

# The Slave Trade and the Origins of Mistrust in Africa

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**ABSTRACT:** We investigate the historical origins of mistrust within Africa. Combining contemporary household survey data with historic data on slave shipments by ethnic group, we show that individuals whose ancestors were heavily threatened by the slave trade today exhibit less trust in neighbors, family co-ethnics, and their local government. We confirm that the relationship is causal by instrumenting the historic intensity of the slave trade by the historic distance from the coast of the respondent's ancestors, controlling for the respondent's current distance from the coast. We undertake a number of falsification exercises, all of which suggest that the necessary exclusion restrictions are likely satisfied. We then show that much of the relationship between the slave trade and an individual's level of trust today cannot be explained by the slave trade's effect on factors external to the individual, such as domestic institutions or the legal environment. Instead, the evidence shows that a significant portion of the effects of the slave trade work through vertically transmitted factors that are internal to the individual, such as cultural norms of behavior, beliefs and values.

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## 1. Introduction

The idea that historic events can have important effects on long-run economic development, although not new, only recently has been supported with well-identified causal estimates of the long-term effects of key historic events (e.g., Acemoglu, Johnson, and Robinson, 2001, Banerjee and Iyer, 2005, Dell, 2008, Feyrer and Sacerdote, 2009, Huillery, 2008, Iyer, 2007). In a recent paper Nunn (2008) looks specifically at Africa and examines the long-term effects of its four external slave trades, which are arguable the largest historic shock ever experienced by the continent. Nunn (2008) shows that this external trade in slaves, which occurred over more than 400 years, had a significant negative effect on long-term economic development. The short-coming of Nunn's (2008) analysis is that it is unable to identify the exact causal mechanisms underlying the negative relationship between the slave trade and long-term economic development.

Using fine-grained household survey data, we examine one of the most likely channels through which the slave trade affects economic development today. We test whether the 400 years of slave raiding caused a culture of mistrust to evolve among the societies exposed to the trade. Initially in the slave trade, slaves were taken primarily through state organized raids and warfare. However, as data on the manner of enslavement at the end of the trans-Atlantic slave trade show, the environment of pervasive insecurity created by the slave trade caused individuals to turn on others within their own communities and even their own friends and families (e.g., Koelle, 1854, Hair, 1965, Piot, 1996). In this environment, where individuals had to constantly be on guard against being sold into slavery by those around them, we hypothesize that individuals may have optimally developed beliefs or 'rules-of-thumb' that individuals generally cannot be trusted.

Our hypothesis builds on the well established result from cultural anthropology that in environments where information acquisition is either costly or imperfect, the use of 'rules-of-thumb' can be an optimal strategy (e.g., Boyd and Richerson, 1985, 1995). These general rules or beliefs about what is the 'right' action in certain situations saves the individual from the costs of information acquisition. Of course, these norms or rules-of-thumb do not develop in a vacuum, but evolve according to which beliefs or norms yield the highest payoff. Our view is that in areas more exposed to the slave trade, rules-of-thumb or beliefs based on the mistrust of others would have been relatively more beneficial and would have been more likely to develop. Put in slightly looser terms, our hypothesis is that the slave trade would have engendered a culture of mistrust. Because

these beliefs and norms persist, particularly in environments where they remain optimal, the relationship between these norms and a history of the slave trade may still exist in the data today, almost 100 years after the slave trade has ended. Alternatively, the culture of mistrust that was a consequence of the slave trade may be an outcome that is stable. In other words, the slave trade may have caused a permanent change in the level of mistrust in the society. Recent contributions, like Tabellini (2008) and Guiso, Sapienza, and Zingales (2007c), provide models that show in which environments this can occur.

To test our hypotheses, we use data from the 2005 round of the Afrobarometer survey and examine whether individuals belonging to an ethnic group that was targeted in the past are less trusting of others today. Because of the richness of the Afrobarometer surveys we are able to test for the effect of the slave trade on the amount of trust that each respondent places in others known that are more and less different individuals. Specifically, we examine the following measures of trust: (i) trust of those closest to you, such as neighbors, relatives, and others of the same ethnicity; (ii) trust of those less well known to you, such as those from different ethnic groups; and (iii) trust of the local government.

We find that individuals of ethnicities that were historically exposed to the slave trades today exhibit lower levels of trust. Perhaps surprisingly, we find that the slave trade has as strong an effect on the trust of those closest to the respondent as on the trust of others more distant from the respondent. This finding is consistent with the historical fact that by the end of the slave trade it had become very common for individuals to be sold into slavery by neighbors, friends and family members.

An alternative explanation for these findings is that more slaves were supplied by ethnic groups that initially had lower levels of trust of others and that these lower levels of trust continue to persist today. We pursue a number of strategies to identify the direction of causality in our OLS estimates. One strategy we pursue is to use the historic distance from the coast of ethnic groups as an instrument for the number of slaves taken from that ethnic group. There is ample historical evidence suggesting that the instrument is relevant, but it is far less clear that it satisfies the necessary exclusion restrictions. The most likely reason why the exclusion restriction may fail is that the historic distance from the coast of an individual's ancestors is correlated with the current distance from the coast of the respondent. This in turn tends to be negatively correlated with income (e.g., Rappaport and Sachs, 2003) and income in turn tends to be positively correlated trust

(e.g., Alesina and La Ferrara, 2002). Therefore, through this channel, the historic distance from the coast of an individual's ethnic group may be negatively correlated with the individual's current income and trust.<sup>1</sup> For this reason, in all IV estimates, where we are using the *historic* distance from the coast of a respondent's ancestors as an instrument, we control for the respondent's *current* distance from the coast. The IV estimation produces estimates very similar to the OLS estimates. They provide evidence that the slave trade caused the descendants of those targeted by the trade to be less trusting today.

As is always the case with instruments, it is possible that despite our second stage controls, our instrument still does not satisfy the necessary exclusion restrictions. For this reason, we also perform a number of falsification exercises to assess the validity of our identification strategy. We examine the reduced form relationship between distance from the coast and trust within Africa and in two samples outside of Africa using data from the *World Values Surveys* and the *Asiabarometer*. Within Africa, we find a strong positive relationship between the distance from the coast and trust. This is expected given our IV estimates. Places further from the coast had less slaves taken in the past, and therefore exhibit higher levels of trust today. Our IV strategy relies on the assumption that the distance from the coast only affects trust through the slave trade. Therefore, if our exclusion restriction is satisfied, then when we examine the reduced form relationship between distance from the coast and trust outside of Africa where there was no slave trade, we expect to see no relationship. This is exactly what we find. In our samples outside of Africa we estimate a statistically insignificant relationship between distance from the coast and trust. We also perform a similar exercise looking within Africa. We find that within the regions of Africa that were not exposed to the slave trade we do not observe a relationship between an individual's distance from the coast and trust today.

After establishing that the slave trade had an adverse effect on trust, we then turn to the task of distinguishing between the two most likely channels through which this could have occurred. One channel, which is the focus of our paper, is that the slave trade altered the cultural norms of the ethnic groups exposed to the trade, making them inherently less trusting. However, there is also a second channel, which a priori is as plausible and as important. This is that the slave trade resulted in a long-term deterioration of legal and political institutions, and these weak institutions enable citizens to more easily cheat others and, for this reason, individuals are less trusting of those

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<sup>1</sup>Note that this actually results in IV estimates that are biased towards zero.

around them.

We undertake two exercises that attempt to identify the relative importance of these two channels. First, we look more closely at the determinants of respondents' trust in their local government. Specifically, we examine how the estimated effect of the slave trade changes when we control for a number of measures of individuals' perceptions about the quality of these governments. By doing this, we attempt to control for differences in the external environment of each respondent and more closely isolate the beliefs and values internal to the individual. This exercise follows the same logic as other studies that seek to identify internal norms and beliefs by either controlling for or holding constant the external environment of individuals (Henrich, Boyd, Bowles, Camerer, Gintis, McElreath, and Fehr, 2001, Miguel and Fisman, 2007, Miguel, Saiegh, and Satyanath, 2008). We find that when controlling for measures of individuals' perceived quality of the government, the estimated coefficient for slave exports decreases by 30–50%, but remain precisely estimated and highly significant.

The next strategy we undertake is to construct a second measure of slave exports, which is the average number of slaves that were taken from the geographic location that each individual is currently living in today. This is different from our baseline measure, which is the average number of slaves taken from an individual's ethnic group. The logic behind our examining the two measures is based the fact that when an individual relocates, the individual's internal beliefs move with them, but the external environment changes. In other words, an individual's external environment is geographically fixed, while the individual's internal beliefs and values are mobile and move with the individual. Therefore, if one accepts that the slave trade had a causal effect on trust, then the two variables can be used to distinguish between the extent to which the slave trade affects trust through individuals' internal beliefs and values, which are vertically transmitted over generations, and the extent to which the slave trade affected institutions, the organization of societies, and political, legal and social structures, all of which are factors external to the individual.

If the slave trade affects trust primarily through internal beliefs and values, then when looking across individuals what should matter is whether an individual's ancestors were heavily impacted by the slave trade. If the slave trade affects trust primarily through its deterioration of institutions, social structures, or any other factor external to the individual, then what should matter is whether the external environment the individual is living in today was heavily exposed to the slave trade.

Our results suggest that the slave trades adversely affected trust by altering both individuals'

internal beliefs and values and by affecting factors external to the individual, like domestic political and legal institutions. We also find that the estimated magnitude of the internal channel is always larger than the magnitude of the external channel.

The logic of this test is the same as that used in previous studies by Giuliano (2007), Guiso, Sapienza, and Zingales (2004), and Fernandez and Fogli (2007). Giuliano (2007) tests for the cultural determinants of living arrangements of second generation migrants to the U.S. Examining the change between 1970 and 2000 in the propensity of youth to live with their parents, she finds that the pattern of second generation immigrants mirrors the changes in the country of origin over the same time period. Fernandez and Fogli (2007) also utilize a similar logic and examine the labor force participation and fertility of second generation migrants to the U.S. They find that the labor force participation and fertility of their home country is highly correlated with the same variables among second generation migrants living in the U.S. today. In Guiso *et al.* (2004), the authors examine the relationship between measures of social capital and financial development. Looking at individuals that have moved, they estimate the relationship between social capital in the province where the individual is currently living and financial decisions, as well as between social capital in the province that the individual was born and financial decisions. They find an important role for both the environment in which a person was raised and the environment where they currently live.

Taken as a whole, the results of our paper complement the findings of a number of recent studies that document the importance of trust for economic development (Tabellini, 2007, Knack and Keefer, 1997, Fafchamps, 2006), for international trade (Greif, 1989, Butter and Mosch, 2003, Guiso, Sapienza, and Zingales, 2007a), and for political institutions (Warren, 2003, Putnam, 2000).<sup>2</sup> Given the mounting evidence of the importance of trust, we feel that it is also important to understand its historical origins. Because of this focus, the evidence presented here most naturally complements the few studies that also consider the historical determinants of differences in cultural norms of behavior. Specifically, the evidence presented here dovetails nicely with Guiso *et al.*'s (2007c) study empirically linking differences in social capital within Italy to whether cities were independent in the 11th to 14th centuries, as well as Tabellini's (2007) argument that within Europe the levels of education and the extent of democracy in the 18th century are important determinants of current levels of interpersonal trust.

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<sup>2</sup>See also the review article by Guiso and Sapienze (2006).

It is important to understand that our focus on the long-term historic determinants of cultural norms does not mean that shorter-run determinants are not important. In fact, there is evidence that non-historic determinants of trust, such as current experiences, income, education, information flows, and organization membership are also very important (e.g. Fisman and Khanna, 1999, Alesina and La Ferrara, 2002, Bellows and Miguel, 2008). Although these short-term determinants of trust are not the focus of this paper, our results also provide additional evidence of the importance of similar non-historic factors. We discuss these results in more detail in the body of the paper.

We begin our analysis in section 2 by first laying the historical and conceptual groundwork. We discuss the theoretical literature that seeks to understand how and why norms evolve, as well as the historical literature that describes the slave trade and the environment of insecurity that it generated. We then turn, in section 3, to a description of the data, and report our OLS and IV estimates in section 4. In section 5 we turn to the specific channels underlying this relationship and attempt to distinguish between the two potential reasons why the slave trades may affect trust: (i) by affecting internal cultural norms, and (ii) by affecting the institutional and legal structures of societies, which affects the trustworthiness of its citizens. In the penultimate section, section 6, we highlight some suggestive evidence of the potential consequences of mistrust. We show that an individual's mistrust is strongly correlated with their political participation and civic engagement, as well as their attitudes towards political violence. Section 7 concludes.

## **2. Historical Background and Conceptual Framework**

### ***A. Historical Background***

Early in the slave trade, those sold into slavery were almost exclusively prisoners of war. Because raids often involved villages raiding other villages, this form of slave procurement often caused relations between villages to turn hostile, even if these villages had previously formed federations or other ties with one another (Inikori, 2000). There are numerous historical accounts documenting this consequence of the slave trade (e.g., Hubbell, 2001, Azevedo, 1982, Klein, 2001). One consequence of this heightened conflict between communities may be increased mistrust of those outside of one's ethnic group.

However, data on the manner of enslavement in the 19th century suggests that by the end of the

slave trade, slaves were being taken in a wide variety of different ways. Table 1 reports information of the manner of enslavement for a sample of slaves from Free Town, Sierra Leone, interviewed by Sigismund Koelle (1854) in the 1840s.

**Table 1.** The Method of Enslavement among Koelle’s Informants

Manner of Enslavement	Percentage
Kidnapped or seized	40.3%
Taken in a war	24.3%
Sold/tricked by a relative, friend, etc.	19.4%
Through a judicial process	16.0%

*Notes:* The data are from Sigismund Koelle’s (1854) Linguistic Inventory. The sample consists of 144 informants interviewed by Koelle for which their means of enslavement is known.

In the sample, the most common manner of enslavement was kidnapping, with just under 40% of the slaves in the sample being taken in this manner. The next most common manner of enslavement was the capture of slaves during wars, with 25% of the slaves captured in this manner. Amazingly, almost 20% of the slaves were sold by relatives or friends. These slaves were sold by family members, or they were tricked into slavery by acquaintances and supposed friends. The survey by Koelle (1854) documents numerous accounts of individuals being sold into slavery by family members, relatives, and “supposed friends”. One of the more notable accounts is of a slave that was sold into slavery after being “enticed on board of a Portuguese vessel” by “a treacherous friend”. The most extreme example of this manner of enslavement is probably the Kabre of Northern Togo, who during the nineteenth century developed the custom of selling their own kin into slavery (Piot, 1996).

The final category reported in the table is for slaves that entered slavery through the judicial process. The slaves in the sample were convicted of witchcraft, adultery, theft, and murder; 16% of the slaves in the sample entered slavery in this way.

One explanation for why individuals turned on others within their community is that this was caused by the general environment of insecurity that arose because of the increased conflict between communities at the time. Because of this insecurity, individuals required weapons, which could be obtained from Europeans, to defend themselves. The slaves needed to trade with the Europeans were often obtained through local kidnappings and violence (Mahadi, 1992, Hawthorne,



1999). Europeans and slave traders also played a role in promoting this internal conflict. Slave merchants and raiders formed strategic alliances with key groups inside villages and states in order to extract slaves (Barry, 1992, Inikori, 2003, Klein, 2003).

Akyeampong (2001) provides a telling example of a drumming group that was tricked into slavery in Atorkor (Ghana) in the 1850s. The chief of Whuti, who was also a slave trader, was jealous of the leader of a group of drummers, because the leader of the drummers fancied the chief's wife. The chief then arranged with a slave merchant named Dokutsu, who had contact with European slave traders, for the entire group of 40 drummers to be sold into slavery. It was arranged with the Europeans that the group of drummers would be tricked on board the slave ship. The drummers were told that the Europeans on board the ship were interested in their drums and would like to hear them perform. The drummers were served rum on board the ship and became drunk. Before they were able to realize what was happening the ship had sailed off, headed for the New World.

Walter Hawthorne (2003), in his book *Planting Rice and Harvesting Slaves*, writes of the Beafares of the Guineau Bissau region of Africa. Hawthorne documents the decentralized and interpersonal nature of slave capture in the region, writing that "the Atlantic slave trade was insidious because its effects penetrated deep into the social fabric of the Upper Guinea Coast—beyond the level of the state and to the level of the village and household . . . Hence, in many areas, the slave trade pitted neighbor against neighbor. . . ." (Hawthorne, 2003, pp. 106–107).

Hawthorne also provides a particularly telling example, which is taken from Almada (1984). Households located near ports were able to profit from the slave trade by 'tricking' unsuspecting strangers and then selling them to merchants. Almada writes that "these Beafares are so smart, that if a yokel arrives from the interior, they pretend that they want to give him shelter, and they receive him into their homes. After a few days have passed, they persuade him that they have friends on the ships, and that they would like to take him and have a party. But when they go to the ships, they sell him. In this way they trick many yokels." (Almada, 1984, p. 121)<sup>3</sup>

During the Atlantic trade, even Africans that worked for the Europeans as boatmen, deckhands, and translators were not immune to the insecurity and predatory atmosphere that existed during the slave trade. African mariners and traders were often enslaved directly by the Europeans or by other Africans (Akyeampong, 2001, pp. 8–9). Bolster (1997, p. 52) writes that the "African

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<sup>3</sup>Also see the discussion in Hawthorne (2003, p. 106).

mariners in the slave trade exhibited the nervous detachment of men simultaneously smug about their own favored positions and constantly leery of their European employers' potential duplicity or of other Africans' revenge".

The fact that slaves were often taken or tricked into slavery by others within the same community or ethnic group suggests that the slave trade may not have only affected trust towards those outside of one's community, but it may have also affected trust of those closest to you, such as friends, neighbors, and relatives. As well, because historically it was often the case that chiefs were also either slave merchants and traders or they were forced to sell their own people into slavery, the slave trade may have also resulted in an evolution of mistrust of political figures, particularly local leaders.

Informal evidence of the long-term effects of the slave trade can be found in the oral traditions that demonstrate a history and a culture of mistrust that have their origins in the external slave trade. In slave dealing areas of Nigeria, such as Badagry, some communities are considered living symbols of cruelty and wickedness because of the role their ancestors played in the slave trade. Other prominent slave trading communities such as Arochukwu in Eastern Nigeria are associated with deceit and trickery (Simpson, 2004, p. 42). In the same way, the Fon, whose ancestors were subjects of Dahomey Kingdom, one of the epicenters of the slave trade in West Africa, are associated with dishonesty. On the other hand, the Goun from Porto Novo, also in Benin, whose ancestors were subjects of the Kingdom of Porto Novo, are perceived as honest and trustworthy. These differences are intriguing since both Dahomey and Porto Novo were created late 17th Century by two brothers who immigrated from Tado (in Western Togo), and the two kingdoms had almost identical political and economic institutions. A possible solution to this puzzle could be that Dahomey was much more heavily involved in Trans-Atlantic Slave Trade than Porto Novo (Cornevin, 1962). In fact, oral tradition from Benin describes parts of the Porto Novo as safe havens for those trying to escape slave raiders (Simpson, 2004).

In Benin popular culture, untrustworthiness is defined as being capable of tricking one's friend or neighbor into slavery. This can be most clearly seen from the common Fon saying: "*Me elo na sa we du*", which translates to "This person will sell you and enjoy it". It is a saying that is used to describe someone who is deceitful. A Wolof saying, "*Ki meun na la diaye, lekke sa ndieque*", also has the same meaning, linking deceit directly to the selling of others into slavery. These examples illustrate the great extent to which the slave trade has permeated deep into the culture of many

African societies.

## **B. Conceptual Framework**

Because many of the methods of enslavement, such as trickery and kidnapping, required the complicity of relatives and neighbors, this may have led an erosion of interpersonal trust in local communities. These, as well as other methods of enslavement such as warfare and the use of the traditional judicial process, may have led to a breakdown of rule of law and to the deterioration of the legitimacy of local state institutions. Mistrust generated by stories of personal betrayal and community breakdown may have been transmitted through family histories, and religious and cultural practices. As discussed in Nunn (2007b), raids, warfare, and civil conflict during the slave trade also prevented state institutions from playing a meaningful role in combating the deterioration of social cohesion and trust in local communities.

Our hypothesis builds upon the micro-founded result from evolutionary anthropology, that if individual information acquisition is either costly or imperfect, then it is optimal for individual to develop heuristics and ‘rules-of-thumb’ in decision making (Boyd and Richerson, 1985, 2005). These models are able to explain how individuals can have beliefs or values that do not obtain the maximum payoff in every environment at all points in time.

A number of recent papers, building on the fact that individuals have different beliefs or values, model the transmission of these beliefs from generation to generation (e.g., Bisin and Verdier, 2000, 2001, Guiso *et al.*, 2007c, Tabellini, 2008). In the model developed by Guiso *et al.* (2007c) parents transmit to their children their priors on how trustworthy others are. The model features multiple equilibrium levels of trust. A community can be permanently trapped in a low trust equilibrium. In this equilibrium, individuals have priors that others cannot be trusted. Because of these beliefs, individuals do not interact with others, and this lack of interaction results in a lack of learning and updating of their priors of mistrust. The authors discuss how a positive shock can permanently increase the equilibrium level of trust in the economy. Similarly, a large negative shock, like the slave trade, can permanently decrease the equilibrium level of trust in a society.

Another explanation for the persistence of mistrust 100 years after the end of the slave trade arises because of a complementarity between cultural norms and domestic institutions. This channel is highlighted in the model developed by Tabellini (2008). In his model, individuals inherit norms of cooperation from their parents and make political choices (through voting) that

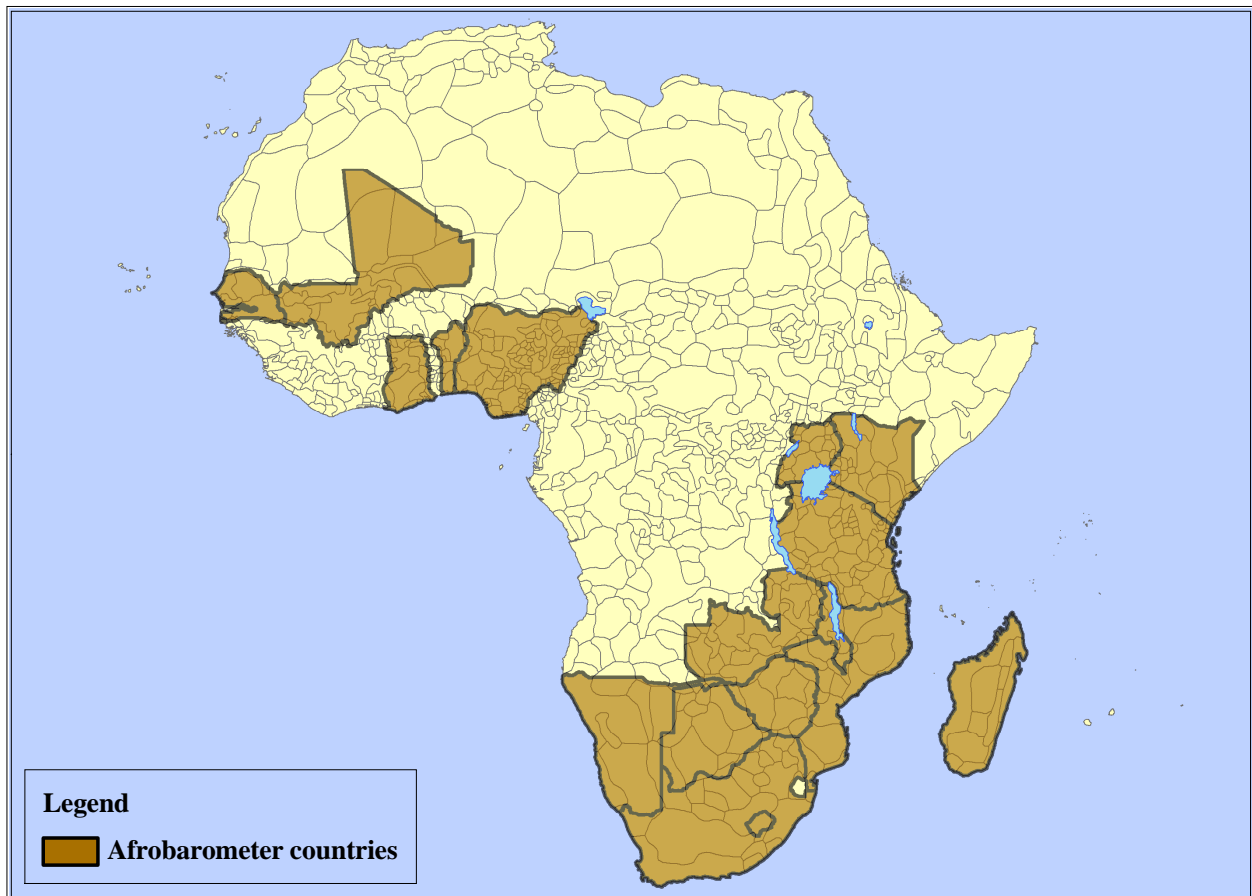
determine the quality of institutions (e.g., rule of law). Therefore, through this mechanism norms of cooperation affect the equilibrium quality of domestic institutions. When there is a negative shock to internal norms of cooperation, not only will the next generation be less trusting, but they will also choose weaker institutions, and the lower level of trust and the weaker institutions will persist among future generations. Here the complementarity of cooperation and the quality of institutions, can explain the persistence of mistrust in Africa. Areas with low levels of trust, developed weaker institutions, and the weaker institutions, in turn, result in lower levels of cooperation and therefore lower levels of trust. In other words, these societies remain trapped in an equilibrium of uncooperative behavior, mistrust, and poor institutions.

It is also possible that our results do arise because African societies today are trapped in low trust equilibria, but because of the persistent impacts of a massive 400 year shock. Alesina and Fuchs-Schündeln (2007) provide rare evidence quantifying the impacts and persistence of a shock to preferences. Their analysis examines the effects of the division of Germany between 1945 and 1990. According to their estimates the differences arising from the shock diminish to zero in approximately 40 years. Therefore, at least in this environment, the effects persistence for as long as the shock itself. In this paper, we are examining the effects 100 years after a shock that has lasted well over 400 years. It is a very real possibility that the effects of the shock on internal cultural norms may continue to be felt today even if the effects are temporary and will die out in the long-run.

### **3. Data Sources and Description**

#### ***A. Afrobarometer Data***

Data on the trust of individuals in Africa today are from the 2005 round of the Afrobarometer survey. The Afrobarometer is an independent and non-partisan research project conducted by the Center for Democratic Development (CDD), Institute for Democracy in South Africa (IDASA) and Michigan State University (MSU). Implemented by national partners, Afrobarometer measures economic conditions and the political atmosphere in African countries. The questionnaire is standardized to facilitate comparison between the covered countries. The surveys are based on interviews conducted in the local languages of a random sample of either 1,200 or 2,400 people per country. The 2005 Afrobarometer covers the following 18 sub-Saharan African countries:



**Figure 1.** Countries Included in the 2005 Round of the Afrobarometer Survey.

Benin, Botswana, Cape Verde, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, Zimbabwe. Because the survey in the Cape Verde Islands does not record the ethnicity of the respondent this country is omitted from our analysis.

Figure 1 shows a map of the 17 countries included in our analysis. The 17 countries are shaded in a dark brown color. Clearly the countries included in the Afrobarometer are not a random sample. All of West Central Africa is not included, as well as countries inland of the Red Sea. Because of this, it must be kept in mind that all of the results in this paper only apply to the 17 sub-Saharan African countries included in the sample. The effects of the slave trade for these other countries may be different from the effects estimated here for our 17 country sample. We make not claims of the extent to which the results that we obtain for our sample of 17 countries can be extrapolated to the other countries of Africa.

From the surveys for the 17 countries we have a potential sample of 23,093 respondents. Among

**Table 2.** Overview of the Afrobarometer Trust Questions.

Response	How much do you trust each of the following:									
	Your relatives?		Your neighbors?		People from your own ethnic group or tribe?		People from other ethnic groups?		Your elected local government council?	
Not at all	1,410	7%	2,724	13%	2,811	14%	4,476	22%	3,991	20%
Just a little	3,713	18%	5,792	28%	6,318	31%	7,281	36%	4,869	24%
Somewhat	5,168	25%	6,316	31%	6,109	30%	5,263	26%	5,321	26%
A lot	10,337	50%	5,758	28%	5,274	26%	3,291	16%	6,033	30%
Total	20,628	100%	20,590	100%	20,512	100%	20,311	100%	20,214	100%

this sample, the ethnicities of 5,876 respondents either: (i) list ‘other’ as their ethnicity (ii) list their ethnicity as their country (iii) belonged to an ethnic group that is not an indigenous Africa ethnicity, or (iv) listed an indigenous ethnicity that could not yet be cleanly matched to the slave trade data. This leaves a total of 20,619 potential observations.

In our analysis we examine the effects of the slave trade on various measures of interpersonal trust. The Afrobarometer asks respondents how much they trust relatives, neighbors, those from their own ethnic group or tribe, those from other ethnic groups, and their locally elected government council. The exact wording of each question is shown in Table 2. For the question about other ethnic groups, the question differed by country. For example respondents from *Kenya* are asked how much they trust “*Kenyans* from other ethnic groups”.

The respondents chose between four possible answers: (i) not at all, (ii) just a little, (iii) somewhat, or (iv) a lot. They also had the option of answering that they “do not know”. The distribution of responses for each question are summarized in Table 2. A number of characteristics of the responses are notable. First, as expected, the level of trust of individuals closer to the respondent, such as relatives, is higher than those further from the respondent, such as individual’s form other ethnic groups. However, a non-negligible number of respondents still report that they do not trust their relatives at all. This shows relatively low levels of trust even of individuals closest to the respondents.

Since respondent’s answers to the trust questions are categorical in nature, a number of different empirical strategies are possible. The first, is to convert the categorical responses into a variable

that codes the responses of each respondent. Following this strategy, we calculate a value of trust which takes on the value of 0, 1, 2, or 3, where 0 corresponds to the response “not at all”, 1 to “just a little”, 2 to “somewhat”, and 3 to the response “a lot”. These are the numeric values used in the original Afrobarometer surveys.

A second strategy is to not collapse the information into one response, but to instead estimate an ordered logit model. We follow this alternative strategy as well. As we will see the results are qualitatively identical whether one uses OLS or an ordered logit model.

### ***B. Ethnicity Level Slave Export Data***

The construction of estimates of the number of slaves taken from each ethnic group within Africa relies on country-level slave export estimates from Nunn (2008). The country level figures are constructed by combining data on the total number of slaves shipped from all ports and regions of Africa with data on the ethnic origins of slaves shipped from Africa. The estimates constructed in Nunn (2008) cover all four of Africa’s slave trades - the trans-Atlantic, Indian Ocean, Red Sea, and trans-Saharan - and the period from 1400 to 1900. Full details of the underlying data sources and the construction procedure are provided in Nunn (2007a, 2008).

We then disaggregate the country-level slave export figures into ethnicity level estimates using the same ethnicity samples that were used in Nunn (2008). For only two of the four slave trades (the Atlantic and Indian Ocean slave trades) are the ethnicity data detailed enough to construct reliable estimates of the number of slaves taken of each ethnicity. For the trans-Atlantic slave trade, a sample of over 80,656 slaves exists for which their ethnic identity is known. This aggregate sample comes from 54 individual samples with 229 distinct ethnic designations reported. For the Indian Ocean slave trade, a sample of over 21,048 slaves was collected, with 80 distinct ethnicities reported.<sup>4</sup>

An important part of the construction of the ethnicity level slave export figures relies on the correct aggregation and matching of different ethnicity names to a common classification scheme. Using a variety of different sources, all ethnicities reported in the primary and secondary sources are matched to the classification scheme constructed and mapped by Murdock (1959). The authors of the secondary sources, from which the data were taken, generally also provide detailed analysis of the meanings and locations of the ethnicities recorded in the historic records. In the majority of

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<sup>4</sup>See Nunn (2008) for full details

the secondary sources, the authors also provide maps showing the locations of the ethnic groups recorded in the historical documents. This helped significantly in mapping the different ethnic designations into a common ethnicity classification. Full details about these mappings are in Nunn (2008).

Because the ethnicity data for the Red Sea and trans-Saharan slave trade are not of sufficient quality to construct ethnicity level estimates of the slaves shipped during these slave trades, we restrict our analysis to sub-Saharan African countries that were affected primarily by the trans-Atlantic and Indian Ocean slave trades. Since the trans-Atlantic slave trade was by far the largest of the slave trades, the omission of the Red-Sea and trans-Saharan slave trades will not likely have a large impact. As well, in Nunn (2008) it is shown that the impact of the slave trades as a whole is driven almost solely by the trans-Atlantic slave trade. As we will report, all of our results are robust to omitting observations from the 4 countries in our sample that shipped a positive number of slaves during either the trans-Saharan or Red Sea slave trades.<sup>5</sup>

Maps of the intensity of the trans-Atlantic and Indian Ocean slave trades are shown in Figures 2 and 3. The maps show the boundaries of the ethnic groups categorized and mapped by Murdock (1959). The shade of each polygon indicates the estimated number of slaves of that ethnicity taken during the relevant slave trade between 1400 and 1900. As shown, the trans-Atlantic slave trade impacted much of the African continent. Slaves were taken from not only West Africa and West-Central Africa, but also Eastern Africa as well. The much smaller Indian Ocean slave trade was confined primarily to Eastern Africa. The patterns of slaving observed in the data and illustrated in the maps, are consistent with the qualitative evidence on the sources of slaves taken during the trans-Atlantic and Indian Ocean slave trades.

## 4. Empirical Results

### A. OLS Estimates

We begin our analysis by first documenting the empirical relationship between the number of slaves taken from an individual's ethnic group in the past and the individual's current level of trust today. We examine this relationship with the following estimating equation:

$$\text{trust}_{i,e,d,c} = \alpha_c + \beta \text{slave exports}_e + \gamma_1 \text{EF}_{d,c} + \gamma_2 \text{E}_{e,d,c} / \text{Pop}_{d,c} + X'_{i,e,d,c} \delta + \varepsilon_{i,e,d,c} \quad (1)$$

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<sup>5</sup>These four countries are: Kenya, Mali, Nigeria, and Senegal. This is based on the figures reported in Table 2 of Nunn (2008).



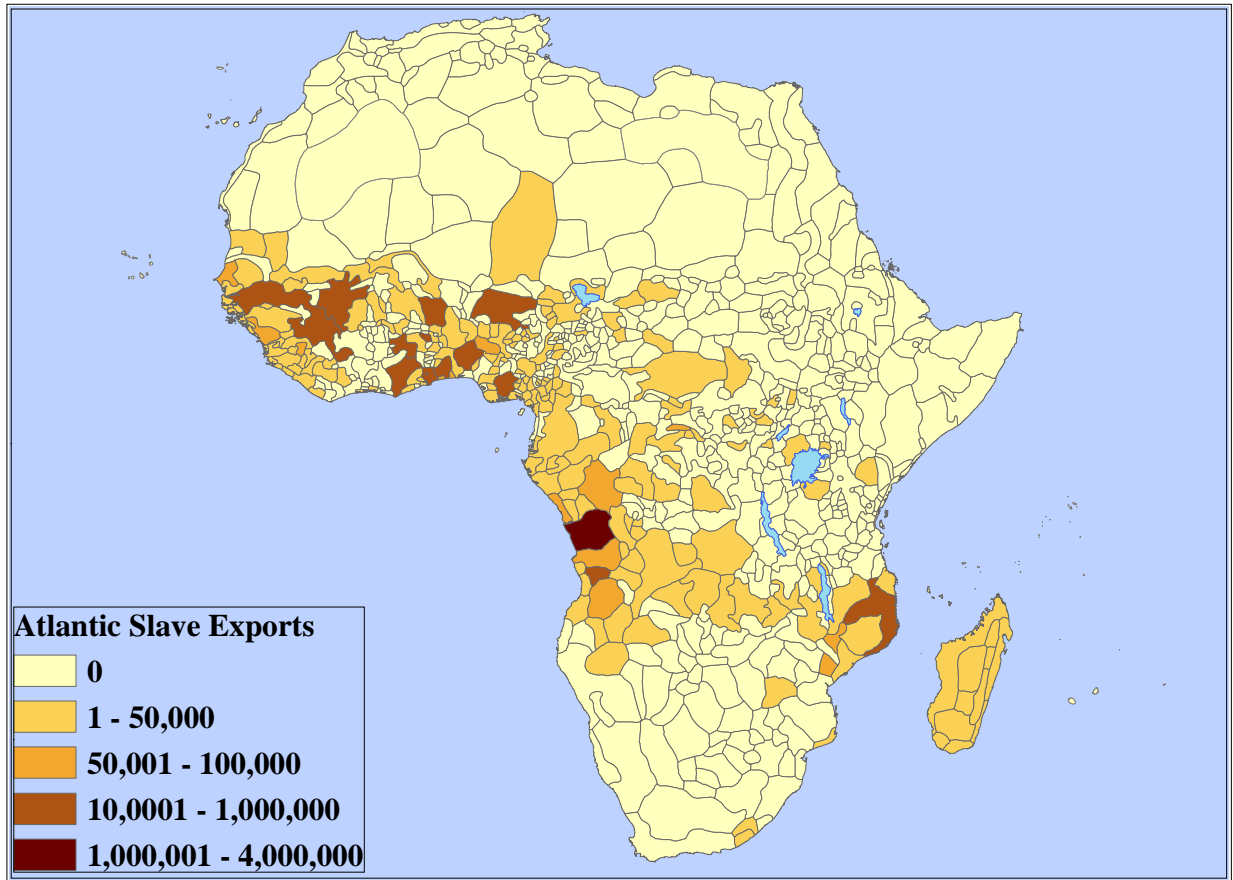


Figure 2. Ethnicities Shipped During the trans-Atlantic Slave Trade.

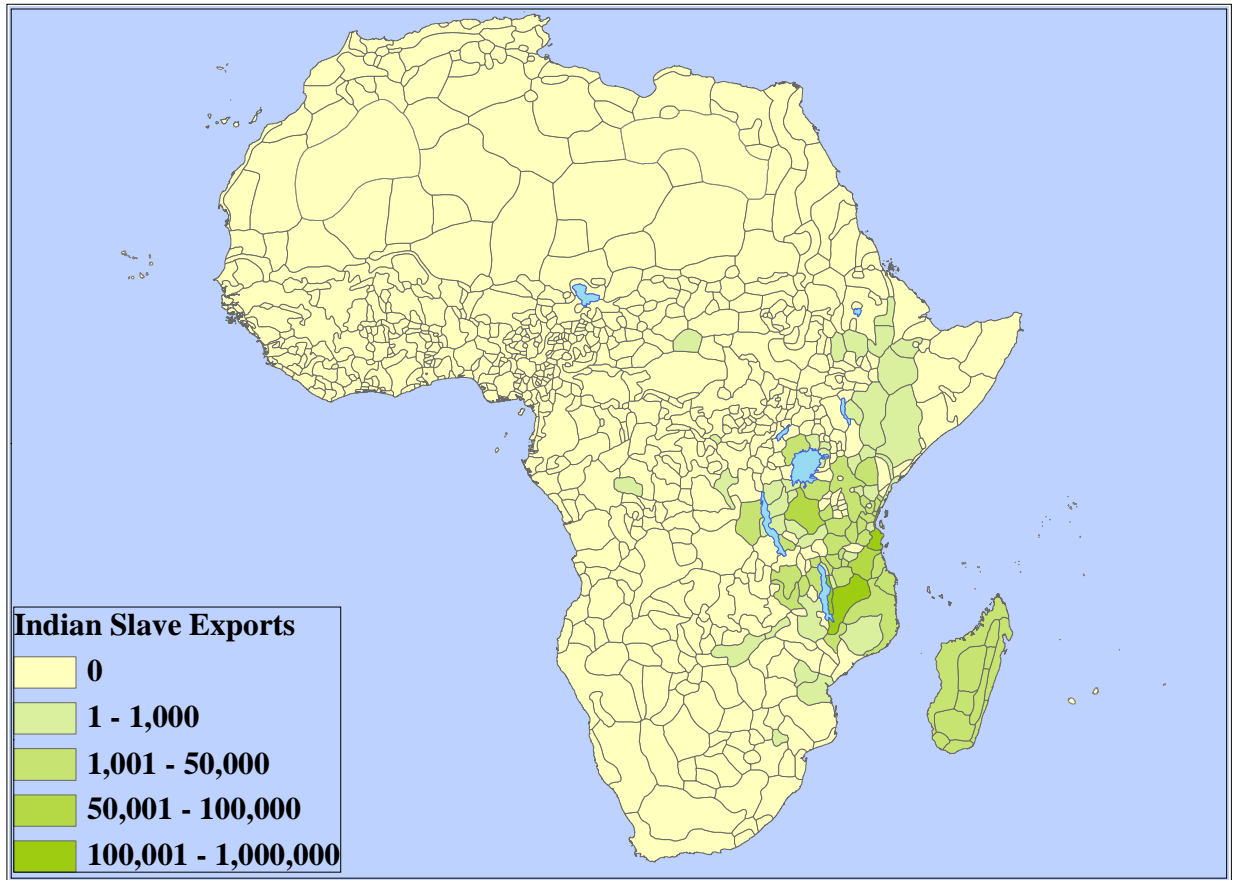


Figure 3. Ethnicities Shipped During the Indian Ocean Slave Trade.

where  $i$  indexes individuals,  $e$  ethnic groups,  $d$  districts and  $c$  countries. The variable  $\text{trust}$  denotes one of our five measures of trust, which vary across individuals  $i$ . The vector  $X'_{i,e,d,c}$  denotes a set of individual level characteristics that we include as control variables. The individual level control variables included are: an indicator variable for the respondent's sex, the respondent's age and age squared, an interaction between the gender fixed effect and age and age squared, fixed effects for the respondents perceived income relative to others, 10 fixed effects for the educational attainment of the respondent, 25 occupation fixed effects, 20 religion fixed effects and an indicator variable for whether the respondent lives in an urban or rural area. The income fixed effects are based on the respondent's view of their living conditions relative to others: (i) much worse, (ii) worse, (iii) same, (iv) better, or (v) much better. The education fixed effects are for the following categories: (i) no formal schooling, (ii) informal schooling only, (iii) some primary schooling, (iv) primary school completed, (v) some secondary school/high school, (vi) secondary school completed/high school, (vii) post-secondary qualifications, but no university, (viii) some university, (ix) university completed, and (x) post-graduate. Although we do not have a measure of the income of each individual, we feel that the occupation, education, and living condition fixed effects provide good proxy variables. Therefore, we feel that our estimating equation does a reasonable job of controlling for income, which has been shown to be highly correlated with trust.

We also include a number of measures that are meant to capture the ethnic composition of the area where each respondent lives. We include a measure of ethnic fractionalization at the district level, which we denote  $EF_{d,c}$ . Previous studies, such as Easterly and Levine (1997), have documented a relationship between ethnic fractionalization and income. Through this channel the ethnic fractionalization where a respondent lives may affect the level of trust of the respondent.<sup>6</sup> Based on similar logic, we also control for the share of the district's population that is the same ethnicity of the respondent. This variable is denoted  $E_{e,d,c}/\text{Pop}_{d,c}$  in (1). When respondents are among the ethnic minority they may be less trusting of others. For example, this has been found in the context of the United States by Alesina and La Ferrara (2002). Both measures are constructed using the sample of individuals from the Afrobarometer.

Our coefficient of interest is  $\beta$ , the estimated relationship between the historic slave exports of an individual's ethnic group and the individual's measure of trust today. Because our key explanatory variable, slave exports, only varies at the ethnicity level, all standard errors are clustered at the

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<sup>6</sup>Ethnic fractionalization is constructed in the standard manner. See Easterly and Levine (1997) for details.

**Table 3.** Estimates of the Determinants of Intra-Group Trust.

	Dependent variable: Trust of those from the same ethnic group												
	Full Sample						Restricted Sample: Kenya and Mali omitted						
	OLS			Ordered Logit			OLS			Ordered Logit			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
slave exports (millions)	-.625*** (.110)			-1.27*** (.228)			-.653*** (.113)			-1.30*** (.236)			
exports/area	-.015*** (.005)			-.031*** (.010)			-.015*** (.005)			-.031*** (.010)			
ln (1+exports/area)			-.145*** (.032)			-.300*** (.066)			-.149*** (.033)			-.302*** (.068)	
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District ethnicity controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number observations	19,477	19,477	19,477	19,477	19,477	19,477	17,179	17,179	17,179	17,179	17,179	17,179	17,179
Number ethnicities	182	182	182	182	182	182	150	150	150	150	150	150	150
R-squared	0.15	0.15	0.15	0.06	0.06	0.06	0.15	0.15	0.15	0.06	0.06	0.06	0.06

*Notes:* The unit of observation is an individual. Standard errors are clustered at the ethnicity level. The individual controls are for age, age squared, a gender indicator variable and its interaction with age and age squared, 5 'living conditions' fixed effects, 10 education fixed effects, 20 religion fixed effects, and an indicator for whether the respondent lives in an urban or rural location. The district ethnicity controls include a measure of ethnic fractionalization at the district level and a measure of the share of the population of the ethnic group of the respondent. The mean and standard deviation of slave exports is .09 and .21; of exports/area is 2.6 and 7.7; and of ln(1+exports/area) is .54 and .95. \*\*\* indicates significance at the 1% level.

ethnicity level.

An alternative estimation strategy to equation (1) is to aggregate all data to the ethnicity level and estimate an equation where the unit of observation is an ethnic group. The results are robust to this alternative procedure. We choose the individual level regressions as our baseline strategy for a number of reasons. First, it allows us to precisely control for individual level characteristics, resulting in better estimate of  $\beta$ . As well, in subsequent analysis, where we tackle issues of causality and the exact channels underlying the OLS estimates, our empirical strategies rely on variation across individuals. These estimates require variation at the individual level.

Estimates of equation (1) with trust measured by individual's trust in other from their own ethnic group are reported in Table 3. In the first three columns, we report OLS estimates of (1). To save space, we do not report the estimated coefficients and standard errors for the control variables. The coefficients of the individual level control variables are generally consistent with the findings from previous studies. Consistent with the findings from Alesina and La Ferrara (2002), we find that trust is increasing, but at a decreasing rate, in age and is higher for males than for females. We also find that trust is generally decreasing in an individual's level of education. This finding is in contrast to Alesina and La Ferrara's (2002) finding that trust is increasing in the education of the

**Table 4.** Marginal Effects of the Ordered Logit Estimates.

Response to: How much do you trust others in your own ethnic group?	Marginal effects, $dP_i/dx$ :					
	exports	exports/area	ln exports/area	exports	exports/area	ln exports/area
	(1)	(2)	(3)	(4)	(5)	(6)
Not at all	.127*** (.022)	.003*** (.001)	.030*** (.006)	.137*** (.024)	.003*** (.001)	.032*** (.007)
Just a little	.184*** (.035)	.005*** (.001)	.043*** (.010)	.183*** (.035)	.004*** (.001)	.043*** (.010)
Somewhat	-.084*** (.016)	-.002*** (.0007)	-.020*** (.005)	-.091*** (.018)	-.002*** (.0008)	-.021*** (.005)
A lot	-.227*** (.042)	-.006*** (.002)	-.053*** (.012)	-.256*** (.042)	-.005*** (.0017)	-.053*** (.012)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
District ethnicity controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number observations	19,477	19,477	19,477	17,179	17,179	17,179
Number ethnicities	182	182	182	150	150	150
Pseudo R-squared	0.06	0.06	0.06	0.06	0.06	0.06

*Notes:* Marginal effects are reported evaluated at the means. In the estimating equations the unit of observation is an individual. Standard errors are clustered at the ethnicity level. The individual controls are for age, age squared, a gender indicator variable and its interaction with age and age squared, 5 'living conditions' fixed effects, 10 education fixed effects, 20 religion fixed effects, and an indicator for whether the respondent lives in an urban or rural location. The district ethnicity controls include a measure of ethnic fractionalization at the district level and a measure of the share of the population of the ethnic group of the respondent. \*\*\* indicates significance at the 1% level.

respondent. The difference may be explained by [...]. We also find that urban areas are less trusting than rural areas. As far as we know this relationship has not been considered previously. We find neither district level ethnicity variable to be robustly correlated with trust.

In the first column of Table 5 we use the total number of slaves taken from an ethnic group (measured in millions of people). As reported, the coefficient  $\beta$  is negative and statistically significant. This result is consistent with the slave trade adversely affecting individuals' trust of those around them.

One issue with the measure of total slave exports is that it does not account for differences in the underlying sizes of ethnic groups. In the second column, we use an alternative measure that normalizes the number of slaves taken by the size of the land inhabited by the ethnic group during the 19th century, using information from Murdock (1959). As shown, the results are similar with this alternative measure. In the third column, we take the natural log of the variable from column 2. We do this because the distribution of the exports/area is highly left skewed with a small number of outliers with large values. As shown the results are similar when this third measure of slave exports is used.

Ideally we would prefer to normalize the total number of slaves taken by the historic populations of each ethnic group. Although some historic population data are available from Murdock (1959), the figures are rough estimates and only exist for about half of the ethnic groups in the sample. Although we do not report the results here, we find that normalizing slave exports in this manner yields negative and statistically significant estimates of  $\beta$ , but with only 109 ethnic groups, rather than 180, in the sample.

In columns 4–6, we report ordered logit estimates. The estimated coefficient is negative and statistically significant, confirming the OLS estimates. Because one cannot interpret the estimated coefficient directly, we report the marginal effects on the probability that the respondent will choose each of the four categories in the first 3 columns of Table 4. The four entries in each column report the four marginal effects that correspond to each of the possible responses to the trust questions.

The calculated marginal effects show that the estimated relationship between the slave trade and individual's responses to the trust questions is as expected given the OLS estimates. For the three different measures of slave exports, if an individual's ancestors were heavily impacted by the slave trade, then he or she is more likely to answer "Not at all" or "Just a little" when asked

whether they trust co-ethnics, and less likely to answer “Somewhat” or “A lot”.

Given that the results are qualitatively identical if equation (1) is estimated using OLS or an ordered logit model, for the remainder of the paper we report OLS estimates, which have the advantage of being simpler to interpret and to report.

In columns 7–12 of Table 5 we re-estimate the OLS and ordered logit estimates of columns 1–6, omitting respondents living in Kenya and Mali, the two countries in our sample that were significantly enslaved during the Saharan and Red Sea slave trades. The marginal effects for the ordered logit estimates are reported in columns 4–6 of Table 4. As shown, the results remain robust to the omission of these two countries. The point estimates of the coefficients are essentially identical, and they remain highly significant. One also obtains similar results if the sample is further restricted to exclude Nigeria and Senegal, the remaining countries in the sample that had a non-zero number of slaves taken during the Saharan and Red Sea slave trades. Given that the results change little when we omit the countries heavily affected (or affected at all) by the Red Sea and trans-Saharan slave trades, for the remainder of the paper we use the full sample of Afro-barometer countries in our analysis.

Our baseline estimates for all five of our measures of trust are reported in the first five columns of Table 5. As shown, the effect of the slave trade is negatively correlated with all five of our measures of trust. The results show that the slave trade is as negatively correlated with trust of those closer to the respondent as trust of those further from the respondent. As we have seen, the history of the slave trade (particularly the trans-Atlantic slave trade) shows clearly that the slave trade did penetrate deep into the social fabric of societies and eventually turned friends, families and neighbors against each other as they tricked and sold each other into slavery in an attempt to protect themselves. Therefore, given the historical evidence it is not surprising that the slave trade may have impacted the trust placed in others, even those close to the individual. In fact, one could argue that the slave trade had its largest impact on the trust of those close to each other. Even without the slave trade, the level of trust of those from other ethnic groups may have been low. Given this, the slave trade may have had the greatest impact on the trust of those closest to the individual, since this trust would have been high absent the slave trade.

We also find in the data that five different trust measures are highly correlated. That is, the data show that if an individual does not trust their relatives they also likely do not trust co-ethnics, neighbors, other ethnic groups, or their local government. This fact is consistent with mistrust

**Table 5.** OLS Estimates of the Determinants of the Trust of Others.

	Full Sample					Restricted Sample: Languages and Ethnicity are the same				
	Relatives	Intra-group	Neighbors	Inter-group	Local council	Relatives	Intra-group	Neighbors	Inter-group	Local council
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
In normalized slave exports	-.134*** (.035)	-.147*** (.032)	-.160*** (.033)	-.097*** (.028)	-.114*** (.022)	-.158*** (.045)	-.181*** (.043)	-.215*** (.040)	-.141*** (.044)	-.153*** (.029)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District ethnicity controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number observations	19,988	19,878	19,953	19,692	18,653	7,308	7,262	7,297	7,167	6,802
Number ethnicities	184	184	184	184	183	70	70	70	70	70
R-squared	0.14	0.14	0.16	0.11	0.19	0.15	0.16	0.18	0.12	0.20

*Notes:* The unit of observation is an individual. Standard errors are clustered at the ethnicity level. The individual controls are for age, age squared, a gender indicator variable and its interaction with age and age squared, 5 'living conditions' fixed effects, 10 education fixed effects, 20 religion fixed effects, and an indicator for whether the respondent lives in an urban or rural location. The district ethnicity controls include a measure of ethnic fractionalization at the district level and a measure of the share of the population of the ethnic group of the respondent. \*\*\*, \*\* and \* indicates significance at the 1, 5 and 10% level.

being an individual-specific rule-of-thumb that is applied across a broad range of individuals, situations, and environments. If this is the case, then it is not surprising that our results are similar no matter which trust variable we use as our dependent variable.

The correlations that we have been reporting show a negative relationship between the exposure of an individual's ethnic group to the slave trade and the individual's level of trust today. The construction of our ethnicity-level historic slave export measure requires us to cleanly identify the ethnicity of the respondent in the survey. The hypothesized relationship will be much weaker if an individual cannot be cleanly linked to a single ethnic group. This will occur, for example, if the respondent comes from parents that are of two different ethnicities. Although we do not observe the ethnicity of the respondent's parents, we do have some indicators that the respondent may live in an multi-ethnic family. In addition to the respondent's reported ethnicity, we also observe his or her primary language as well as the language of the interview. When the ethnicity, primary language, and language of interview are not the same, this may provide evidence that the individual lives in a multi-ethnic family. For robustness, in columns 6–10 of Table 5, we re-estimate (1) using only observations for which the ethnicity, primary language, and language of interview are the same. As shown, the results remain robust to the use of this smaller sample of roughly 7,000 respondents belonging to 70 different ethnic groups.



## B. IV Estimates and Falsification Tests

As we have discussed, our hypothesis is that the negative correlation between slave exports and trusts exists because ethnic groups that were exposed to the slave trade became less trusting of those around them. The historical evidence reviewed in section A indicates that this is a plausible explanation for the correlation. However, it is also possible that ethnic groups that were inherently less trusting were more likely to be taken during the slave trades, and that these groups continue to be less trusting today. In our view, the history of the slave trade does not provide strong support for this explanation. The historic accounts that we have reviewed suggest that individuals who were inherently more trusting appear to have been *more* likely to be kidnapped or tricked into slavery, not less likely. (Recall the examples from Koelle and the story of the drumming group from Anlo, Ghana.)

In this section, our goal is to determine whether the correlations documented in section A are in fact causal. To do this we use instrumental variables (IV). This requires an instrument that is correlated with slave exports, but uncorrelated with any characteristics of the ethnic groups that may affect trust today. We use the historic distance of each ethnic group from the coast as an instrument for the number of slaves of that ethnicity taken during the trades. The measure is constructed using data on the historic borders of ethnic groups during the 19th century (shown in Figures 2 and 3) from Murdock (1959). We calculate the average distance of all points 1 kilometer apart with each ethnic group.<sup>7</sup>

The history of Africa's slave trades leave little doubt that the instrument is relevant. History and our first stage results show clearly that places closer to the coast had more slaves taken. Miller (1988) describes the slave trade as progressing in waves of destruction originating from the coast. The critical issue is then whether the instrument satisfies the necessary exclusion restrictions. That is, whether an ethnic group's historic distance from the coast is correlated with factors other than the slave trade that may have affected how trusting the ethnic group is today.

The most obvious reason why the exclusion restrictions may not be satisfied arises because the historic distance from the coast of an individual's ethnic group will be positively correlated with the individual's current distance from the coast, which may be correlated with the individual's current income (see Rappaport and Sachs, 2003, Frankel and Romer, 1999) which may in turn affect

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<sup>7</sup>The full details of the construction of this measure are reported in the appendix.

trust (see Alesina and La Ferrara, 2002, Guiso *et al.*, 2007a).<sup>8</sup> Because of this potential violation, as well as other similar violations that arise because of the correlation between an individual's current distance from the coast and their ancestor's historic distance from the coast, in our IV estimates we control for the current distance from the coast of the respondents in our sample.

An individual's current distance from the coast is calculated from the location of the respondent, which is recorded in the Afrobarometer surveys. The Afrobarometer records the town or village of each respondent, and when the respondent lives in a large city, the district or neighborhood of the city that the individual lives in is recorded.<sup>9</sup> The geographic locations of the respondents are shown in Figure 4. In total, there are over 3,000 different locations recorded the 2005 Afrobarometer survey. Using ARC GIS software we calculate the distance from the town to the nearest point along the coast. This is our measure of how close the respondent is from the coast today.

In Figure 5 we compare the two distance measures. From the figure it is clear that the current distance of an individual from the coast is strongly correlated with the historic distance from the coast of the individual's ethnic group. If the two measures were equal all observations would lie on a 45 degree ray from the origin. It is clear, that a large mass of observations actually lie on this line. However, it is also the case that for many individuals the two measures are different. In the IV estimates reported below, identification is going to be driven primarily by these individuals. Therefore, the IV estimates will be a local estimate of the effect of the slave trade on trust of the these individuals. This is an important point to keep in mind. Below we discuss whether the differences between these individuals and the rest of the population.

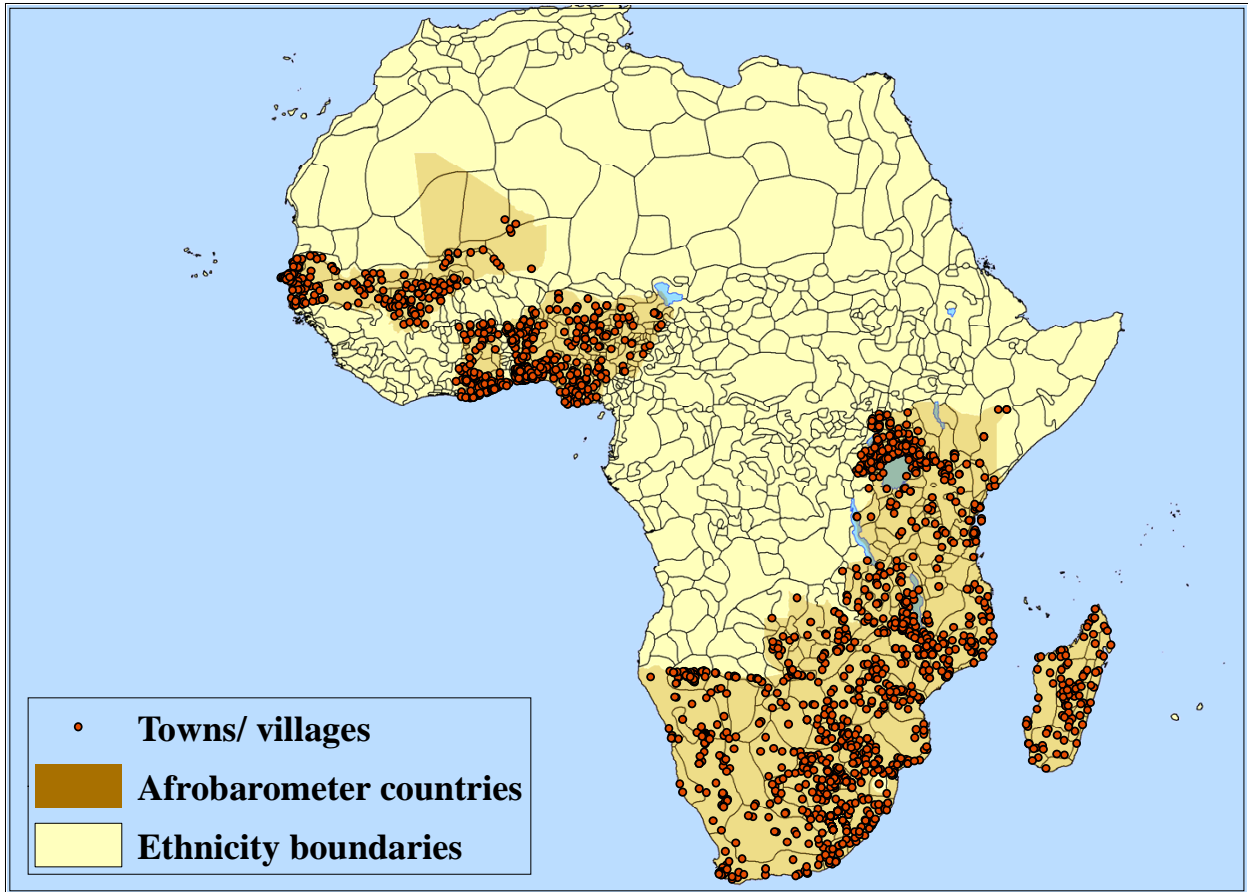
The IV estimates are reported in Table 6. The first stage estimates are reported in the bottom panel and the second stage estimates are reported in the top panel. Because the results are similar for all five of our trust measures, in the table we only report estimates for individuals' trust of co-ethnics, relatives, and neighbors. The first three columns report IV estimates without controlling for each respondent's current distance from the coast in the second stage. In the first stage, the historic distance from the coast is strongly correlated with slave exports. As expected, ethnic groups that were further from the coast historically exported fewer slaves.

In columns 4–6, we report IV estimates with the current distance from the coast included as a control variable. When we control for the current distance from the coast, both the historic

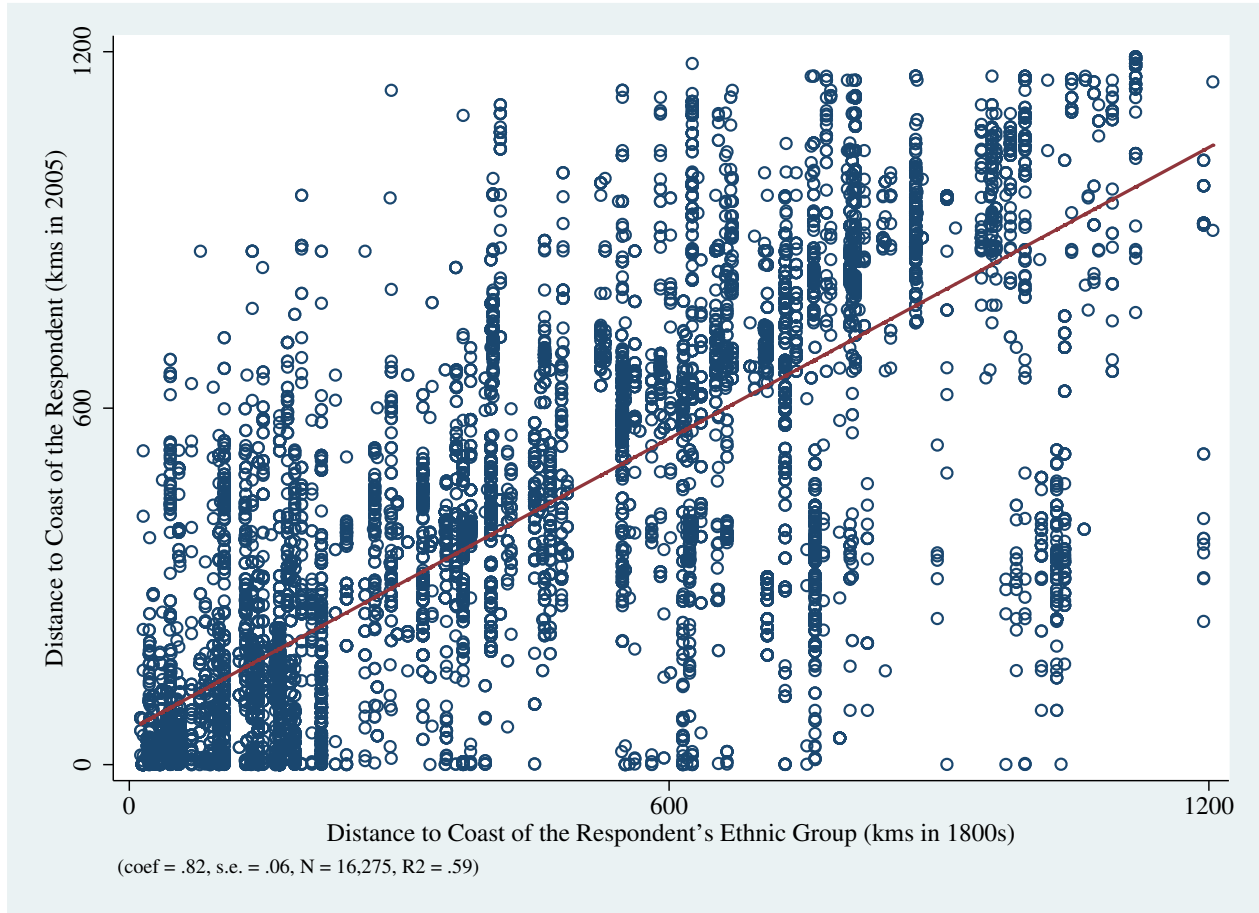
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<sup>8</sup>Not that this violation of the exclusion restriction actually results in IV estimates that are biased towards zero.

<sup>9</sup>The geographic coordinates of each location was determined using a number of digitized global gazetteers provided by Harvard's Africa Map project. Details of this procedure are provided in the Data Appendix.



**Figure 4.** Map Showing the Historic Location of Ethnic Groups and the Current Locations of Respondents in the Afrobarometer Survey.



**Figure 5.** Correlation between the distance to the coast of the respondent in 2005 and the average distance to the coast of the respondent's ethnic group in 1800s.

and current distances from the coast are included in the first stage. As shown, in this case the variation in historic slave exports is primarily explained by the historic distance from the coast rather than by individuals' current distance from the coast. This is reassuring, since logically it is the historic distance that should matter for historic slave exports. The fact that some of the variation is explained by current distance can be explained by the fact that the current distance of the individual from the coast is more precisely measured than the historic distance of ethnic group from the coast.

The second stage results show that even after controlling for each individual's current distance from the coast, the IV estimates still report a statistically significant negative effect of a history of the slave trade on of an individual's trust today. The magnitudes of the estimates are slightly larger, but similar in magnitude to, the OLS estimates. In fact, in all specifications the Durbin-Wu-Hausman test cannot reject the null hypothesis of the consistency of the OLS estimates at anything below a 10% significance level. These results provide evidence that selection into the slave trade is not strongly biasing the OLS estimates. This is consistent with the findings in Nunn (2008), where the IV estimates of the effect of the slave trade on per capita income across countries were very similar to the OLS estimates.

For much of Africa, prior to European contact in the 15th century, there was no overseas contact with the outside world. This fact makes it more reasonable to assume that the historic distance from the coast does not have effects on trust today through channels other than the slave trade. However, this is not true for the coast of Eastern Africa, which had contact with Swahili traders since at least 800AD. For this reason, in columns 7–9 we re-estimate the specifications from columns 4–6 with Eastern African countries omitted from the sample. Although this reduces the sample from roughly 15,000 to 11,000, and the number of ethnicities from 178 to 125, the results remain robust. The estimated effect of the slave trade on trust remain negative and significant, and the magnitudes remain very similar.

We are aware that, as is always the case with IV, there remains uncertainty about whether our instrument satisfies the necessary exclusion restrictions. To provide the reader with some sense of the likely validity of our instrument, we undertake a number of falsifications tests.

If one estimates the reduced form relationship between the historic distance from the coast and trust today, a strong positive relationship is found. Individuals whose ancestors lived further from the coast are more trusting today. A similar relationship is also found if one examines the

**Table 6. IV Estimates of the Effect of the Slave Trade on Trust.**

	Full Sample						Omitting Coastal East Africa		
	Intra-group trust	Trust of relatives	Trust of neighbors	Intra-group trust	Trust of relatives	Trust of neighbors	Intra-group trust	Trust of relatives	Trust of neighbors
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Second Stage: Dependent variable is individual level trust measure									
In normalized slave exports	-.248*** (.084)	-.226*** (.057)	-.263*** (.065)	-.168* (.089)	-.220*** (.080)	-.225*** (.076)	-.186** (.087)	-.268*** (.790)	-.268*** (.077)
Current distance of respondent from coast				.0002* (.0001)	-.00001 (.0001)	.0001 (.0001)	.0003* (.0002)	-.00002 (.0001)	.0001 (.0001)
Hausman test (p-value)	0.21	0.10	0.10	0.62	0.22	0.32	0.51	0.07	0.14
R-squared	0.14	0.13	0.15	0.15	0.14	0.16	0.18	0.15	0.19
First Stage: Dependent variable is In normalized slave exports									
Historic distance of ethnic group from coast	-.0014*** (.0003)	-.0014*** (.0003)	-.0014*** (.0003)	-.0013*** (.0003)	-.0013*** (.0003)	-.0013*** (.0003)	-.0013*** (.0003)	-.0013*** (.0003)	-.0013*** (.0003)
Current distance of respondent from coast				-.0006*** (.0002)	-.0006*** (.0002)	-.0006*** (.0002)	-.0011*** (.0003)	-.0011*** (.0003)	-.0010*** (.0003)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District ethnicity controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number observations	19,477	19,587	19,549	14,828	14,907	14,881	10,984	11,025	11,007
Number ethnicities	182	182	182	178	178	178	125	125	125
F-statistic	59.50	78.63	65.15	53.10	53.88	52.19	240	233	257
F-stat of excl. instrument	22.44	22.38	22.39	19.60	19.55	19.60	17.30	17.27	17.30
R-squared	0.69	0.69	0.69	0.72	0.72	0.72	0.74	0.68	0.74

*Notes:* IV estimates are reported. The top panel reports the second stage estimates and the bottom panel reports first stage estimates. Columns 1-6 reports estimates with the full sample of observations. Columns 7-9 reports estimates with individuals currently living in coastal east African countries omitted. All standard errors are clustered at the ethnicity level. The individual controls are for age, age squared, a gender indicator variable and its interaction with age and age squared, 5 'living conditions' fixed effects, 10 education fixed effects, 20 religion fixed effects, and an indicator for whether the respondent lives in an urban or rural location. The district ethnicity controls include a measure of ethnic fractionalization at the district level and a measure of the share of the population of the ethnic group of the respondent. The null hypothesis of the Hausman test is that the OLS estimates are consistent. \*\*\*, \*\*, and \* indicates significance at the 1, 5 and 10% levels.

relationship between current distance from the coast and trust. These results are completely consistent with the first and second stage IV estimates reported in Table 6. Individuals with ancestors that lived closer to the coast were more exposed to the slave trade and their descendants are less trusting today. Our identification assumes that this is the only channel through which distance from the coast affects trust. Therefore, if our identification assumption is satisfied, then we should not observe a similar positive relationship between distance from the coast and trust in the parts of the world where the slave trade did not occur.

This is exactly the falsification exercises that we undertake. Specifically, we search for surveys that ask the same or very similar trust questions as in the Afrobarometer survey and that also report the locations of the respondents in the surveys. We have found two data sources that these two types of information: the Asiabarometer and the European Values Survey.

The first non-African sample that we consider relies on data from 10 Asian countries reported in the 2003 Asiabarometer. The ten countries are: Japan, South Korea, China, Malaysia, Thailand, Vietnam, Myanmar, India, Sri Lanka, and Uzbekistan. In the survey, the region where each individual lives is provided. Using this information we are able to calculate a measure of the minimum distance to the coast of each respondent in the sample. It is important to note that this distance measure is slightly different than the distance measure used in the African sample. In the Asian sample, it is a measure of the current distance from the coast of the respondent, but in the Africa data it is a measure of the historic distance from the coast of the respondent's ethnic group. However, given the persistence in families' location over time, and the strong correlation between historic and current distances from the coast in the African, this is still a meaningful measure to consider.

A second important difference in the two samples is in the precise wording of the question in the two samples. In the Asiabarometer the question is: "How much do you trust your local government?", which is a slight different from the exact wording in the Afrobarometer: "How much do you trust your locally elected government council?". The available answers for the two questions are the same, and we construct our dependent variable in the same manner. Because income, occupation, and ethnic fractionalization measures are unavailable in the Asiabarometer sample, these covariates are not included in the estimating equations of either the African or Asian samples. Even for the covariates that exist in both samples, they are measured slightly differently. For this reason, we also report all specifications with only country fixed effects and no covariates.

**Table 7.** Reduced Form Relationship between Distance from the Coast and Trust within Africa and Outside of Africa.

	Trust of Local Government Council				Inter-Group Trust				
	Afrobarometer Sample		Asiabarometer Sample		Afrobarometer Sample	EVS Non-Africa Sample		EVS Nigeria	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Distance from the coast	.0004*** (.0001)	.0003*** (.0001)	.0001 (.0001)	.0001 (.0001)	.0004*** (.0001)	.0004*** (.0001)	-.0003 (.0002)	-.0002 (.0002)	.0008*** (.0001)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	n/a
Individual controls	No	Yes	No	Yes	No	Yes	No	Yes	Yes
Number of observations	19,789	19,789	5,409	5,409	19,897	19,897	10,308	10,308	974
Number of clusters	184	184	57	57	184	184	107	107	16
R-squared	0.16	0.18	0.19	0.22	0.09	0.10	0.09	0.11	0.06

*Notes:* The unit of observation is an individual. The dependent variable in the Asiabarometer sample is the respondent's answer to the question: "How much do you trust your local government?". The categories for the answers are the same in the Asiabarometer as in the Afrobarometer. The dependent variable in the EVS sample is the respondent's answer to the question: "How much do you trust <nationality> people in general?". The categories for the respondent's answers are: "not at all", "not very much", "neither trust nor distrust", "a little", completely. The responses take on the values 0, 1, 2, 3, 4. Standard errors are clustered at the ethnicity level in the Afrobarometer regressions and at the location level in the Asiabarometer and the EVS samples. When the dependent variable is trust in the local government council, the individual controls are for age, age squared, a gender indicator and its interaction with age and age squared, education fixed effects, and religion fixed effects. When the dependent variable is inter-group trust, the individual controls are for age, age squared, a gender indicator and its interaction with age and age squared, an indicator for living in an urban location, and occupation fixed

The reduced form estimates in Africa and Asia are reported in columns 1–4 of Table 7. The first two columns report the reduced form relationship between distance from the coast and trust in the local government within Africa without and with individual level control variables. As shown, there is a strong positive relationship between an ethnic groups historic distance from the coast and their trust in their local council. This relationship is very similar if current distance from the coast is used instead of the historic distance from the coast. Columns 3 and 4 report the same reduced form estimates, using the same covariates and the nearly identical trust question, but using data from 10 Asian countries from the 2003 Asiabarometer. From the results it is clear that, contrary to the African sample, in the Asian sample there is no systematic relationship between the distance from the coast and trust.

In the remaining columns of the table we repeat this same exercise, but use a subset of the countries from the 1990 European Values Survey (EVS) for which the necessary data are available. These countries are Chile, Norway, Sweden, Great Britain, and Northern Ireland.<sup>10</sup> These are the only countries in the first four rounds of the EVS for which we know the location of respondent's and for which we have a similar trust question to one of our five questions being examined here. The question from the EVS is: "How much do you trust <nationality> people in general?". The similar Afrobarometer question reads: "How much do you trust <nationality> people from other

<sup>10</sup>The results are nearly identical if we omit Chile and provides estimates based on an all Europe sample.



ethnic groups?”. The categories for the respondent’s answers in the EVS are slightly different from the Afrobarometer. They are: “not at all”, “not very much”, “neither trust nor distrust”, “a little”, completely. The core difference is that in the EVS sample there are 5 responses, not 4 as in the Afrobarometer sample. As a consequence, the EVS variable ranges from 0 to 4 and takes on the value 0, 1, 2, 3, or 4. Because the EVS survey does not include measures of education, living conditions or religion, these measures are not included among the individual level controls when comparing the results inside and outside of Africa.

The estimation results are reported in columns 5–9 of Table 7. Columns 5 and 6 report the reduced form within Africa without and with the set of controls. Again, we find a positive relationship between distance from the coast and trust. Columns 7 and 8 report the same estimates with the sample of countries from the EVS. As shown, again outside of Africa we do not find evidence of a positive relationship between distance from the coast and trust.

One concern is that the differences in the relationship between distance and trust within and outside of Africa may be driven by differences in the two surveys. This could occur, for example, if there were differences in the unintentional priming of respondents in the two surveys or if the location measures are more noisy in the non-African surveys. However, as shown in column 9, even if we look at respondents from African countries within the EVS (the only country being Nigeria), we find a very strong positive relationship between distance from the coast and trust. Therefore, it is very unlikely that the different relationships inside and outside of Africa can be explained by the fact that the data are from different underlying surveys.

One objection to our falsification test is that countries outside of Africa are very different from African countries in many ways other than their history of the slave trade. Because of this concern, the ideal comparison would be with a counterfactual Africa that is otherwise identical except that the slave trade did not occur. While this comparison clearly is not possible, we can compare the portions of Africa that experienced the slave trade to the portions of Africa that did not and examine whether the reduced form relationship between distance from the coast and trust is absent in the parts of Africa that were not exposed to the slave trade. This comparison can even be refined further. Some countries, like South Africa and Namibia, barely experienced the slave trade. For these countries the relationship between distance from the coast and trust today should be very weak and close to zero. Further, the relationship should be stronger the more impacted an area was by the slave trade. In other words, if the exclusion restrictions are satisfied, the more exposed

a region was to the slave trade, the stronger should be the reduced form relationship between historic distance from the coast and trust today, and for the countries that did not experience the slave trade at all we should not observe any relationship.

We test for these patterns in the data by estimating the following equation:

$$\begin{aligned} \text{trust}_{i,e,d,c} = & \alpha_c + \beta_1 \text{distance from coast}_e + \beta_2 \text{distance from coast}_e \times \text{slave exports}_c \\ & + \gamma_1 \text{EF}_{d,c} + \gamma_2 \text{E}_{e,d,c} / \text{Pop}_{d,c} + X'_{i,e,d,c} \delta + \varepsilon_{i,e,d,c} \end{aligned} \quad (2)$$

where all variables are as defined as in (1). The variable  $\text{distance from coast}_e$  denotes the historic distance from the coast of ethnic group  $e$ . To capture the fact that the relationship between distance from the coast and trust may differ according to whether the country was impacted by the slave trade, we interact this variable with  $\text{slave exports}_c$ , the natural log of the number of slaves taken from country  $c$ , which is taken from Nunn (2008). To facilitate the comparison of  $\beta_1$  and  $\beta_2$ , we transform our country-level slave export measure so that it ranges from 0 to 1, by dividing by the maximum value of the variable. With this transformation, the relationship between distance from the coast and trust for countries unaffected by the slave trade is  $\beta_1$  and for the country most affected by the slave trade it is  $\beta_1 + \beta_2$ .

If in the regions that were most exposed to the slave trade, the relationship between the historic distance from the coast and trust today should be much stronger ( $\beta_2 > 0$ ), and in countries where there was no slave trade we should observe no relationship ( $\beta_1 \approx 0$ ), then this provides evidence supporting the notion that our exclusion restrictions are satisfied.

Estimates of equation (2) are reported in Table 8. For each of our four measures of trust, the estimated coefficients for  $\beta_1$  are not generally statistically different from zero (and if they are different from zero they are negative, not positive), while the coefficients for the interaction between distance from the coast and with slave exports  $\beta_2$  is positive and statistically significant. This suggests that where there was no slave trade there is no relationship between historic distance from the coast and trust today. It is only in areas with involvement in the slave trade where we see a positive reduced form relationship between historic distance from the coast and trust.

Taken together, the results of Tables 7 and 8 are highly suggestive and provide strong evidence supporting the validity of our identification strategy. In the sample of countries where the slave trade occurred we see a very strong robust positive relationship between distance from the coast

**Table 8. Reduced Form Relationship between Distance from the Coast and Trust within Africa.**

	Trust of relatives		Trust of neighbors		Intra-group trust		Inter-group trust		Trust local council	
	(1)	(2)	(3)	(4)	(3)	(4)	(5)	(6)	(7)	(8)
Historic distance from the coast <sub>c</sub>	-.0004 (.0002)	-.0004** (.0002)	-.0004* (.0002)	-.0003* (.0002)	-.0004 (.0003)	-.0003 (.0002)	-.0002 (.0002)	-.0001 (.0002)	-.0003** (.0001)	-.0002** (.0001)
Historic distance from coast <sub>c</sub> × Country level slave exports <sub>c</sub>	.0013*** (.0003)	.0010*** (.0002)	.0015*** (.0002)	.0011*** (.0003)	.0014*** (.0004)	.0011*** (.0003)	.0009*** (.0003)	.0006** (.0003)	.0011*** (.0002)	.0008*** (.0002)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
All control variables	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Number observations	19,587	19,587	19,549	19,549	19,477	19,477	19,300	19,300	19,282	19,282
Number clusters	182	182	182	182	182	182	182	182	182	182
R-squared	0.12	0.14	0.12	0.16	0.12	0.15	0.12	0.11	0.16	0.20

*Notes:* The unit of observation is an individual. Standard errors are clustered at the ethnicity level. The individual controls are for age, age squared, a gender indicator variable and its interaction with age and age squared, 5 'living conditions' fixed effects, 10 education fixed effects, 20 religion fixed effects, and an indicator for whether the respondent lives in an urban or rural location. The district ethnicity controls include a measure of ethnic fractionalization at the district level and a measure of the share of the population of the ethnic group of the respondent. \*\*\*, \*\*, and \* indicates significance at the 1, 5 and 10% levels. 'Country level slave exports' varies across countries. The variable ranges from 0 to 1 and has a mean of 0.59 and a standard deviation of 0.32.

and trust.<sup>11</sup> In the other parts of the world where the slave trade was absent the estimated relationship between distance from the coast and trust is zero. This is true whether the comparison is between Africa and the rest of the world or between countries within Africa.

## 5. Testing for Channels of Causality: Internal Norms versus the External Environment

To this point, we have documented a relationship between the extent to which a respondent's ancestors were threatened by the slave trade and the individual's level of reported trust today. We have also used IV estimates and falsification tests to provide evidence that this relationship is causal. That is, the evidence suggests that the slave trade caused the descendants of those exposed to the trade to become less trusting. However, to this point, the underlying channel of causality still remains unclear. It is possible that the evolution of vertically transmitted norms were influenced during the 400 year period of the slave trade and that this is cause of the relationship being captured. Those exposed to the trade, and their descendants, became less trusting over time and remain less trusting today. However, a second explanation is also possible. We know that the slave trade also resulted in the deterioration of pre-existing states, institutions, and legal structures. The slave trades may be correlated with lower trust today because they resulted in poorly functioning legal systems that still persist today, and the reason that people have lower levels of trust is because of a weak rule of law, people behave badly and cannot be trusted.

<sup>11</sup>This is true whether we use historic or current distance from the coast.

We undertake two empirical exercises to distinguish between these two channels. In the first exercise, we focus on individuals' reported trust in their local government council. We choose this measure because the survey also asks respondents a number of questions about how they perceive the performance, corruption, and receptiveness of their local council. Part of the reason that respondents with a history of slaving may have a lower level of trust in their local council is because the slave trade had an adverse effect on the long-term development of local institutions. Therefore, it may be that there is mistrust in the local council, not because individuals have developed internal norms of mistrust, but because the council is not trustworthy.

We attempt to isolate the effect of the slave trades working through individuals' internal norms by controlling directly for differences in the quality of the local council. Respondents are asked three questions about the perceived performance of their local council. They were asked whether they approve or disapprove of the way their locally elected government councillor has performed his/her job over the past 12 months. Respondents then chose between the following responses: strongly disapprove, disapprove, approve, or strongly approve. The responses were coded to a variable that takes on the values 0, 1, 2 or 3, where strongly disapprove is coded as 0 and strongly approve is coded as 3. We feel that this is an excellent summary measure of the overall perceived quality of the local council. Respondents were also asked two more specific questions: (i) how many of their locally elected councillors were corrupt, and (ii) whether their local council members listen to their concerns. For the corruption question the respondents were given the option of answering: none, some, most, or all of the councillors were corrupt. For the question about whether councillors listen, the respondents were given the option of answering: never, only sometimes, often, or always. Again, we code each response as 0, 1, 2 and 3, respectively.

The results of this exercise are reported in table 9. In the first three columns, the dependent variable is each of the three measures of respondents' views about their councillors performance, corruption, and willingness to listen. In each of the three regressions the dependent variable is regressed on the full set of covariates from equation (1). For all three measures, individuals' perceived performance of their council is adversely affected by a history of past slave exports. This may be because, as reviewed in Section A and as discussed in Nunn (2008), the slave trade resulted in a deterioration of local political structures and networks, which are important for well functioning local politics today.

Because the variation in the perceived performance of the local councilor may capture differ-

**Table 9.** OLS Estimates of the Determinants of the Trust of Local Government, Controlling for Perceived Performance.

	Performance of	Corruption of	Councillors	Trust in local government council			
	local council	local council	listen?	(4)	(5)	(6)	(7)
	(1)	(2)	(3)				
Ln normalized slave exports	-.081*** (.018)	-.081*** (.031)	-.047** (.024)	-.117*** (.022)	-.061*** (.016)	-.060*** (.015)	-.062*** (.015)
Performance measure					.343*** (.013)		
Corruption measure	n/a	n/a	n/a		-.202*** (.014)		
Councillors listen measure	n/a	n/a	n/a		.137*** (.016)		
Performance fixed effects	n/a	n/a	n/a	No	No	Yes	Yes
Corruption fixed effects	n/a	n/a	n/a	No	No	Yes	Yes
Councillor listens fixed effects	n/a	n/a	n/a	No	No	Yes	Yes
Indicator variables for the presence of 5 different public goods	n/a	n/a	n/a	No	No	No	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District ethnicity controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number observations	17,605	16,325	17,458	14,830	14,830	14,830	13,947
Number ethnicities	182	182	182	182	182	182	182
R-squared	0.13	0.15	0.09	0.19	0.35	0.35	0.35

*Notes:* The unit of observation is an individual. Standard errors are clustered at the ethnicity level. The indicator variables for '5 different public goods' are for the existence of the following public goods in the respondent's town or village: school, health clinic, sewage, piped water, and electricity. The individual controls are for age, age squared, a gender indicator variable and its interaction with age and age squared, 5 'living conditions' fixed effects, 10 education fixed effects, 20 religion fixed effects, and an indicator for whether the respondent lives in an urban or rural location. The district ethnicity controls include a measure of ethnic fractionalization at the district level and a measure of the share of the population of the ethnic group of the respondent. \*\*\*, \*\* and \* indicate significance at the 1, 5 and 10% levels.

ences in local political institutions, in column 5 we re-estimate equation (1) controlling for the three measures of the performance of their local government councilor. In column 6, we include fixed effects for each of the response categories in each of the three variables. (Column 4 reports baseline estimates without the performance controls included for comparison.) As shown, the estimated relationship between slave exports and trust remains negative and statistically significant and the estimated magnitude decreases by almost 50%.<sup>12</sup>

In the final column, we also include controls for objective measures of the quality of the local government. The Afrobarometer survey records whether electricity, piped water, sewage, a health clinic, and a school are available in each the respondent's village. Using this information we construct five indicator variables that equal one if the respondent's village has access to each of the five public goods. As shown, also including these objective measures has no effect on the

<sup>12</sup>The results are similar if each of the three control variables are included individually.

estimated effect of the slave trade on trust.

The second exercise that we undertake in an attempt to distinguish between the two channels is to construct a second measure of slave exports. Recall, that our baseline measure of the slave trade is the average number of slaves taken from an individual's ethnic group. This variable measures how intensively an individual's ethnic group (and ancestors) were impacted by the slave trade. The second measure that we construct is a measure of the number of slaves that were taken from the geographic location where the individual is living today. In practice, the variable is constructed by identifying the current location that the individual is living in (these are the points indicated in figure 4), and then determining which historic ethnic group this point lies within. The variable for the individual takes on the normalized slave exports measure from the ethnic group that was historically living in this location. If an individual currently lives where his ancestors lived, then the two measures will be the same. Otherwise, the two slave export measures will differ.

The motivation for constructing the two variables comes from the insight that when an individual relocates, the individual's cultural beliefs move with them, but the external environment the individual faces is left behind. In other words, factors external to the individual are much more geographically fixed relative to cultural norms which are internal to the individual.

If one accepts that the slave trade had a causal effect on trust, then the two variables can be used distinguish between the effect of the slave trade on trust through factors internal to the individual, like norms and beliefs, and factors external to individuals, like the domestic institutions. If the slave trade affects trust primarily through internal norms and beliefs, then when looking across individuals what should matter for trust is the extent to which their ancestors were heavily impacted by the slave trade. If the slave trade affects trust primarily through its deterioration of domestic institutions and other external factors, then what should matter is whether the external environment that the individual is living in today was heavily impacted by the slave trade.

To identify the effect of the slave trade through these two channels, we include our second geography-based measure of slave exports in our baseline estimating equation (1). Because the coefficients for the two variables are going to be driven solely by observations for which the two measures differ, and by differences in the variation between the two variables more generally, it is important to understand the relationship between the two variables. Not surprisingly, we find a strong positive relationship between the two variables. For approximately 44% of the respondents in the sample, both variables take on the same values. These are individuals who currently live

in the same location as their ancestors. The other 56% of the sample can be explained by either migration or measurement error in either variable. We refer to this latter group as the ‘movers’ in the sample.

Because identification is driven by the movers, it is important to understand that the estimation results with both slave export variables is an average effect among the movers only. The estimates may not apply to the population more generally. However, since the movers constitute 44% of the population, we feel that even estimating an average effect among this group is information.

To assess whether there are key differences between movers and non-movers, in Table 10 we summarize some of the core characteristics, and differences, between the two groups. As the table shows, movers are more likely to be living in an urban area today, movers tend to be younger, and to currently be living in districts with less co-ethnics. These characteristics are consistent with the general migration patterns within Africa, where younger individuals, in search of work, are moving from their more ethnically homogenous rural villages to large cities.

The table also reports that movers tend to have higher levels of trust relative to non-movers. Although we do not know for certain, it may be that individuals are more likely to migrate if they are more trusting of those around them, especially those that they do not know well. In any event, this difference is important to keep in mind when interpreting the results.

Estimates of equation (1), with both slave export variables included, are reported in Table 11. The table reports estimates when the dependent variable is each of our five measures of trust. In the odd numbered columns, we report estimates using all observations and in the even numbered columns we report the same estimates using only movers. As shown, the estimated coefficients for both variables are negative in all specifications. Further, the estimated coefficient for the ethnicity based slave exports variable is always at least twice the magnitude of the location based slave exports variable.

The results suggest that the slave trades adversely affected trust through both factors internal to the individual, such as cultural norms, and factors external to the individual, such as institutions and social structures, but that the magnitude of the internal channel is approximately twice the magnitude of the external channel.

Again, it is important to keep in mind that since the estimated coefficients for the two slave export variables are identified from the movers in our sample, our estimates are an average effect among this group only. The relative importance of the two channels could be very different among

**Table 10. Differences Between Movers and Non-movers.**

Variable	Movers		Non-movers		Difference: (Movers - Non-movers)	
	Obs.	Mean	Obs.	Mean	Mean	S.d.
Currently living in an urban city	7,108	0.383	9,166	0.362	0.021***	0.008
Age	7,008	35.65	9,052	37.46	-1.807***	0.234
Gender = Male	7,108	0.503	9,166	0.498	0.005	0.008
Some secondary school education or higher	7,084	0.422	9,122	0.415	0.006	0.008
Ethnic fractionalization in current district	6,962	0.421	8,724	0.413	0.007	0.004
Share of ethnic group in current district	6,962	0.321	8,724	0.344	-0.023***	0.006
Trust in relatives	6,950	2.249	8,661	2.116	0.134***	0.016
Trust in neighbors	6,938	1.006	8,645	1.668	0.140***	0.016
Intra-group trust	6,915	1.750	8,614	1.620	0.132***	0.016
Inter-group trust	6,841	1.433	8,529	1.304	0.129***	0.016
Trust in local council	6,652	1.654	8,348	1.689	-0.035*	0.018

**Table 11. Channels of Causality: Internal Norms versus the External Environment.**

	Trust of relatives		Trust of neighbors		Intra-group trust		Inter-group trust		Trust local council	
	Baseline sample	Movers only	Baseline sample	Movers only	Baseline sample	Movers only	Baseline sample	Movers only	Baseline sample	Movers only
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
In normalized ethnicity based slave export measure	-.120*** (.030)	-.102*** (.033)	-.150*** (.030)	-.095*** (.030)	-.134*** (.031)	-.111*** (.031)	-.079*** (.030)	-.047 (.033)	-.110*** (.024)	-.086*** (.023)
In normalized geographic location based slave export measure	-.052*** (.011)	-.029* (.018)	-.051*** (.012)	-.027 (.018)	-.037** (.015)	-.027 (.021)	-.032 (.019)	-.007 (.024)	-.033* (.017)	-.003 (.022)
All controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number observations	15,171	6,739	15,232	6,728	15,093	6,706	14,947	6,639	14,055	6,332
Number clusters	180	160	180	160	180	160	180	160	179	158
R-squared	0.14	0.14	0.17	0.15	0.15	0.18	0.11	0.15	0.17	0.21

*Notes:* The unit of observation is an individual. Standard errors are clustered at the ethnicity level. The individual controls are for age, age squared, a gender indicator variable and its interaction with age and age squared, 5 'living conditions' fixed effects, 25 occupation fixed effects, 10 education fixed effects, 20 religion fixed effects, and an indicator for whether the respondent lives in an urban or rural location. The district ethnicity controls include estimates of the ethnic fractionalization in the respondent's district and the share of the respondent's ethnic group in the total population of the respondent's district. \*\*\*, \*\*, and \* indicate significance at the 1, 5 and 10% levels.



the non-movers. But, as we have argued, since the movers constitute nearly 44% of the sample, the estimated effects for this group are important and informative.

## 6. Exploring Potential Consequences of Mistrust

Having provided evidence of the causal effects of the slave trades on trust, we now provide exploratory evidence that highlights some of the potential consequences that these lower levels of trust may have. We show that in the data individuals with lower level of trust in their local government council are also less likely to attend local council meetings or to contact a local councillor about a problem, and they are more likely to feel that violence is sometimes justified.

These correlations are summarized in Table 12. In the first two columns, the dependent variable is a quantification of respondents' answers to the following question: "Have you personally attended a community meeting in the past year?" Respondents answered: (i) no, would never do this, (ii) no, but would do if had the chance, (iii) yes, once or twice, (iv) yes, several times, or (v) yes, often. Their answers were coded into a variable that took on the values 0, 1, 2, 3, 4, where 0 corresponds to the first category and 4 to the fifth category. As shown, the higher an individual's trust in the local council, the more likely he or she is to attend local community meetings. As shown in the second column, this remains true even after controlling for the three measures of individuals' perceptions of the performance of their local government council.

In columns 3 and 4 of the table, the dependent variable is based on respondents' answers to the following question: "During the past year, how often have you contacted a local government councillor?" The respondents answered: (i) never, (ii) only once, (iii) a few times, and (iv) often. The responses were coded in a variable taking on the values 0, 1, 2, and 3. The results show that respondents that trust their local councillors more also contact their local councilor more often. Again, this result is robust to controlling for our three measures of individuals' perceived performance of their local government council.

The final outcome considered is each respondent's attitude towards political violence. The respondents were given two statements: (A) "The use of violence is never justified in <country name's> politics today", and (B) "In this country, it is sometimes necessary to use violence in support of a just cause". Respondents were then instructed to choose one of the following responses about the extent to which they agree or disagree with the two statements: (i) agree very strongly with A, (ii) agree with A, (iii) agree with B, or (iv) agree very strongly with B. Respondents were also

**Table 12.** The Relationship Between Trust and the Behavior of Individuals

	Attend a meeting		Contact local councillor		Feel violence is sometimes justified	
	(1)	(2)	(3)	(4)	(5)	(6)
Trust of local council	.049*** (.009)	.028*** (.010)	.048*** (.007)	.021*** (.008)	-.049*** (.007)	-.043*** (.008)
Council quality fixed effects	No	Yes	No	Yes	No	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
District ethnicity controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	15,786	15,786	14,883	14,883	15,252	15,252
R-squared	0.19	0.19	0.17	0.19	0.07	0.07

*Notes* : The unit of observation is an individual. The individual controls are for age, age squared, a gender indicator variable and its interaction with age and age squared, 5 'living conditions' fixed effects, 10 education fixed effects, 20 religion fixed effects, and an indicator for whether the respondent lives in an urban or rural location. The district ethnicity controls include a measure of ethnic fractionalization at the district level and a measure of the share of the population of the ethnic group of the respondent. \*\*\*, \*\*, and \* indicates significance at the 1, 5, and 10% levels.

allowed to answer that they agree with neither, or that they do not know. We omit observations that chose one of the last two responses, and construct a measure that takes on the values 0, 1, 2, and 3, each number corresponding to (i), (ii), (iii) and (iv), respectively. As shown in columns 5 and 6, individuals that trust their local councillor more are less likely to feel that violence is sometimes justified. Again, this is robust to controlling for the perceived quality of the local government.

Overall, the results from Table 12 show that an individual's level of trust in their local government council is strongly correlated with their local civic participation, which may in turn have strong impact on the well-functioning political institutions in a region or country. This may be one channel explaining the large estimated effects of trust on long-term economic development that has been shown in studies like Algan and Cahuc (2007).

## 7. Conclusions

The evidence presented in this paper adds to a new and growing literature in economics that seeks to better understand the role that culture and beliefs play in the decision making of individuals. The focus of the empirical literature has generally been to either show empirically that culture exits

Giuliano (2007), Fernandez and Fogli (2007), Miguel and Fisman (2007), Miguel *et al.* (2008), or to identify the economic impacts of cultural differences Guiso *et al.* (2004, 2007a), Algan and Cahuc (2007).

The natural next step in the literature is to understand where cultural differences come from. Our study, like the recent contributions by Guiso, Sapienza, and Zingales (2007b) and Tabellini (2007), seeks to explain current differences by differences in the historical experiences of societies.

We have shown that the low levels of trust in Africa can be traced back to the legacy of the slave trade. In particular, we find that individuals' trust in their relatives, neighbors, and co-ethnics is lower when their ancestors were strongly impacted during the slave trade. To determine whether this relationship is causal we provide IV estimates, using the historic distance from the coast during the slave trade of an individual's ethnic group as an instrument for slave exports, while controlling for the individual's current distance from the coast. Our IV estimates also find a negative effect of the slave trade on trust today. We undertake a number of falsification tests to assess the validity of our instrument. We find that within Africa one observes a robust positive relationship between distance from the coast and trust, outside of Africa the two measures are uncorrelated. Similarly, within the regions of Africa unaffected by the slave trade, no relationship exists. These correlations are consistent with distance from the coast only affecting trust through the slave trade.

We then turn to the question of how and why the slave trade affects trust today. We examine the two most likely explanations for the relationship. The first is that over the 400 years of insecurity generated by the slave trade, general beliefs that others cannot be trusted evolved. These internal values were then transmitted from parents to children over time, and continue to manifest themselves today over 100 years after the end of the slave trade. The second is that the slave trade resulted in a deterioration in legal institutions and the rule of law in general. Because this poor legal environment persists today, individuals are not constrained to act in a good manner. Individuals therefore exhibit low levels of trust because the legal environment does not cause individuals to be trustworthy.

We undertake a number of tests to try and distinguish between the two channels. We find evidence for both channels of causality. The slave trades have an adverse effect on the external environment, such as the quality of local governance institutions today. We also find strong evidence that the slave trades altered internal norms of how trustworthy others are. That is the slave trades are one factor explaining the culture of mistrust in Africa today.

## Appendix A. Data Appendix

The data on the total number of slave exports taken from each ethnic group are estimated by disaggregating the aggregate country level estimates from Nunn (2008) to the ethnicity level. This is done using the data samples that report the ethnicities of slaves. Details on the data are provided in Nunn (2008) and the paper's data appendix Nunn (2007a).

We construct the average historic distance of each ethnic group from the coast using the ethnicity map from Murdock (1959) and ARCGIS software. We overlay a grid of points 1km apart over the Murdock ethnicity map, and calculate the average minimum distance of all points that lie within an ethnicity's boundaries. This is the historic average minimum distance of an ethnic group from the coast.

The location of respondents used to construct measures of each individual's current distance from the coast is provided in the Afrobarometer database. Locations of the villages, towns, and cities were identified using a number of global gazetteers accessible through Harvard's AfricaMap project. The primary gazetteer is Geonames ([www.geonames.org](http://www.geonames.org)).

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