	825	825
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pre-Colonial Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Colonial Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table shows various instrumental variable tobit regressions regressing various measures of conflict between 1960 and 2000 on the  $\log(1 + \text{slave exports} / \text{ethnic group area in sq. km})$  using the log of the distance of an ethnic groups centroid to the African coast as an instrument. Column (1) is an ACLED civil conflict count; Column (2) is an ACLED civil conflict count excluding riots and protests; Column (3) is an ACLED civil conflict count excluding riots, protests, and nonviolent events; Column (4) is an ACLED battle count; Column (5) is an ACLED count of violence against citizens; Column (6) is an ACLED count of riots; Column (7) is an UCDP count of state conflict; Column (8) is an UCDP count of one-sided civilian conflict; and Column (9) is a UCDP count of non-state conflict. ‘Pre-Colonial Controls’ includes the log of the distance to a main pre-colonial empire, an indicator for a city in 1400, mean agricultural suitability, mean elevation, an indicator for rivers, an indicator for lakes, and malaria suitability. ‘Colonial Controls’ include the count of the number of railways and the count of the number of explorer routes. Standard errors clustered at the ethnic group level are in parentheses below.