

The Slave Trade and the Origins of Mistrust in Africa

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- ▶ However, they were unable to establish the underlying causal mechanism
- ▶ Did slave trade cause a culture of mistrust to develop within Africa?
- ▶ Does it persist till this date and affect economic development?

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 - Individuals started to turn on others including friends and family
 - Trying to kidnap, trick, and sell each other into slavery

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- ▶ Alternative explanations:
 - More slaves were supplied by ethnic groups that initially were less trusting, and that these lower levels of trust continue to persist today
 - There may be other historical events, such as formal colonial rule, that are correlated with the severity of the slave trade and subsequent levels of trust

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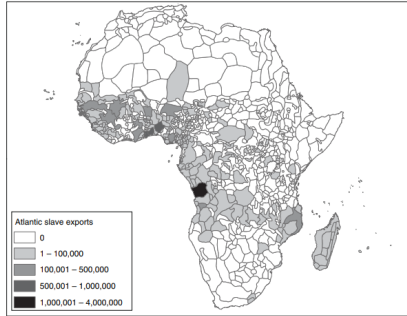
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- ▶ Strategies to establish that slave trade adversely affected trust
 - Control for colonial rule, certain precolonial characteristics of ethnic groups, including initial prosperity and political development
 - Calculating how much greater the influence of unobservable factors would need to be to completely explain away the negative relationship between the slave trade and trust
 - Distance of ethnic groups from the coast at the time of the slave trade is considered as an instrument for the number of slaves taken

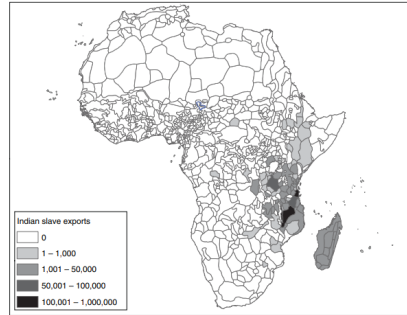
- ▶ **Afrobarometer Data:** Nationally representative individual level surveys covering 17 sub-Saharan African countries
 - Respondents were asked how much they trust their relatives, neighbors, and their locally elected government council
- ▶ **Ethnicity-Level Data on Slave Exports:** The estimates of the number of slaves taken from each ethnic group rely on country-level slave export figures from Nunn (2008)
 - Country-level estimates cover Africa's four slave trades (the transatlantic, Indian Ocean, Red Sea, and trans-Saharan) between 1400 and 1900

Spatial distribution of slave trade

Panel A. Transatlantic slave trade



Panel B. Indian Ocean slave trade



- Panel A: The transatlantic slave trade affected much of the African continent
- Panel B: . The much smaller Indian Ocean slave trade was confined primarily to Eastern Africa continent

Estimation and results

$$\text{trust}_{i,e,d,c} = \alpha_c + \beta \text{slave exports}_e + \mathbf{X}'_{i,e,d,c} \mathbf{\Gamma} + \mathbf{X}'_{d,c} \mathbf{\Omega} + \mathbf{X}'_e \mathbf{\Phi} + \varepsilon$$

- ▶ $\text{trust}_{i,e,d,c}$ denotes one of the five measures of trust which vary across individuals
- ▶ slave exports_e is a measure of the number of slaves taken from ethnic group e during the slave trade

Estimating equations

- ▶ $X'_{i,e,d,c}$ denotes a set of individual-level covariates, which include the respondent's age, age squared, a gender indicator variable, an indicator variable if the respondent lives in an urban location, fixed effects for the respondent's living conditions, fixed effects for the educational attainment of the respondent, religion fixed effects, and occupation fixed effects

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- ▶ $X'_{d,c}$ consists of two variables designed to capture the ethnic composition of the district in which the respondent lives
- ▶ X'_e denotes a vector of ethnicity-level variables that are meant to capture the historical characteristics of ethnicities, as well as the differing impacts of colonial rule on separate ethnic groups

Baseline results

TABLE 1—OLS ESTIMATES OF THE DETERMINANTS OF TRUST IN NEIGHBORS

Dependent variable: Trust of neighbors	Slave exports (thousands) (1)	Exports/ area (2)	Exports/ historical pop (3)	ln (1 + exports) (4)	ln (1 + exports/ area) (5)	ln (1 + exports/ historical pop) (6)
Estimated coefficient	-0.00068 [0.00014] (0.00015) {0.00013}	-0.019 [0.005] (0.005) {0.005}	-0.531 [0.147] (0.147) {0.165}	-0.037 [0.014] (0.014) {0.015}	-0.159 [0.034] (0.034) {0.034}	-0.743 [0.187] (0.187) {0.212}
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
District controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	20,027	20,027	17,644	20,027	20,027	17,644
Number of ethnicities	185	185	157	185	185	157
Number of districts	1,257	1,257	1,214	1,257	1,257	1,214
R^2	0.16	0.16	0.15	0.15	0.16	0.15

► Slave export measure:

- Column 1: Total number of slaves taken from an ethnic group
- Column 2: Number of slaves taken normalized by the area of land inhabited by the ethnic group
- Column 3: Slave exports normalized by colonial population figures

Baseline results

TABLE 2—OLS ESTIMATES OF THE DETERMINANTS OF THE TRUST OF OTHERS

	Trust of relatives (1)	Trust of neighbors (2)	Trust of local council (3)	Intra- group trust (4)	Inter- group trust (5)
$\ln(1 + \text{exports/area})$	-0.133*** (0.037)	-0.159*** (0.034)	-0.111*** (0.021)	-0.144*** (0.032)	-0.097*** (0.028)
Individual controls	Yes	Yes	Yes	Yes	Yes
District controls	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	20,062	20,027	19,733	19,952	19,765
Number of ethnicity clusters	185	185	185	185	185
Number of district clusters	1,257	1,257	1,283	1,257	1,255
R^2	0.13	0.16	0.20	0.14	0.11

Slave trade is negatively correlated with all five measures of trust, including intragroup trust and trust of relatives

Identifying causal relationship

Controlling for initial conditions and colonial rule

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 - ▶ indicator variables that quantify the precolonial settlement patterns of ethnic groups
 - ▶ number of jurisdictional hierarchies beyond the local community
 - ▶ connectivity to colonial railway network, European missionary contact, European explorer travelling through land historically occupied by the ethnic group

Controlling for initial conditions and colonial rule

TABLE 3—OLS ESTIMATES OF THE DETERMINANTS OF THE TRUST OF OTHERS,
WITH ADDITIONAL CONTROLS

	Trust of relatives (1)	Trust of neighbors (2)	Trust of local council (3)	Intragroup trust (4)	Intergroup trust (5)
$\ln(1 + \text{exports/area})$	-0.178*** (0.032)	-0.202*** (0.031)	-0.129*** (0.022)	-0.188*** (0.033)	-0.115*** (0.030)
Colonial population density	Yes	Yes	Yes	Yes	Yes
Ethnicity-level colonial controls	Yes	Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes
District controls	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	16,709	16,679	15,905	16,636	16,473
Number of ethnicity clusters	147	147	146	147	147
Number of district clusters	1,187	1,187	1,194	1,186	1,184
R^2	0.13	0.16	0.21	0.16	0.12

- For each measure of trust, the estimated slave export coefficients remain negative and highly significant.

Using Selection on Observables to Assess the Bias from Unobservables

TABLE 4—USING SELECTION ON OBSERVABLES TO ASSESS THE BIAS FROM UNOBSERVABLES

		Trust of relatives	Trust of neighbors	Trust of local council	Intragroup trust	Intergroup trust
Controls in the restricted set	Controls in the full set	(1)	(2)	(3)	(4)	(5)
None	Full set of controls from equation (1)	4.31	4.23	3.03	4.13	3.32
None	Full set of controls from equation (1), ethnicity-level colonial controls, and colonial population density	11.54	6.98	2.65	9.22	3.80
Age, age squared, gender	Full set of controls from equation (1)	4.17	3.99	2.89	3.91	3.12
Age, age squared, gender	Full set of controls from equation (1), ethnicity-level colonial controls, and colonial population density	10.93	6.52	2.57	8.44	3.59

Notes: Each cell of the table reports ratios based on the coefficient for $\ln(1 + \text{exports/area})$ from two individual-level regressions. In one, the covariates include the “restricted set” of control variables. Call this coefficient β^R . In the other, the covariates include the “full set” of controls. Call this coefficient β^F . In both regressions, the sample sizes are the same, and country fixed effects are included. The reported ratio is calculated as: $\beta^F/(\beta^R - \beta^F)$. See Table 3 for the description of the full set of controls from equation (1), the ethnicity-level colonial controls, and colonial population density.

Using Selection on Observables to Assess the Bias from Unobservables

- ▶ Of the 20 ratios reported in Table 4, none is less than one. The ratios range from 3.0 to 11.5, with a median ratio of 4.1.
- ▶ Therefore, to attribute the entire OLS estimate to selection effects, selection on unobservables would have to be at least three times greater than selection on observables and, on average, over four times greater.
- ▶ Therefore, it is less likely that the estimated effect of the slave trade is fully driven by unobservables

IV estimates

- Instrument: measure of the distance of an individual's ethnic group from the coast during the slave trade

TABLE 5—IV ESTIMATES OF THE EFFECT OF THE SLAVE TRADE ON TRUST

	Trust of relatives (1)	Trust of neighbors (2)	Trust of local council (3)	Intragroup trust (4)	Intergroup trust (5)
Second stage: Dependent variable is an individual's trust					
ln (1 + exports/area)	-0.190*** (0.067)	-0.245*** (0.070)	-0.221*** (0.060)	-0.251*** (0.088)	-0.174** (0.080)
Hausman test (<i>p</i> -value)	0.88	0.53	0.09	0.44	0.41
<i>R</i> ²	0.13	0.16	0.20	0.15	0.12
First stage: Dependent variable is ln (1 + exports/area)					
Historical distance of ethnic group from coast	-0.0014*** (0.0003)	-0.0014*** (0.0003)	-0.0014*** (0.0003)	-0.0014*** (0.0003)	-0.0014*** (0.0003)
Colonial population density	Yes	Yes	Yes	Yes	Yes
Ethnicity-level colonial controls	Yes	Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes
District controls	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	16,709	16,679	15,905	16,636	16,473
Number of clusters	147 / 1,187	147 / 1,187	146 / 1,194	147 / 1,186	147 / 1,184
<i>F</i> -stat of excl. instrument	26.9	26.8	27.4	27.1	27.0
<i>R</i> ²	0.81	0.81	0.81	0.81	0.81

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- ▶ Consistent with the historical record, ethnic groups that were further from the coast exported fewer slaves
- ▶ The second-stage estimates report a negative and highly significant effect of the slave trade on trust

IV estimates

TABLE 6—IV ESTIMATES OF THE EFFECT OF THE SLAVE TRADE ON TRUST, WITH ADDITIONAL CONTROLS

	Trust of relatives (1)	Trust of neighbors (2)	Trust of local council (3)	Intragroup trust (4)	Intergroup trust (5)
Second stage: Dependent variable is an individual's trust					
ln (1 + exports/area)	−0.172** (0.076)	−0.271*** (0.088)	−0.262*** (0.075)	−0.254** (0.109)	−0.189* (0.103)
Hausman test (<i>p</i> -value)	0.98	0.42	0.05	0.53	0.44
<i>R</i> ²	0.13	0.16	0.20	0.15	0.12
First stage: Dependent variable is ln (1 + exports/area)					
Historical distance of ethnic group from coast	−0.0015*** (0.0003)	−0.0015*** (0.0003)	−0.0015*** (0.0003)	−0.0015*** (0.0003)	−0.0015*** (0.0003)
Reliance on fishing	Yes	Yes	Yes	Yes	Yes
Distances to Saharan city, route	Yes	Yes	Yes	Yes	Yes
Colonial population density	Yes	Yes	Yes	Yes	Yes
Ethnicity-level colonial controls	Yes	Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes
District controls	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	16,709	16,679	15,905	16,636	16,473
Number of clusters	147 / 1,187	147 / 1,187	146 / 1,194	147 / 1,186	147 / 1,184
<i>F</i> -stat of excl. instrument	21.7	21.6	22.2	21.8	21.6
<i>R</i> ²	0.81	0.81	0.81	0.81	0.81

- Table 6 reports estimates with controls for each ethnic group's historical reliance on fishing and two measures of its distance from the Saharan trade.

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- ▶ Assumption is correct if a positive relationship between distance from the coast and trust should not exist in parts of the world that did not experience the slave trade.
- ▶ Falsification tests undertaken using Asiabarometer survey and World Value Survey
- ▶ For this non-African sample, no evidence of a positive relationship between distance from the coast and trust was found

Testing for channels of causality

Effects of the Slave Trade on Internal Norms versus External Factors

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 - Individuals may mistrust their local government council not because they have developed internal norms of mistrust, but because the council is not trustworthy

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 - Individuals may mistrust their local government council not because they have developed internal norms of mistrust, but because the council is not trustworthy
 - Distinguishing between the effects of the slave trade through a change in the internal norms of trust versus a change in the trustworthiness
 - Estimate directly how much of the slave trade's effect on trust works through an individual's external environment—such as the rule of law and the trustworthiness of others

Testing for channels of causality

TABLE 9—IDENTIFYING CHANNELS OF CAUSALITY

	Trust of local council		Intergroup trust		
	(1)	(2)	Within town (3)	Within district (4)	Within province (5)
Ethnicity-based slave export measure (baseline measure)	-0.072*** (0.019)	-0.070*** (0.019)	-0.102*** (0.028)	-0.120*** (0.027)	-0.098*** (0.029)
Average slave export measure among other ethnicities in the same location			-0.037 (0.029)	-0.063** (0.030)	-0.091*** (0.035)
Council trustworthiness fixed effects	Yes	Yes	No	No	No
Five public goods fixed effects	No	Yes	No	No	No
Colonial population density	Yes	Yes	Yes	Yes	Yes
Ethnicity-level colonial controls	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	12,827	12,203	9,673	12,513	15,999
Number of clusters	146/1,172	145/1,130	147/725	147/737	147/1,127
R ²	0.37	0.37	0.12	0.12	0.12

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- ▶ Column 1: Controlling for measures of the perceived quality of the local council - councilor's past performance, corruption and attentiveness
- ▶ With the inclusion of these additional controls, the estimated relationship between slave exports and trust remains negative and highly significant

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- ▶ The estimated effect of the slave trade on intergroup trust is robust to controlling for the effect of the slave trade on trustworthiness of others

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- ▶ column 3 estimates of equation 1 controlling for the average inter-ethnic slave export intensity of the other's in the respondent's town

Testing for channels of causality

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	Trust of relatives (1)	Trust of neighbors (2)	Trust of local council (3)	Intragroup trust (4)	Intergroup trust (5)
Ethnicity-based slave export measure (baseline measure)	-0.155*** (0.029)	-0.182*** (0.029)	-0.100*** (0.023)	-0.169*** (0.033)	-0.090*** (0.030)
Location-based slave export measure	-0.045*** (0.014)	-0.045*** (0.016)	-0.045** (0.018)	-0.043** (0.018)	-0.047** (0.020)
Colonial population density	Yes	Yes	Yes	Yes	Yes
Ethnicity-level colonial controls	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	15,999	15,972	15,221	15,931	15,773
Number of clusters	146/269	146/269	145/272	146/269	146/269
R^2	0.13	0.16	0.20	0.16	0.12

- ▶ A second slave-export variable: measures the number of slaves taken from the geographic area in which the individual is currently living
- ▶ The location based slave-export variable takes on the value of the slave exports measure for the ethnic group that historically lived in the location

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- ▶ The second measure always enters with a negative and significant coefficient
- ▶ Suggesting that the slave trade affects trust through geographically fixed factors, like domestic institutions

Testing for channels of causality

- ▶ The two slave export measures identify the internal and external channels by exploiting the fact that when individuals relocate, their cultural beliefs, norms, and values move with them, but their external environment is left behind
- ▶ The estimates for the baseline ethnicity-based slave export measure remain robust to the inclusion of the location-based slave-export variable.
- ▶ The second measure always enters with a negative and significant coefficient
- ▶ Suggesting that the slave trade affects trust through geographically fixed factors, like domestic institutions
- ▶ However, internal channel is more important

Conclusion

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- ▶ Individuals' trust in their relatives, neighbors, co-ethnics, and local government is lower if their ancestors were heavily affected by the slave trade.
- ▶ The evidence suggests that the slave trade had an adverse effect on the external environment as well as internal factors such as norm, belief and values, which continue to affect trustworthiness to this day