Quality of Institutions and Slave Trade in Africa

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Abstract

Nunn (2008) provided the first empirical evidence that linked slave trade to Africa's current poor economic development. In his paper, Nunn put forward a number of channels through which slave trade may have impacted on the current economic development in Africa. The channels he proposed include; mistrust, ethnic fractionalization, and state development. In this paper, I have looked at the possibility of the quality of institutions as a channel through which slave trade has affected the continent's economy. Using Nunn's data and OLS estimation framework, I found no relationship between slave exports and each of the six indicators that I used to measure quality of institutions in Africa. I further used instrumental variables to mitigate the measurement errors of slave exports but still could not find a conclusive effect of slave trade on the quality of institutions in Africa.

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I. Introduction

There has been a lot of economic research directed at explaining the role of Africa's history in its current poor economic development. The two major historical incidents that took place in the continent are the slave trade and colonization by the European countries. A lot of the empirical research focused on colonization in looking at the impact of Africa's history on the current poor economic development (Acemoglu, Johnson, and Robinson (2001); Bertocchi and Canova (2002); Lange (2004); Grier (1999); Englebert (2000a, 2000b), and little focus has been given to the potential impact of slave trade on the continent's current economic situation. Nunn (2008) published the first paper that provides empirical evidence showing a robust negative relationship between slave trade and current economic underdevelopment in Africa. He also provided possible channels such as, mistrust and ethnic fractionalization, through which slave trade may have impacted the continent's economy.

This paper tries to investigate the possibility of the quality of institutions as being a channel through which slave trade has negatively affected the continent's economy. I used the averages of six key proxy measures of the quality of institutions for the period between 1996 and 2010. These six indicators are; voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law and control of corruption. Using Nunn's estimation framework, I have used OLS regression to capture an accurate relationship between slave exports and each of the six indicators. I have controlled for all the other control variables that Nunn used and followed the same approach as he did in his paper. In addition to this, I have calculated a

single index out of the six indicators by assigning equal weight to each of the six indicators. I then used this index and slave exports to see if the relationship is robust. Finally to account for measurement errors in computing the estimates of slave exports, I used instrumental variables to find the impact of slave trade on each of the six indicators and to the single index I calculated.

The results were rather ambiguous. I could not find a robust relationship between each of the six indicators and slave exports. Instead, I found an ambiguous (at times negative and sometimes positive) relationship between slave trade and quality of institutions indicators. Also, none of the coefficients in all the regressions were statistically significant. This paper thus contributed to the current empirical literature on this topic by providing a formal test of the impact of slave export on the quality of institutions in Africa.

The structure of the paper is as follows: in the next section I will discuss the motivation and background of the topic. In section III, I will explain the construction of the data for slave exports and quality of institutions indicators. I will then explore the OLS estimates of slave exports and each of the six indicators of quality of institutions in section IV. Finally, I will turn to instrumental variables estimation in section V before I conclude the paper in section VI.

II. Motivation and Background

The largest slave trade in the world in terms of volume of the number of slaves traded happened in the continent of Africa in four separate slave trades between 1400 and 1900.

The unprecedented exodus of slaves from Africa was so severe that by 1850 the population of the continent was just half of what it should have been had the slave trade not happened Manning (1990, p. 171). It was much of the way it was carried out than the actual number of people exported that had an everlasting impact on the statehood, trust and political development of the continent. In fact, the situation was so severe that everyone turned to everyone else, including their own families in order to capture and enslave them for personal security protection (Klein, (2001); Hawthorne (1999, pp. 108–109).

The consequences were the degradation of the existing political structures and the downfall of the law and order that existed before the slave trade. The salve trade caused internal conflicts among societies and family members (Klein, 2001), political instability and corruption (Lovejoy, 2000), and replacing of preexisting governance structures with warlords controlling small bands of slave raiders (Colson, 1969).

All these factors had a direct or indirect impact on the development of weak states in the continent. Chanda and Putterman (2005) suggest that there is a relationship between country's history of state development and subsequent economic development. Nunn (2008) put forward the first empirical evidence to show that slave trade has negatively impacted the continent's economic development. However, the channels through which slave exports affected the current economic development have not been precisely identified. Nunn (2008) provided a number of channels through which slave trade may have affected the continent's economy. However, in his subsequent paper Nunn (2011),

he formally tested mistrust between individuals to be the key channel through which slave exports impacted Africa's economy.

Furthermore, there has been a suggestion in the literature that quality of institutions could be a possible channel through which slave trade may have impacted on Africa's economy. Acemoglu and Robinson (2010) argued, "…these initial institutions interacted in a perverse way with a series of shocks that hit Africa, in particular the slave trade in the early modern period, and colonialism in the 19th and 20th centuries." Robinson (2002), said, "slavery induced predatory institutions and significant adverse influence on development paths not just in the Americas where the slaves were used, but also in Africa where the slaves originated." While investigating the impact of ruggedness in African geography on slave exports, Nunn & Pogu (2012) wrote, "ruggedness negatively affect slave exports, and slave exports negatively affect the quality of domestic institutions, an important determinant of per capita income." The conclusion stemming from these research papers is that salve trade had an impact on the quality of institutions in Africa.

However, there are other important factors that influence Africa's quality of institutions. Knack (2001) provides evidence that foreign aid dependence is a fundamental cause of poor quality of institutions in Africa. The author writes, "higher aid level erode the quality of governance, as measured by indices of bureaucratic quality, corruption, and the rule of law." While other suggest that the extent of the variation between pre-colonial and post-colonial institutions largely account for what differentiates state capacity and economic growth in Africa Englebert (2000).

While the intuitions and the theory behind these suggestions are valid, there has been lack of formal test of whether slave trade affected the current quality of institutions in Africa. To fill the gap in the literature, I formally test the relationship between quality of institutions and slave trade in this paper.

The interaction between economic development and quality of institutions is widely explained in the literature. Quality of institutions and effective public sector is found to have a fundamental impact in fostering economic growth in developing countries Sobhee (2012). Other research evidence showed that institutional quality has a significant positive impact on economic growth for both developing and developed countries Valeriani & Peluso (2011). Since, slave trade had negatively affected Africa's economy, the quality of institutions in the continent may be an important channel through which slave trade affected the continent's economy.

III. The dependent and the Independent variables

i) Slave Export: From 1400 to 1900

Although slave trade happened through out between the 1400 and 1900 years, it can be categorized into four main periods: Trans-Atlantic, Indian Ocean, and Red sea Trans-Saharan trade. The slave export data I will be using comes from Nunn (2008). In his paper, Nunn created an estimate of the number of slaves exported from each African country using two sources; first the number of slaves exported from each port or region in Africa and second, the ethnic identities of slaves exported from Africa.

The number of slaves exported from each country comes from the updated version of the Trans-Atlantic Slave Trade Database while the ethnicities of the slaves come from a variety of sources such as records of sale, slave registers, slave runaway notices, court records, church records, and notarial documents Nunn (2008). He used a formula to combine slave export numbers and ethnicities to come up with an estimate of the number of slaves exported from each country in Africa.

Since, I am interested in the long-term impact of slave exports on Africa's economic development, I will be using Nunn's slave export numbers as the explanatory variables. However, I will be normalizing the slave export numbers by land area as Nunn (2008) did. One can also use average population of a country between 1400 and 1900 instead on land area.

ii) Quality of Institutions

I will be using six qualities of institutions indicators to show the relationship between slave trade and the current quality of institutions in the continent. These indicators come from the World Bank's *Worldwide Governance Indicators, 2014*. This is a data set that summarizes the views on the quality of governance provided by a large number of enterprise, citizen and expert survey respondents gathered by survey institutes, think tanks, non-governmental organization, international organizations and private sector firms from both industrial and developing countries World Bank (2014). The data set contains measurements for these six broad dimensions of governance. These indicators are; voice and accountability, political stability and absence of violence/terrorism,

government effectiveness, regulatory quality, rule of law, and control of corruption. They are measured on a range of between -2.5 (band governance) and +2.5(good governance).

I have collected the data for each of the six indicators from 1996 to 2010, and constructed an average between 1996 and 2010 for each of the six variables. The choice of the years to calculate the averages was completely due to data availability for these indicators.
Before I formally measure the relationship between slave trade and the quality of institutions in Africa using regression analysis, I did a preliminary analysis by dividing the 52 countries in two halves based on the number of slaves exported; the first half with smallest number of slaves and the second half with the largest number of slaves. I then graphed the trend of the averages of each of the six indicators for both halves against time. The graphs are replicated in Fig 1 to figure 6 in the appendix.

It is evident in all the graphs that the quality of institutions, as measured by the six indicators, is better in the first 26 countries with fewer slaves exported. The trend in all the six indicators is approximately linear and horizontal. This means the quality of institutions did not improve that much over the years in all countries. It is also worthwhile to note that, while the quality of institutions is better in countries with fewer exports, the difference is not drastic.

Now that we can visualize the trend of the quality of institutions for countries with few slave exports and those with higher number of slave exports over time, let us examine

this formally using OLS and IV estimation methods. I now turn to discuss this in the next section.

IV. OLS Estimates

I established a basic correlation between each of the indicators of quality of institutions and slave export. As discussed in the previous section, I will be using six key, different indictors that are used to measure the quality of institutions by the World Bank. As Nunn (2008) did, I have normalized slave exports by the land area of each country. Furthermore, in order to establish a precise relationship between the two variables, I have controlled for a host of other country characteristics that might have an impact on the current economic development in Africa. In particular, I have used the following econometric equation in each of the six regressions that are used to measure the correlation between slave exports and the six different dependent variables. This equation is the baseline equation for the rest of the sections in the paper.

$$y_i = \beta_0 + \beta_1 (exports_i/area_i) + \mathbf{C'}_i\delta + \mathbf{X'}_i\lambda + \varepsilon_i \quad (1)$$

Where y_i represent the six indicators that are used, one at a time, to measure quality of institutions, while (exports/area) is the number of slaves exported between 1400 and 1900 normalized by land area[1]. The quality of institutions indicators comes from the World Bank's *Worldwide Governance Indicators, 2014*. $\mathbf{C}_i$ is a vector of dummy variables that represent the origin of the colonizer of African countries before independence while $\mathbf{X}_i$ is a vector of other control variables that is meant to capture cross-country differences in terms of geography, climate and natural resources. These thirteen control variables

[1] Normalizing slave export by population yields the same result as shown in the Appendix.

potentially minimize the problem of omitted variable bias as has been consistently used by Nunn (2010, 2008).

The regression results of equation (1) above are shown in the different tables replicated in the appendix. To capture an accurate estimate of the impact of slave trade on these indicators of quality of institutions, I ran six different regressions-for each dependent variable that I use- by controlling for different variables in each regression using equation (1). The columns of the tables show the results for each of the six indicators when regressed against slave exports while the rows indicate the variables explanatory variables.

First, I run a regression between each of the indicators and slave exports and controlled for colonizer effects only. South Sudan and Eretria are considered part of Sudan and Ethiopia respectively since they got their independence through split. The results are shown in IVa below. As you can see, the coefficients for slave exports are negative for all the six indicators of quality of institutions. However, the magnitude of the effect in all of the six indicators is very small and statistically insignificant.

In the second step, I now control for a host of country specific characteristics in order to capture the potential impact of geography on long-term quality of institutions. These control variables include; distance from the equator, longitude, minimum monthly rainfall, average maximum humidity, average minimum temperature, and proximity to the ocean measured by the natural log of coast line divided by land area. The data for minimum monthly rainfall, average maximum humidity, and average minimum

temperature are from meteorological data taken over a 30-year period and reported in Parker (1997).

Generally, these variables are important for economic development. All factors, except longitude, influence whether a country has a tropical climate, which affects the prevalence of infectious disease and agricultural productivity Nunn (2008). These factors influence quality of institutions because of their importance for economic development. A country that has favourable environment will have a better economic development. Consequently, research has shown that there is a positive correlation between economic development and quality of institutions Knack (2003).

The results are replicated in table IVb in the appendix. The results show inconsistency in the estimate of the coefficient of the independent variable for the six different indicators when compared to the previous step. In fact, the negative sign of the coefficient now becomes positive. Again, the magnitude of the coefficients of slave exports in all of the six different regressions is very small and statistically insignificant.

In the third step, I have controlled for the exclusion of small islands and North African countries in the sample. In particular, I have excluded Morocco, Algeria, Tunisia, Libya, Egypt, Seychelles, Mauritius, Comoros, Sao Tome and Principe, and Cape Verde islands. I did this to avoid any biasedness in the results of the previous steps. The results are again replicated in table IVc in the appendix. Exclusion of these countries from the sample produces similar results in step two. The sign of the coefficients is still positive, while the magnitude is very small and statistically insignificant.

In the fourth stage, I have controlled for two key differences between North African countries and small Islands and the rest of Africa. North African countries are predominantly Islamic and have legal system that is based on French civil law. Therefore, I included a measure of percent of Islam and French legal origin indicator. Also, I included an Island and North Africa fixed effects. As shown in table IVd in the appendix, the sign of the coefficients of slave exports remain to be positive. Once again, the magnitude of the coefficients is very small and insignificant.

In the fifth stage, I have controlled for the difference in natural resources between African countries. To capture these differences, I have included the natural log of annual per capita production between 1970 and 2000 of gold, oil and diamonds. Again, controlling for these variables led to positive coefficients of slave export, with very small magnitudes and statistically insignificant coefficients.

In the last step, I have included all the control variables while at the same time dropping North African countries and Islands from the sample. Once again the results show a positive sign for the coefficients of slave exports for all the indicators. . The magnitude of the coefficients is very small and statistically insignificant.

So far, I have looked at the relationship between these variables and slave exports individually. It will be important to see if the relationship is different when we use a single quality of institutions index. To do that I have constructed a single quality of institutions index by assigning equal weight to each of the six variables and aggregating

them to form just one index for each country and for each of the year between 1996-2010 I then took the average of this index between 1996 and 2010. Using the base line equation (1), I ran six regressions by using the six steps as in the previous section. The results are shown in table IVf in the appendix. The columns represent the results for different regressions and the rows represent the explanatory variables.

In the first column, I only controlled for colonizer effects and the result shows a negative sign for the coefficient of slave exports when regressed against quality of institutions index. The coefficient is very small and insignificant. In the second column, I controlled for geography characteristics and the relationship changes to positive. Still, the coefficient is very small and insignificant. In the third column, I dropped North African countries and small Islands from the sample and the result is still positive with a very small coefficient that is statistically insignificant. I have controlled for a host of other characteristics that is special for North African countries and small Islands in column four. Again, controlling for these variables did not change the results. The coefficient remains to be positive, very small and statistically insignificant. In column five, I controlled for natural resources for each country and still got positive sign for the coefficient of slave exports. Finally, I controlled for all the variables and excluded North African countries and small Islands from the sample at the same time. Once again, the result is the same. The coefficient is positive, very small and it is statistically insignificant.

Explaining the Results

It is a little bit puzzling to find an ambiguous relationship between slave exports and quality of institutions, considering the view of the current literature and the theories that propose slave exports had negatively impacted the quality of institutions in Africa. I will now offer some explanation as to why my results hold.

First, it is very difficult to directly measure quality of institutions as opposed to other economic variables. So, researchers often use proxy measurements for quality of institutions using some indicators that influence the quality of institutions. Researchers often choose the relative importance of the factors and how strongly they influence quality of institutions. Not only the factors are not agreed upon, but also how to measure these factors. For example, the data that I used from the *World Bank* rates these variables from -2.5 to +2.5 while other sources such as the *Quality of Government Institute* uses different ratings. Arndt and Oman (2006) argues that the study of quality of institutions faces the limited reliability of the available institutional quality indicators. This lack of reliability prompts the need to be cautious in the interpretation of the results stemming from empirical research. While I acknowledge the existence of different measurements for quality of institutions indicators, Alonso & Garcimartín (2009) explained that the World Bank's WGI data is often deemed to be the best because of its accuracy and wider geographical coverage. Therefore, the findings in this paper fairly represent empirically the true relationship between quality of institutions and slave trade in Africa.

Second, I focused on the average of these indicators from 1996-2010, as opposed to a single year. By doing so, I have comprehensively captured the impact of slave trade on quality of institutions over a period of time. The findings in this paper will be different if I used data from a single year as the dependent variable. In fact, Nunn (2010) used 2002 data for these variables and found that slave trade is negatively correlated with "good" quality of institutions. Equally important is the use of natural log of slave exports normalized by land area as Nunn did or using without taking the natural log that makes the results different.

Finally, some empirical research suggests that historical incidents in Africa do not tend to determine the quality of institutions in Africa. Siba (2008) writes, "Unlike the popular discussions, ethnic fractionalization and identity of last coloniser do not explain variations in institutional quality." Instead Siba concluded, "foreign aid dependence is found to erode quality of governance as measured by rule of law." Moss, Pattersson & Van da Walle (2006) also suggests that foreign aid dependency is a fundamental problem affecting Africa's quality of institutions. They wrote, "States which can raise a substantial proportion of their revenues from the international community are less accountable to their citizens and under less pressure to maintain popular legitimacy. They are therefore less likely to have the incentives to cultivate and invest in effective public institutions." Therefore, while the discussion that slave trade and other historical events in Africa affected institution development in Africa gathered some support, the importance of other contemporary factors in institutional development is equally important. Thus, the results

echoes the findings of those empirical researches that conclude contemporary factors, not historical events, shape the quality of institutions in Africa.

V. Applying instrumental variables

There is the problem of measurement error in estimating the slave exports as Nunn (2008) noted. This measurement error could be a potential reason why there is an inconsistent result from the previous sections. I will now use an instrument that is correlated with slave exports but uncorrelated with other control variables. Nunn (2008) used the distances from each African country to the locations where slaves were demanded. In particular he constructed distances between country's centroid to the four main destinations of the four slave trades i.e Atlantic, Indian, Saharan and Red sea. The construction of these instruments and their first stage regressions are well documented in Nunn (2008). The validity of the instruments relies on the presumption that although the location of demand influenced the location of supply, the location of supply did not influence the location of demand. The F-statistic of the second stage regression is very low as shown in the results. As such, I have included Hausman test and Sargan test for weak instruments and over identifying restrictions respectively as shown in the result tables.

The second stage regression is obtained by using the baseline equation (1) with the only difference being the use of instruments instead of slave export. The results of the regressions between each of the six indicators and the instruments are shown in the tables replicated in the appendix. As before, the columns of the tables show the results for each of the six indicators when regressed against slave exports.

In the first step, I have controlled for colonizer effects only and the results are shown in table Va below. As you can see, the relationship between all of the six indicators, except for voice and accountability, and slave exports is negative. Once again, the magnitudes of the coefficients are small and insignificant.

In the second step, I have controlled for geographical characteristics and once again found inconsistency in the relationship between slave exports and each of the indicators. The relationship is negative for government effectiveness and control of corruption while it is positive for the other four indicators. The coefficients for slave exports in all of the six regressions are very small and statistically insignificant as shown in table Vb in the appendix.

In the final step, I have excluded North African countries and islands from the sample and yet again found conflicting results for the coefficients of slave exports in the six regressions. The coefficients are positive in all the cases except for when control of corruption is used as the dependent variable. Again, the magnitudes of the coefficients are very small and insignificant as shown in table Vc in the appendix.

Furthermore, just as I did in the OLS estimation, I have once more used quality of institution index as the dependent variable instead of using separate variables. The result is replicated in table Vd in the appendix. As you can see in column one, the relationship between slave exports and quality of institution index is negative when I only control for

colonizer effects. The relationship becomes positive when I include geography controls a s shown in column two. It is still positive when I exclude North African countries and small Islands from the sample as shown in column three. In all the three regressions, the coefficient for slave exports is very small and statistically insignificant. The instrumental variable estimation provides the same result as the OLS estimation.

VI. Conclusion

In trying to establish quality of institutions as a possible channel through which slave trade affected Africa's economy, I have used six qualities of institutions as dependent variables to carry out OLS estimation. I found an ambiguous (sometimes positive and other times negative) sign for the coefficients of slave export. The coefficients were small and statistically insignificant. I further constructed and used one index instead of the six different indicators and still could not find a precise relationship between slave trade and quality of institutions. In addition, I employed IV regression in order to see if the results for OLS still hold. Still, the results showed ambiguous sign for the coefficients of slave export. The coefficients were very small and statistically insignificant. The results in the paper provide a valuable insight that, despite the popular believe that slave trade had negatively impacted the development of quality institutions in Africa, the empirical data suggests no relationship exist between the two.

Appendix

a) Data on the quality of institutions indicators

Table IIb: Averages of quality of institutions indicators between 1996-2010 by Country

Country Name	Voice & Accountability	Government Effectiveness	Political Stability	Regulatory Quality	Control of Corruption	Rule of Law
Algeria	-1.06	-0.64	-1.41	-0.71	-0.64	-0.79
Angola	-1.28	-1.19	-1.11	-1.29	-1.30	-1.47
Benin	0.23	-0.44	0.52	-0.38	-0.66	-0.47
Botswana	0.60	0.56	0.95	0.61	0.88	0.60
Burkina Faso	-0.42	-0.66	-0.06	-0.25	-0.19	-0.53
Burundi	-1.10	-1.32	-1.90	-1.29	-1.07	-1.33
Cameroon	-1.07	-0.81	-0.55	-0.80	-1.02	-1.17
Cape Verde	0.78	0.06	0.91	-0.20	0.44	0.46
Central African Republic	-1.03	-1.46	-1.64	-1.13	-1.09	-1.45
Chad	-1.24	-1.16	-1.55	-1.03	-1.19	-1.33
Comoros	-0.54	-1.57	-0.33	-1.40	-0.86	-1.09
Congo, Dem. Rep.	-1.57	-1.71	-2.32	-1.63	-1.48	-1.73
Congo, Rep.	-1.14	-1.26	-1.02	-1.20	-1.03	-1.29
Cote d'Ivoire	-1.14	-0.97	-1.53	-0.74	-0.88	-1.30
Djibouti	-0.98	-0.90	-0.31	-0.74	-0.56	-0.80
Egypt, Arab Rep.	-1.01	-0.31	-0.56	-0.33	-0.46	-0.03
Equatorial Guinea	-1.72	-1.49	-0.05	-1.44	-1.48	-1.33
Ethiopia	-1.16	-0.73	-1.41	-1.05	-0.71	-0.78
Gabon	-0.73	-0.68	0.25	-0.32	-0.78	-0.48
Gambia, The	-0.90	-0.60	0.28	-0.45	-0.57	-0.21
Ghana	0.17	-0.06	-0.09	-0.16	-0.12	-0.10
Guinea	-1.25	-1.04	-1.56	-0.97	-0.89	-1.36
Guinea-Bissau	-0.85	-1.21	-0.79	-1.09	-1.06	-1.42

Kenya	-0.43	-0.55	-1.17	-0.23	-0.95	-0.96
Lesotho	-0.18	-0.25	0.02	-0.55	-0.11	-0.13
Liberia	-0.78	-1.50	-1.59	-1.57	-1.01	-1.52
Libya	-1.77	-1.03	0.08	-1.44	-0.93	-0.89
Madagascar	-0.22	-0.60	-0.12	-0.43	-0.10	-0.43
Malawi	-0.30	-0.58	-0.08	-0.43	-0.52	-0.27
Mali	0.13	-0.79	0.20	-0.40	-0.52	-0.31
Mauritania	-0.87	-0.47	-0.16	-0.40	-0.32	-0.63
Mauritius	0.87	0.62	0.87	0.55	0.52	0.96
Morocco	-0.62	-0.11	-0.35	-0.17	-0.14	-0.06
Mozambique	-0.13	-0.46	0.19	-0.44	-0.47	-0.66
Namibia	0.36	0.17	0.60	0.20	0.31	0.17
Niger	-0.61	-0.85	-0.46	-0.60	-0.87	-0.73
Nigeria	-0.86	-1.02	-1.68	-0.92	-1.11	-1.25
Rwanda	-1.32	-0.56	-1.08	-0.75	-0.34	-0.89
Sao Tome and Principe	0.26	-0.66	0.51	-0.77	-0.44	-0.45
Senegal	-0.03	-0.24	-0.39	-0.25	-0.27	-0.16
Seychelles	0.16	0.13	0.85	-0.58	0.31	0.25
Sierra Leone	-0.57	-1.29	-0.83	-1.12	-0.90	-1.16
Somalia	-1.90	-2.17	-2.81	-2.44	-1.74	-2.35
South Africa	0.67	0.60	-0.17	0.52	0.40	0.09
Sudan	-1.70	-1.22	-2.23	-1.32	-1.21	-1.44
Swaziland	-1.30	-0.77	-0.10	-0.50	-0.27	-0.68
Tanzania	-0.35	-0.46	-0.44	-0.43	-0.66	-0.36
Togo	-1.20	-1.36	-0.43	-0.75	-0.87	-0.89
Tunisia	-1.00	0.46	0.15	-0.02	0.01	0.04
Uganda	-0.67	-0.48	-1.25	-0.05	-0.82	-0.53
Zambia	-0.36	-0.84	0.17	-0.48	-0.73	-0.52
Zimbabwe	-1.36	-1.05	-1.13	-1.82	-1.13	-1.55

Table IIc: Average Quality of Institutions Index between 1996 and 2010 by Country

Country Name	Average Quality of Institutions Index
Algeria	-0.87
Angola	-1.27
Benin	-0.20
Botswana	0.70
Burkina Faso	-0.35
Burundi	-1.33
Cameroon	-0.90
Cape Verde	0.46
Central African Republic	-1.30
Chad	-1.25
Comoros	-0.96
Congo, Dem. Rep.	-1.74
Congo, Rep.	-1.16
Cote d'Ivoire	-1.09
Djibouti	-0.71
Egypt, Arab Rep.	-0.45
Equatorial Guinea	-1.25
Ethiopia	-0.97
Gabon	-0.46
Gambia, The	-0.41
Ghana	-0.06
Guinea	-1.18
Guinea-Bissau	-1.07
Kenya	-0.72
Lesotho	-0.20
Liberia	-1.33
Libya	-1.00
Madagascar	-0.32
Malawi	-0.36
Mali	-0.28

Mauritania	-0.48
Mauritius	0.73
Morocco	-0.24
Mozambique	-0.33
Namibia	0.30
Niger	-0.68
Nigeria	-1.14
Rwanda	-0.82
Sao Tome and Principe	-0.26
Senegal	-0.22
Seychelles	0.19
Sierra Leone	-0.98
Somalia	-2.24
South Africa	0.35
Sudan	-1.52
Swaziland	-0.60
Tanzania	-0.45
Togo	-0.92
Tunisia	-0.06
Uganda	-0.63
Zambia	-0.46
Zimbabwe	-1.34

b) Graphs showing the trend of the average of the six indicators of quality of institutions

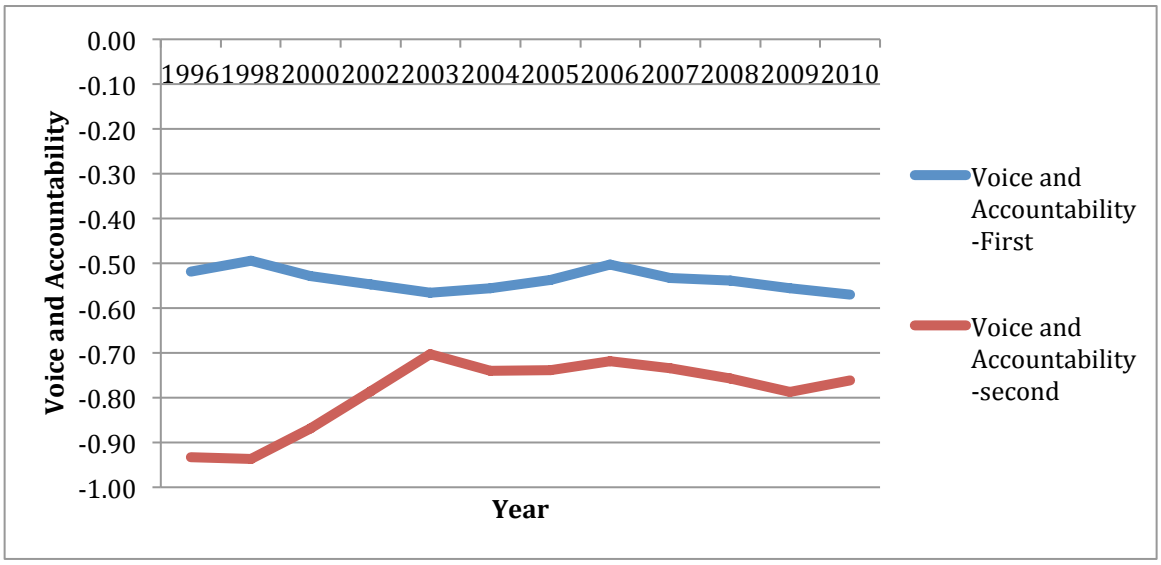

Fig 1: The trend of the average voice and accountability index between 1996 and 2010 for the first and the second half of the countries.

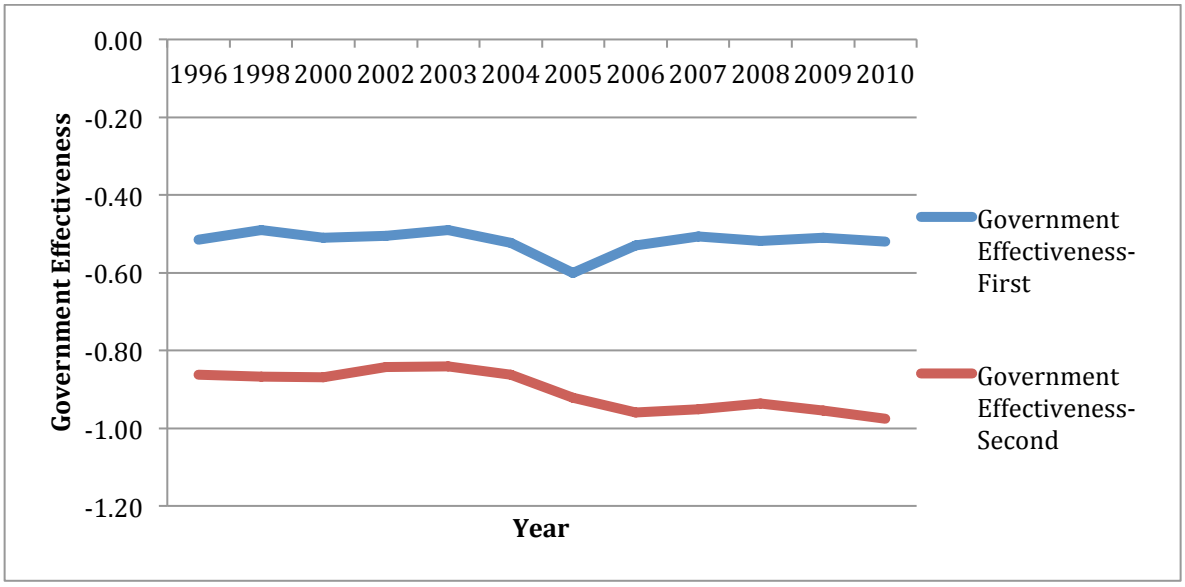

Fig 1: The trend of the average government effectiveness index between 1996 and 2010 for the first and the second half of the countries.

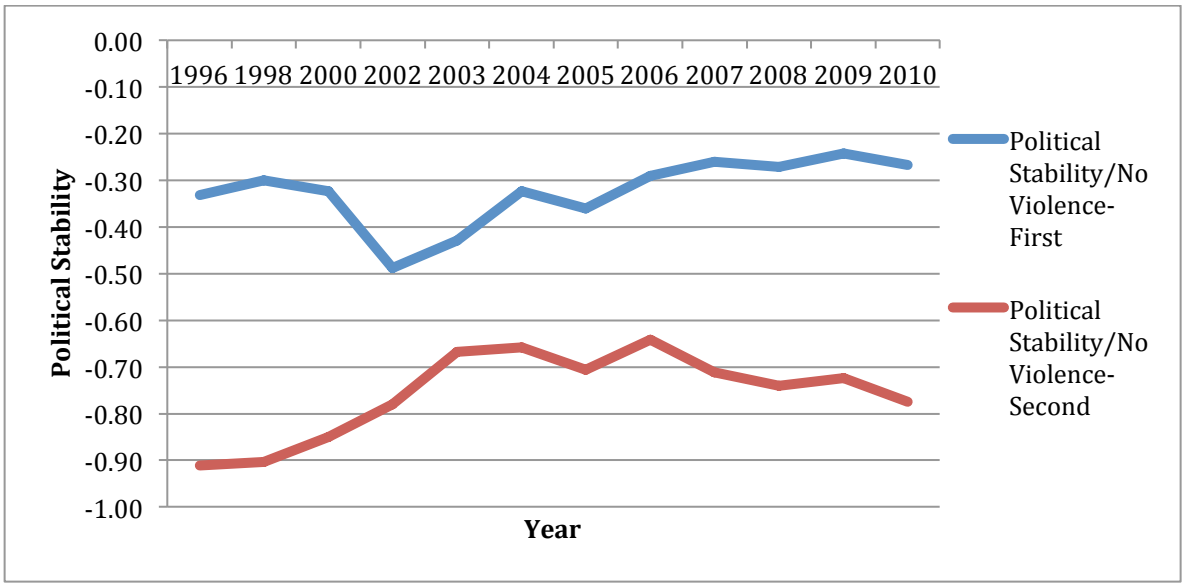

Fig 1: The trend of the average political stability index between 1996 and 2010 for the first and the second half of the countries.

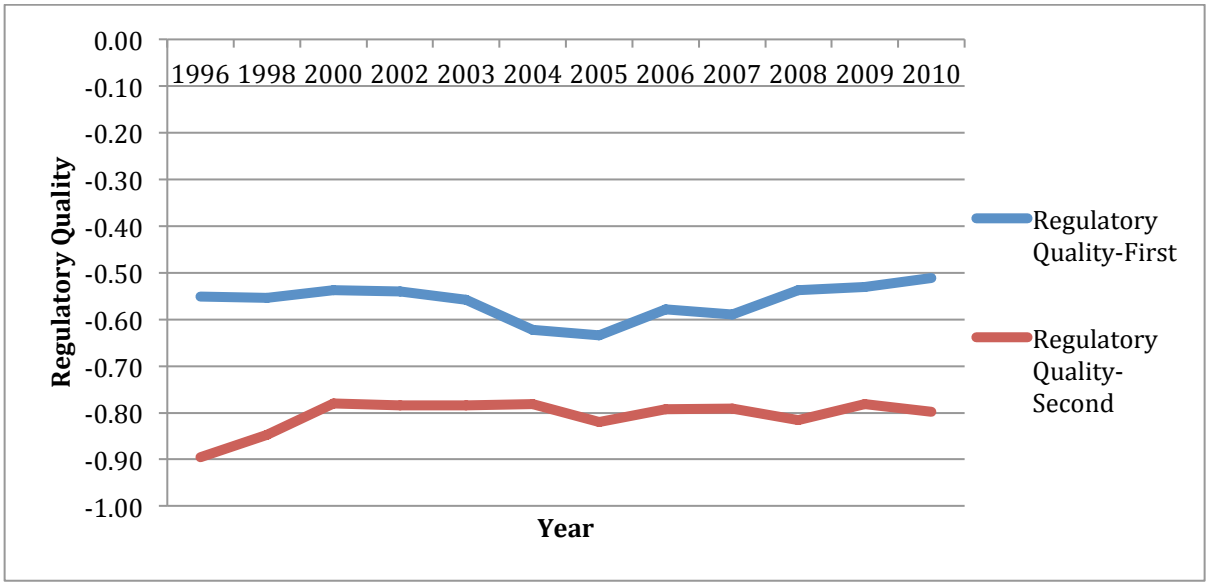

Fig 1: The trend of the average regulatory quality index between 1996 and 2010 for the first and the second half of the countries.

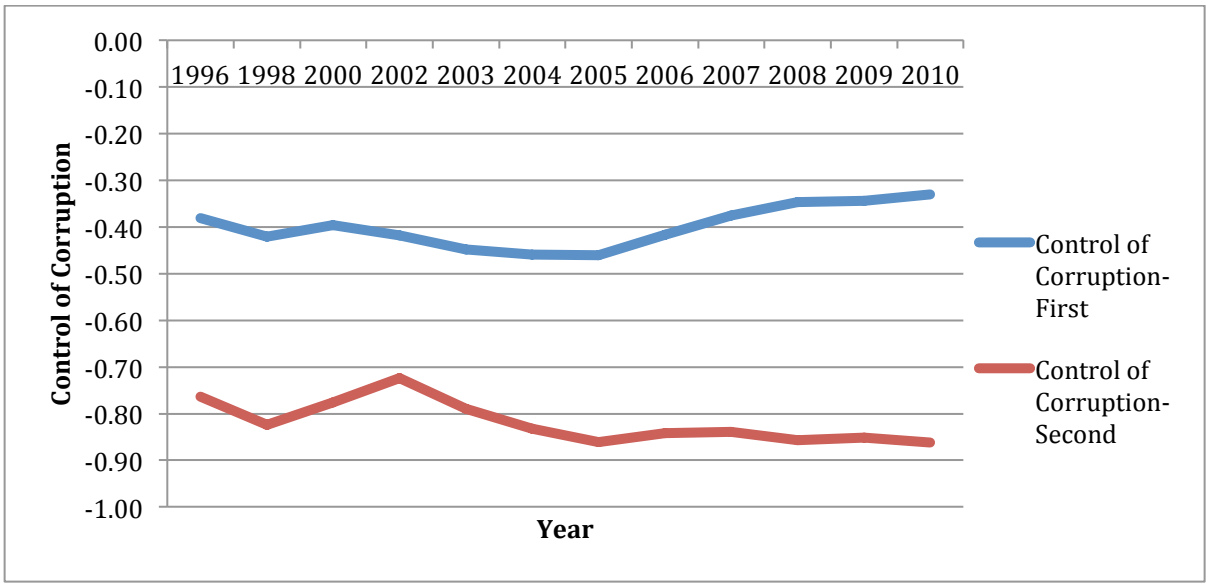

Fig 1: The trend of the average control of corruption index between 1996 and 2010 for the first and the second half of the countries.

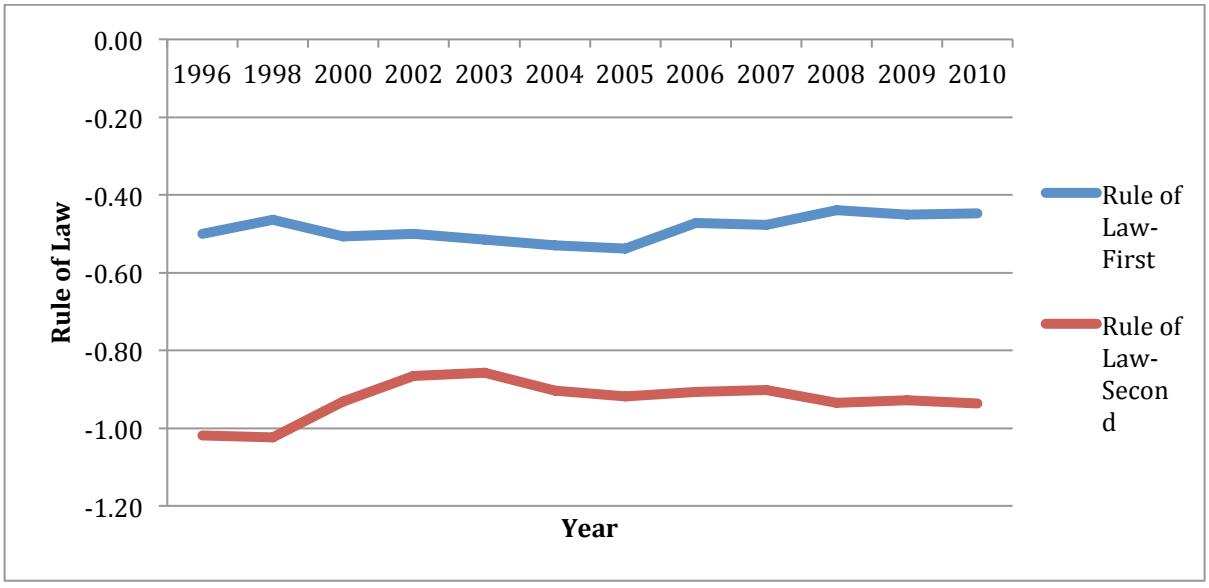

Fig 1: The trend of the average rule of law index between 1996 and 2010 for the first and the second half of the countries.

c) OLS results for section IV

Step 1: Table IVa: Relationship between slave exports and Quality of Institutions
Dependent variables are quality of institutions indicators

	Voice & Accountability	Gov Effectivns	Political Stability	Regul Quality	Corrup	Rule of Law
Exports/area	-0.00001	-0.00004	-0.00002	-0.000009	-0.00005	-0.00004
	(0.00006)	(0.00006)	(0.00009)	(0.00006)	(0.00005)	(0.00007)
Colonizer effect	Yes	Yes	Yes	Yes	Yes	Yes
Number of obs	52	52	52	52	52	52
R2	0.25	0.39	0.23	0.22	0.40	0.15

Step 2: Table IVb: Relationship between slave exports and Quality of Institutions
Dependent variables are quality of institutions indicators

	Voice & Accountability	Gov Effectiveness	Political Stability	Regul Quality	Corrup	Rule of Law
Export/area	2.7e-06	2.1e-05	4.5e-05	3.2e-05	7.6e-07	2.1e-05
	(7.4e-05)	(5.8e-05)	(9.1e-05)	(6.1e-05)	(5.1e-05)	(6.7e-05)
Distance from equator	0.003	0.002	-0.006	-0.003	0.006	0.003
	(0.019)	(0.014)	(0.022)	(0.015)	(0.012)	(0.016)
Longitude	-0.001	-0.003	-0.001	-0.004	-0.002	-0.003
	(0.006)	(0.005)	(0.007)	(0.005)	(0.004)	(0.005)
Lowest monthly rainfall	0.004	0.004	0.004	0.003	0.004	0.003
	(0.007)	(0.006)	(0.009)	(0.006)	(0.005)	(0.006)
Avg max humidity	0.012	0.006	0.023	0.012	0.014*	0.007
	(0.013)	(0.010)	(0.016)	(0.010)	(0.009)	(0.011)
Avg min	-0.025	-0.060**[2]	-0.077**	-0.057**	-0.055**	-0.055**

[2] Note: coefficients are reported with standard errors in brackets. ***, **, and * indicate significance at the 1%, 5%, and 10% respectively

temperature	(0.031)	(0.024)	(0.038)	(0.025)	(0.021)	(0.028)
ln(coastline/area)	0.057	0.092**	0.100**	0.054	0.081**	0.101**
	(0.041)	(0.032)	(0.051)	(0.034)	(0.029)	(0.037)
Colonizer effect	Yes	Yes	Yes	Yes	Yes	Yes
Number of obs	52	52	52	52	52	52
R2	0.33	0.48	0.39	0.40	0.50	0.41

Step 3: Table IVc: Relationship between slave exports and Quality of Institutions
Dependent variables are quality of institutions indicators

	Voice & Accountability	Gov Effectiveness	Political Stability	Regul Quality	Corrup	Rule of Law
Export/area	8.7e-06	5.7e-05	1.3e-05	6.0e-05	5.7e-07	0.0001
	(7.8e-05)	(5.8e-05)	(9.5e-05)	(6.9e-05)	(5.1e-05)	(6.7e-05)
Distance from equator	0.027	0.004	0.009	-0.003	0.016	0.006
	(0.022)	(0.017)	(0.027)	(0.020)	(0.015)	(0.019)
Longitude	-0.003	-0.005	-0.006	-0.005	-0.003	-0.004
	(0.007)	(0.005)	(0.009)	(0.006)	(0.005)	(0.006)
Lowest monthly rainfall	0.005	0.010	-0.004	0.013	0.004	0.003
	(0.009)	(0.007)	(0.012)	(0.008)	(0.006)	(0.008)
Avg max humidity	0.002	0.003	0.023	0.010	0.013	0.007
	(0.014)	(0.011)	(0.017)	(0.012)	(0.009)	(0.012)
Avg min temperature	-0.016	-0.061**	-0.084**	-0.066**	-0.056**	-0.062**
	(0.032)	(0.025)	(0.040)	(0.029)	(0.021)	(0.028)
ln(coastline/area)	0.006	0.055	0.022	0.037	0.041	0.031
	(0.047)	(0.037)	(0.058)	(0.042)	(0.031)	(0.041)
Colonizer effect	Yes	Yes	Yes	Yes	Yes	Yes

Number of obs	42	42	42	42	42	42
R2	0.25	0.51	0.51	0.46	0.61	0.49

Step 4: Table IVd: Relationship between slave exports and Quality of Institutions
Dependent variables are quality of institutions indicators

	Voice & Accountability	Gov Effectiveness	Political Stability	Regul Quality	Corrup	Rule of Law
Exports/area	4.6e-05	1.8e-05	9.5e-05	8.5e-06	2.1e-05	5.6e-05
	(6.8e-05)	(6.1e-05)	(8.9e-05)	(6.4e-05)	(4.9e-05)	(6.4e-05)
Distance from equator	0.028	0.009	0.015	0.003	0.019	0.009
	(0.017)	(0.015)	(0.023)	(0.016)	(0.012)	(0.016)
Longitude	-0.007	-0.008	-0.008	-0.010**	-0.007	-0.009*
	(0.006)	(0.005)	(0.007)	(0.005)	(0.004)	(0.005)
Lowest monthly rainfall	-0.004	0.002	-0.003	0.004	0.0002	-0.001
	(0.007)	(0.006)	(0.009)	(0.006)	(0.005)	(0.006)
Avg max humidity	0.0001	0.004	0.013	0.011	0.009	0.005
	(0.011)	(0.010)	(0.015)	(0.011)	(0.008)	(0.011)
Avg min temperature	-0.007	-0.051**	-0.062*	-0.053**	-0.046**	-0.051**
	(0.027)	(0.024)	(0.035)	(0.025)	(0.020)	(0.025)
ln(coastline/area)	0.025	0.075**	0.052	0.044	0.058*	0.047
	(0.042)	(0.038)	(0.055)	(0.039)	(0.030)	(0.039)
Island indicator	1.186**	0.328	1.352	0.067	0.685**	1.001**
	(0.441)	(0.394)	(0.578)	(0.415)	(0.320)	(0.414)
Percent Islam	-0.006**	-0.005**	-0.006	-0.005*	-0.004**	-0.004*
	(0.003)	(0.003)	(0.004)	(0.003)	(0.002)	(0.003)
French legal origin	0.031	0.565	0.392	0.972**	0.314	0.693
	(0.495)	(0.442)	(0.649)	(0.466)	(0.360)	(0.465)
North Africa indicator	-0.608	-0.034	-0.607	-0.187	-0.386	-0.093
	(0.452)	(0.405)	(0.593)	(0.426)	(0.329)	(0.426)

Colonizer effect	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs	52	52	52	52	52	52
R2	0.60	0.59	0.59	0.54	0.67	0.61

Step 5: Table IVe: Relationship between slave exports and Quality of Institutions
Dependent variables are quality of institutions indicators

	Voice & Accountability	Gov Effectiveness	Political Stability	Regul Quality	Corrup	Rule of Law
Exports/area	0.000064	0.000044	0.000091	0.000027	0.000031	0.00006
	(7.3e-05)	(6.5e-05)	(9.9e-05)	(6.9e-05)	(5.1e-05)	(7.0e-05)
Distance from equator	0.025	0.008	0.015	0.001	0.015	0.007
	(0.017)	(0.016)	(0.024)	(0.017)	(0.012)	(0.017)
Longitude	-0.006	-0.006	-0.008	-0.009*	-0.006	-0.008
	(0.006)	(0.005)	(0.008)	(0.006)	(0.004)	(0.006)
Lowest monthly rainfall	-0.004	0.002	-0.003	0.004	0.001	-0.0007
	(0.007)	(0.006)	(0.009)	(0.007)	(0.005)	(0.007)
Avg max humidity	-0.0004	0.005	0.012	0.012	0.007	0.004
	(0.012)	(0.011)	(0.016)	(0.011)	(0.008)	(0.011)
Avg min temperature	-0.004	-0.053**	-0.057	-0.052**	-0.004**	-0.048
	(0.028)	(0.025)	(0.038)	(0.027)	(0.020)	(0.027)
ln(coastline/area)	0.034	0.078**	0.060	0.049	0.065**	0.055
	(0.043)	(0.039)	(0.058)	(0.041)	(0.030)	(0.041)
Island indicator	1.161**	0.452	1.203*	0.097	0.623*	0.913*
	(0.498)	(0.452)	(0.681)	(0.477)	(0.355)	(0.482)
Percent Islam	-0.007**	-0.005	-0.007	-0.005	0.004*	-0.005
	(0.003)	(0.003)	(0.005)	(0.003)	(0.002)	(0.003)
French legal origin	0.125	0.588	0.454	1.020**	0.428	0.770
	(0.502)	(0.456)	(0.686)	(0.481)	(0.358)	(0.486)

North Africa	-0.231	0.166	-0.360	0.082	-0.070	0.173
indicator	(0.508)	(0.461)	(0.693)	(0.486)	(0.362)	(0.491)
ln(gold	0.021	0.023	0.004	0.020	0.011	0.009
prod/pop)	(0.019)	(0.017)	(0.026)	(0.018)	(0.014)	(0.019)
ln(oil	-0.036	-0.012	-0.029	-0.023	-0.033	-0.029
prod/pop)	(0.029)	(0.026)	(0.039)	(0.027)	(0.020)	(0.028)
ln(diamond	0.013	0.0005	0.001	0.001	0.031	0.011
prod/pop)	(0.044)	(0.040)	(0.061)	(0.042)	(0.032)	(0.043)
Colonizer	Yes	Yes	Yes	Yes	Yes	Yes
effect						
No of obs	52	52	52	52	52	52
R2	0.64	0.62	0.60	0.57	0.71	0.63

Step 6: Table IVe: Relationship between slave exports and Quality of Institutions
Dependent variables are quality of institutions indicators

	Voice & Accountability	Gov Effectiveness	Political Stability	Regul Quality	Corrup	Rule of Law
Exports/area	0.0001	0.000092	0.0001	0.000077	0.000087	0.00011
	(0.00009)	(7.4e-05)	(0.0001)	(8.6e-05)	(6.1e-05)	(0.00009)
Distance	0.025	0.004	0.012	-0.004	0.012	0.004
from equator	(0.023)	(0.018)	(0.030)	(0.021)	(0.015)	(0.021)
Longitude	-0.002	-0.002	-0.009	-0.004	-0.0006	-0.003
	(0.008)	(0.007)	(0.011)	(0.008)	(0.005)	(0.008)
Lowest	0.0008	0.011	-0.013	-0.014	0.006	0.004
monthly	(0.011)	(0.009)	(0.014)	(0.010)	(0.007)	(0.010)
rainfall						
Avg max	0.0006	0.005	0.022	0.010	0.011	0.007
humidity	(0.015)	(0.011)	(0.019)	(0.013)	(0.009)	(0.013)
Avg min	-0.014	-0.063**	-0.073	-0.064**	-0.058**	-0.061*
temperature	(0.036)	(0.028)	(0.046)	(0.032)	(0.023)	(0.033)
ln(coastline/a	0.035	0.057	0.052	0.045	0.053	0.038

rea)	(0.051)	(0.040)	(0.066)	(0.046)	(0.033)	(0.047)
Percent	-0.004	0.0004	-0.007	-0.0009	-0.00007	-0.0007
Islam	(0.005)	(0.004)	(0.006)	(0.004)	(0.003)	(0.004)
French legal	-0.595	0.315	-0.504	0.464	-0.109	0.267
origin	(1.061)	(0.837)	(1.373)	(0.967)	(0.679)	(0.972)
ln(gold	0.027	0.029	0.014	0.026	0.020	0.015
prod/pop)	(0.023)	(0.018)	(0.030)	(0.021)	(0.015)	(0.021)
ln(oil	-0.032	-0.006	-0.019	-0.023	-0.027	-0.018
prod/pop)	(0.035)	(0.028)	(0.045)	(0.032)	(0.022)	(0.032)
ln(diamond	0.019	0.024	0.030	0.022	0.042	-0.024
prod/pop)	(0.053)	(0.042)	(0.069)	(0.049)	(0.034)	(0.049)
Colonizer	Yes	Yes	Yes	Yes	Yes	Yes
effect						
No of obs	42	42	42	42	42	42
R2	0.49	0.60	0.55	0.53	0.70	0.53

Table IVf: Relationship between slave exports and Quality of Institutions
Dependent variables is quality of institutions index

	(1)	(2)	(3)	(4)	(5)	(6)
Exports/area	-0.00003	0.00002	0.00008	0.00004	0.00005	0.0001
	(5.9e-05)	(6.1e-05)	(6.4e-05)	(5.9e-05)	(6.4e-05)	(8.0e-05)
Distance		0.0008	0.010	0.014	0.012	0.0079
from equator		(0.015)	(0.018)	(0.015)	(0.016)	(0.020)
Longitude		-0.002	-0.004	-0.008	-0.008	-0.003
		(0.005)	(0.006)	(0.005)	(0.005)	(0.007)
Lowest		0.003	0.005	-0.0005	-0.00007	0.004
monthly		(0.006)	(0.008)	(0.006)	(0.006)	(0.009)
rainfall						
Avg max		0.012	0.010	0.007	0.006	0.009
humidity		(0.010)	(0.011)	(0.010)	(0.010)	(0.012)

Avg min temperature		-0.054**	-0.058**	-0.044*	-0.043	-0.055*
		(0.025)	(0.027)	(0.023)	(0.025)	(0.030)
ln(coastline/area)		0.081**	0.032	0.050	0.057	0.047
		(0.034)	(0.039)	(0.037)	(0.038)	(0.043)
Island indicator				0.781**	0.751*	
				(0.384)	(0.442)	
Percent Islam				-0.005**	-0.005*	-0.002
				(0.002)	(0.003)	(0.004)
French legal origin				0.490	0.559	-0.027
				(0.431)	(0.445)	(0.902)
North Africa indicator				-0.322	-0.043	
				(0.395)	(0.450)	
ln(gold prod/pop)					0.015	0.022
					(0.017)	(0.020)
ln(oil prod/pop)					-0.027	-0.021
					(0.025)	(0.030)
ln(diamond prod/pop)					0.009	0.017
					(0.039)	(0.045)
Colonizer effect	Yes	Yes	Yes	Yes	Yes	Yes
No of obs	52	52	42	52	52	42
R2	0.19	0.41	0.50	0.62	0.64	0.56

d) IV results for section V

Step 1: Table Va: Relationship between slave exports and Quality of institutions
Dependent variables are quality of institutions indicators

	Voice & Accountability	Gov Effectiveness	Political Stability	Regul Quality	Corrup	Rule of Law
Export/area	0.00003	-0.0002	-0.0002	-0.00003	-0.0002	-0.00016
	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0001)	(0..0002)
Colonizer Effect	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	No	No	No	No	No
Geography Effect	No	No	No	No	No	No
No. of obs	52	52	52	52	52	52
F-test	1.81	1.30	1.74	1.52	1.31	1.05
R2	0.25	0.19	0.25	0.22	0.20	0.16

Step 2: Table Vb: Relationship between slave exports and Quality of institutions
Dependent variables are quality of institutions indicators

	Voice & Accountability	Gov Effectiveness	Political Stability	Regul Quality	Corrup	Rule of Law
Export/area	0.001	-0.00004	0.00019	0.0001	-0.00008	0.00006
	(0.0004)	(0.0004)	(0.0006)	(0.0004)	(0.0003)	(0.0004)
Colonizer Effect	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	No	No	No	No	No
Geography Effect	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs	52	52	52	52	52	52

F-stat	1.74	2.34	1.69	1.74	2.61	1.79
R2	0.40	0.47	0.39	0.40	0.50	0.40

Step 3: Table Vc: Relationship between slave exports and Quality of institutions
Dependent variables are quality of institutions indicators

	Voice & Accountability	Gov Effectiveness	Political Stability	Regul Quality	Corrup	Rule of Law
Export/area	0.00057	0.00024	0.00012	0.00033	-0.00012	0.00022
	(0.0004)	(0.0003)	(0.0005)	(0.0004)	(0.0003)	(0.0004)
Colonizer Effect	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	Yes	Yes	Yes	Yes	Yes	Yes
Geography Effect	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs	42	42	42	42	42	42
F-stat	1.66	1.43	1.93	1.87	3.16	1.80
R2	0.40	0.50	0.47	0.46	0.59	0.46

Table Vd: Relationship between slave exports and Quality of institutions
Dependent variables is quality of institution index

	(1)	(2)	(3)
Export/area	-0.00011	0.0002	0.00021
	(0.00014)	(0.00041)	(0.00033)
Colonizer effect	Yes	Yes	Yes
Geography controls	No	Yes	Yes
Restricted Sample	No	No	Yes
No. of observations	52	52	42
F-stat	1.31	1.86	1.99
R2	0.18	0.41	0.48

e) Slave exports normalized by average population between 1960 and 2010 as the independent variable

	Voice & Accountability	Gov Effectiveness	Political Stability	Regul Quality	Corrup	Rule of Law
Export/pop	-0.058	0.477	0.581	-0.385	-0.194	0.56
	(1.93)	(1.74)	(2.63)	(1.825)	(1.36)	(1.86)
Colonizer Effect	Yes	Yes	Yes	Yes	Yes	Yes
Natural Resource Control	Yes	Yes	Yes	Yes	Yes	Yes
Geography Effect	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs	52	52	52	52	52	52
R2	0.63	0.61	0.59	0.56	0.71	0.62

f) Sources of other explanatory variables

All of the data sources below are from Nunn (2008) and the description from where he sourced from given below.

Data on the identity of the colonizer before independence are from the Political Regimes and Regime Transitions in Africa, 1910–1994 data set, which is described in Bratton and van de Walle (1997).

Lowest monthly rainfall, average maximum humidity and average minimum temperature are from meteorological data taken over a 30-year period and reported in Parker (1997). Countries' total coastline, which is used along with land area to calculate ln(coastline/area), is measured in thousands of kilometers and is from Parker (1997). The percent Islamic variable is from Parker (1997). Data on countries' legal origins are from La Porta et al. (1999). Data on the production of diamonds, crude petroleum, and mined gold are from the British Geological Survey's World Mineral Statistics and World Mineral Production.

References

Acemoglu, Daron, Simon Johnson, and James A. Robinson, "Why is Africa poor?" *Economic History of Developing Regions*, 25(2010)

Acemoglu, Daron, and Simon Johnson, "Disease and Development: A Reply to Bloom, Canning, and Fink," *Journal of Political Economy, 122(2014), 6.*

Arndt, C and Oman , C. (2006) "Uses and Abuses of Governance Indicators." *Development centre of the organisation for economic co-operation and development.*

Bertocchi, Graziella, and Fabio Canova, "Did Colonization Matter for Growth? An Empirical Exploration into the Historical Causes of Africa's Underdevelopment," *European Economic Review*, 46 (2002), 1851–1871.

Boone, P. "Politics and the effectiveness of foreign aid," *European Economic Review*, 40(1996), 289–329

Chanda, Areendam, and Louis Putterman, "State Effectiveness, Economic Growth, and the Age of States," in *States and Development: Historical Antecedents of Stagnation and Advance*, Matthew Lange and Dietrich Rueschemeyer, eds. (New York: Palgrave MacMillan, 2005).

Colson, Elizabeth, "African Society at the Time of the Scramble," in *Colonial- ism in Africa, 1870–1960. Volume 1: The History and Politics of Colonialism, 1870–1914*, L.H. Gann and Peter Duignan, eds. (Cambridge UK: Cambridge University Press, 1969).

Dowling, M. and U. Hiemenz "Aid, Savings and Growth in the Asian Region," Economic *Office Report Series 3, Asian Development Bank: Manila*, 1982

Ekanayake, E. M., & Chatrna, D. "The effect of foreign aid on economic growth in developing countries," *Journal of International Business and Cultural Studies*, (n.d)

Englebert, Pierre, "Pre-Colonial Institutions, Post-Colonial States, and Economic Development in Tropical Africa," *Political Research Quarterly*, 53 (2000a), 7–36.

——, "Solving the Mystery of the Africa Dummy," *World Development*, 28 (2000b), 1821–1835.

Grier, Robin M., "Colonial Legacies and Economic Growth," *Public Choice*, 98 (1999), 317–335.

Hawthorne, Walter, "The Production of Slaves Where There Was No State: The Guinea-Bissau Region, 1450–1815," *Slavery & Abolition*, 20 (1999), 97–124.

Lange, Matthew K., "British Colonial Legacies and Political Development," *World Development*, 32 (2004), 905–922.

Lovejoy, Paul E, *Transformations in Slavery: A History of Slavery in Africa, Second Edition* (Cambridge University Press, Cambridge, UK, 2000).

Klein, Martin, "The Slave Trade and Decentralized Societies," *Journal of African History*, 42 (2001), 49–65.

Knack, S. (Ed.). *Democracy, Governance and Growth*. (Ann Arbor: The University of Michigan Press. 2003)

Knack, S. "Aid Dependence and the Quality of Governance: Cross-Country Empirical Tests." *Southern Economic Journal,* Vol. 68, No. 2 (Oct., 2001), pp. 310-329

Lancaster, Carol, "Redesigning Foreign Aid," Foreign Affairs, (2000).

Maddison, Angus, *The World Economy: Historical Statistics* (Organisation for Economic Co-operation and Development, Paris, 2003)

Manning, Patrick, *Slavery and African Life* (Cambridge University Press, Cambridge, UK, 1990).

Moss, T, Pattersson, G, & Van da Walle, N. (2006). "An Aid-Institutions Paradox? A Review Essay on Aid Dependency and State Building in Sub-Saharan Africa." Center for Global Development Working Paper No. 74 .

Nunn, N**.** "The Slave Trade and the Origins of Mistrust in Africa**"** 1. *American Economic Review*, 101 (201), 7: 3221-3252.

Nunn, N. (2005). "Slavery, Institutional Development, and Long-Run Growth in Africa, 1400–2000" *Department of Economics, University of British Columbia and the Canadian Institute for Advanced Research (CIAR)*

Nunn N, Puga D. "Ruggedness: The Blessing of Bad Geography in Africa." *Review of Economics and Statistics*. 94(2012), 1:20-36.

Nunn, Nathan. (2008). "The long-term effects of Africa's Slave Trades," *Quarterly Journal of Economics*,

Papanek, G. F., "The effect of aid and other resource transfers on savings and growth in less developed countries," *Economic Journal*, 82(1982), 935–950.

Parker, Philip M., *National Cultures of the World: A Statistical Reference* (London: Greenwood Press, 1997)

Robinson, James, "State and Power in Africa by Jeffrey I. Herbst: A Review Essay," *Journal of Economic literature*, 40(2002).

Siba, E. (2008). " Determinants of Institutional Quality in Sub-Saharan African Countries." *School of business, economics and law, university of Gothenburg.*

Sobhee, Sanjeev K., "Quality of Institutions and Economic Growth in Developing Economies," Social Science Research Network, (2012).

Stern, Ernest, "Foreign aid and national priorities," *Omega*, 2(1974), pp.97-104

Valeriani, Elisa and Peluso, Sara, "The Impact Of Institutional Quality On Economic Growth And Development: An Empirical Study," Journal of Knowledge Management, Economics and Information Technology , (2011), 6

Worldbank, "GDP (current US$)" accessed on March 01, 2015 http://data.worldbank.org/indicator/NY.GDP.MKTP.CD/countries

Worldbank, Net official development assistance and official aid received (current US$), Accessed on March 10, 2015, http://data.worldbank.org/indicator/DT.ODA.ALLD.CD

Worldbank, "Worldwide Governance Indicators," (2014), Accessed on March 05, 2015, http://info.worldbank.org/governance/wgi/index.aspx#home