What drives quality of schools in Africa? Disentangling social capital and ethnic divisions[☆]

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Abstract

Because of limited governmental resources in Africa, communities are often left in charge of managing their own schools. In this paper, we use Afrobarometer data to test the role of social capital and ethnic divisions in determining the quality of schools. We capture social capital by the average level of trust and ethnic divisions via an index of ethnic fractionalization. We skirt reverse causality problems between trust and quality of public goods by using historical information on the settlement patterns of ethnic groups in Sub-Saharan Africa: this yields measures of ethnic inherited trust which we use as an instrument for trust. To address concerns about endogenous residential sorting, we instrument ethnic fractionalization by the initial population density of ethnic historical homelands. We find that a one percent increase in the local level of trust increases the quality of local public goods by 0.2 to 1.14 percent. After controlling trust we discover ethnic fragmentation plays only a marginal role.

Keywords: Social Capital, Ethnic Division, Education, Africa, Causality

JEL Classification:

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1.. Introduction

African communities are often faced with limited governmental resources. These communities rely on collective action to provide basic public goods often with the help of non-governmental organizations. Schools are no exception. Communities typically maintain school buildings and purchase textbooks, school furniture, teaching and learning materials. In some extreme cases, communities receive no governmental support and fully control the supply of elementary education (see for example Miller-Grandvaux and Yoder (2002)). While such community schools have their pros and cons, most people see them as an effective way to provide basic education in Africa. Many national and international programs have been implemented to increase participation by local communities (see Yamada (2013)). As a result, school quality in Africa more than anywhere else in the world, depends critically on a community's ability to engage in collective action.

Therefore, to improve school quality, one must understand the ability of African communities to engage in collective action. Two stylized facts have emerged. Existing analyses, at both local and country level, have underlined a number of different determinants. For example, a community-level analysis has found that trust among community members, frequency of social contact and shared norms are important determinants of school quality (Yamada (2013), Miguel and Gugerty (2005), Glennerster and Rothenberg (2000)). These social-relations characteristics are often referred to as social capital (Putnam (2000)) and recognized as key determinants of collective action (Ostrom (1990)). By way of contrast, country-level analyses, following the influential work of Easterly and Levine (1997), focuses on ethnic divisions as an important feature of social life in Africa: Green (2012) notes that more than 177 ethnic groups, representing 43 percent of the African population, were split across two and sometimes three colonial borders. More heterogeneous countries in this respect suffer from worse economic performance and lower levels of public goods (Alesina et al. (2003); Easterly and Levine (1997); Alesina and La Ferrara (2000); Haddad and Maluccio (2003)). ***Ethnic divisions also likely play a role in schools, since for instance the language in which classes will be taught is at stake***. Determining whether social capital and ethnic divisions is the main driver of school quality in Africa is not straightforward. First, the relationship between the social capital and the quality of public goods are mutually reinforcing in a reciprocal

configuration. We face here problems of reverse causality (e.g. a well-functioning community may increase trust among its members: see Durlauf and Fafchamps (2005) for a discussion). Second, ethnic fractionalization is certainly not random and the systematic sorting of individuals from particular place or with certain unobserved tastes for public goods into more or less diverse areas could potentially introduce omitted variables bias into cross-sectional estimates of the impact of diversity on the quality of school (see Glennerster and Rothenberg (2000)). The policy required to improve school quality differs according to which factor is the most important. If it is ethnic divisions then separatism can be suggested (i.e. physically separating ethnic groups) (Muller 2008). However, if social capital is the key driver, then its reinforcement at the local level is to be encouraged.

To test the role of social capital and ethnic divisions in determining school quality, we use data from the Afrobarometer. Following a now well-established tradition (see Algan and Cahuc (2013) for a survey), we proxy social capital by the average level of trust as measured by survey questions such as "Generally speaking, would you say that most people can be trusted or that you must be very careful in dealing with people?". We measure ethnic divisions by the index of ethnic fractionalization proposed by Alesina et al. (2003). We circumvent the reverse causality problems between trust and the quality of public goods by appealing to inherited trust. In Africa a large part of values and social norms (i.e. the main ingredients of social capital) are transmitted along ethnic lines (Horowitz (1985)). Using historical information on the settlement patterns of ethnic groups in Sub-Saharan Africa, we calculate two measures of inherited trust: trust in close neighbors and generalized trust. To deal with the potential problem of omitted bias do to the endogenous sorting of individuals, we use the initial population density of historical homeland of ethnic groups which is negatively linked to the level of ethnic fractionalization.

In line with previous findings (Nunn and Wantchekon (2011), Algan and Cahuc (2010) and Uslaner (2008a)), we find that trust is indeed largely inherited. We therefore use inherited levels of trust along ethnic lines as an instrument. We find that trust has a *causal* impact on the community's ability to increase school quality. A rise of one standard deviation in the level of trust increases school quality by .17 to .39 standard deviations, depending on the measure of school quality under consideration. Once we control for trust, we see ethnic fragmentation plays only a marginal role.

In contrast to the country-level findings, we therefore do not find that ethnic fragmentation has an impact on school quality. We then appeal to a set of other controls to see whether a selection effect is at work. We find that unobservables are unlikely to be driving our results in various model specifications. Last, we carry out a number of robustness checks, in all of which our key results persist.

The remainder of the paper is organized as follows. Section 2 provides a review of the literature regarding trust and public-good quality. Section 3 describes the historical background justifying the use of inherited trust and Section 4 describes the survey data and the variable definitions. The econometric specification and controls are set out in Section 5, and the results appear in Section 6. Lastly, Section 7 concludes.

2.. Trust, ethnicity and the local management of public goods: a literature review

Any attempt to establish causal links between cultural values, like social capital or trust, and economic outcomes (e.g. education) is confronted with at least three major challenges. We address these three by appealing to recent work in cultural economics.

The first challenge is that concepts such as "trust" or "social capital" are not unambiguously defined, and are hard to capture quantitatively. Social capital is a broadly-defined notion which is certainly helpful for thinking about what connects individuals within a community. Spreading out beyond the world of academia, the well-known work of Putnam (2000) and Coleman (1990) discusses social capital in a convincing manner to explain the dynamics of societies. NGOs and governments as well as popular discourse, now regularly refer to social capital to explain many aspects of social life. Economists have typically been rather reluctant to use a notion that is so loosely defined and hard to measure ((Sobel, 2002)). However, the emerging field of cultural economics has been successful in providing quantitative evidence showing that inherited values do explain some current important economic outcomes. Much attention has been devoted to one particular aspect of social capital, namely trust. Trust, as measured in survey questions, is only a proxy for social capital but certainly captures some key aspects of interpersonal relationships. As Uslaner (2008a) notes, "*trust is a value that leads to many positive outcomes for a society-greater tolerance of minorities,*

greater levels of volunteering and giving to charity, better functioning government, less corruption, more open markets, and greater economic growth." Following common practice, we measure trust using the so-called generalized trust question: "*Generally speaking, would you say that most people can be trusted or that you must be very careful in dealing with people?*" Respondents reply either "*Most people can be trusted*" or "*You must be very careful*". The percentage of respondents who agreed that most people can be trusted is a proxy for social capital. We here focus on local social interactions, we also use an alternative measure of trust at the local level. The precise wording is "*How much do you trust each of the following types of people: Your neighbors?*".[1] Respondents choose between four possible answers: *(i) not at all, (ii) just a little, (iii) I trust them somewhat, or (iv) I trust them a lot.* This allows us to create a proxy for social capital that is specific to a local area.

Second, until recently cross-country data were not available in Africa.[2] The Afrobarometer (www.afrobarometer.org) offers reliable cross-country data collected via individual interviews. This data allows us to calculate trust in more than 1000 districts, covering 18 sub-Saharan countries and almost 500 million inhabitants. The Afrobarometer also offers seven criteria of school quality.[3] In addition, we use the Murdock (1967) ethnographic atlas that allows us to locate the area in which each ethnicity was historically located. Combining these two elements allows us to estimate "inherited trust" along ethnic lines.

The last challenge is establishing causality, rather than simple correlations. We face two kinds of problems. First, we face a problem of reverse causality (e.g. a well- functioning community may increase trust among its members: see Durlauf and Fafchamps (2005) for a discussion) and second, ethnic fractionalization is certainly not a random accident and may be caused in part by an endogenous residential sorting.

The most efficient strategy to avoid these endogeneity concerns is to consider two instruments: a form of inherited trust for trust and the initial population density for ethnic division.

[1]The formulation of this question is due to its also being used to elicit trust regarding other social groups such as "your own ethnic group".

[2]Surveys like the European Values Survey started in the early 1980's, while the first waves of the Afrobarometer appeared in 2001

[3]These criteria are: services are too expensive, lack of textbooks or other supplies, poor teaching, absent teachers, overcrowded classes, poor facilities, and illegal payments

Our first empirical strategy, similar to those found in Uslaner (2008b), Guiso et al. (2007), Tabellini (2008) and Algan and Cahuc (2010), is to use instrumental variables (IV). We create a variable which is specific to the ethnic group, called "inherited trust" and the initial population density of the locality. To do so, we use data on stable, historically-determined, patterns of ethnic land settlement available in Murdock (1967). We assume that individuals' levels of trust are inherited along ethnic lines, in the spirit of Nunn and Wantchekon (2011) who considered the impact of the slave trade on contemporaneous levels of trust in Africa. Inherited trust can be assumed to affect current trust, but not directly our variables of interest, namely those regarding school quality. Inherited trust is thus an appropriate instrumental variable.

3.. Data and variable definitions

Our analysis is based on the third round of the Afrobarometer conducted in 2005. The Afrobarometer consists of a nationally-representative sample of primary sampling units (PSUs) selected with a probability proportional to population size (a minimum of 1200). We here use data from 16 countries: Benin, Botswana, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda and Zambia.The Afrobarometer database includes 1355 districts. The number of districts actually used for the present analyzes varies according to whether the relevant data are available or not. The surveys were done face-to-face in the respondent's language of choice. The third round of the Afrobarometer survey collected information on some individual-level indicators of social capital, livelihoods, and perception of democracy. Descriptive statistics for the socio-economic variables in this sample appear in Table 2.

Information on historical settlement patterns are drawn from the Murdock Ethnographic Atlas. Murdock (1967) compiled the work from many ethnographic analyses into one database and classified 1,167 societies around the world according to their culture and institutions. This database contains information on pre-colonial conditions and characteristics of many ethnic groups and tribes within Africa. Additional information on the ethnic groups' historical homelands and actual locations are drawn from the seminal paper of Nunn and Wantchekon (2011) about the impact of the

slave trade on mistrust in Africa.

School-quality indicators are derived from the Afrobarometer, which contains seven questions about district school quality. Individuals were asked: *"Have you encountered any of these problems with your local public school during the past 12 months": 1. Services are too expensive or Unable to pay? 2. Lack of textbooks or other supplies? 3. Poor teaching? 4. Absent teacher? 5. Overcrowded class-rooms; 6. Poor conditions of facilities? 7. Demands for illegal payments?*. These school-quality indicators allow us to distinguish between inefficient schools and those which work normally. For instance, it is possible that some schools score pretty high on each dimension but nonetheless provide little knowledge. It is not uncommon in Africa that after a number of years of schooling pupils still lack the most basic knowledge. Compared to indicators which examine school outputs via standardized tests, the indicators here concern the necessary conditions for learning to take place.

To measure trust, two variables are used: generalized trust and trust in neighbors. The first is measured using the General Value Survey (GVS) trust question: "*Generally speaking, would you say that most people can be trusted, or that you cannot be too careful in dealing with people?*" Respondents reply either "*Most people can be trusted*" or "*You must be very careful*". District trust is thus measured by the percentage of respondents stating that "*Most people can be trusted*". This is by far the most common trust measure in empirical work, and is often presented as a proxy for social capital. However, generalized trust has been the subject of a long debate in the literature. A number of researchers have argued that these trust questions are too abstract (Glaeser et al. (2000) , Nannestad (2008), and Sturgis and Smith (2010) and are not good measures of trust. Despite these problems, Tabellini (2008) has argued that the GVS question is an indicator of moral values transmitted from one generation to another. As such, it is an indicator of a culture of general morality through which distant history influences current institutional outcomes. The second variable is trust in neighbors. The exact wording of the question is: "How much do you trust each of the following types of people: Your neighbors?" Respondents choose between four possible answers: "(i) not at all, (ii) just a little, (iii) I trust them somewhat, or (iv) I trust them a lot".

4.. Identification Strategy

The objective here is to to determine the causal link between trust and the quality of district public goods. To this end, we estimate the following

$$\omega_{c,d} = \pi_0 + \pi_1 Trust_{c,d} + \pi_2 EFI_{c,d} + \pi_3 X_{c,d} + \varepsilon_{c,d} \tag{1}$$

Here $\omega_{c,d}$ is the school-quality indicator which is: schools being too expensive (EXP), a lack of textbooks or other supplies (BSP), poor teaching (PTE), teachers being absent (TABS), a problem of overcrowded classes (OWC), poor facilities (PFAC), and problems with illegal payments (ILP). The vector $X_{c,d}$ picks up district-level characteristics, and $Trust_{c,d}$ is district-level trust. The two trust measures, generalized trust ($Trust_{GVS}$) and trust in close neighbors ($Trust_{neigh}$), will be considered separately. The variable $EFI_{c,d}$ is the ethnic fractionization index, defined as $1 - \sum_{e=1}^{N} s^2$ (where s is the district share of the ethnic group). The ethnic fractionization index measures the probability that two randomly-selected individuals be from a different ethnic group (Easterly and Levine (1997)). Last, $\varepsilon_{c,d}$ is the error term, and the π_i are the coefficients.

5.. OLS estimation results: Trust and school quality

We first estimate equation 1 without any controls: the results appear in Table 3. In the first part of table, we regress school quality on generalized trust and the ethnic fractionalization index and in the second part we replace generalized trust with trust in neighbors. The estimated trust coefficients are positive and significant for six of the seven school-quality indicators. However, trust in neighbors is more strongly correlated with our dependent variable, and is more significant. We then control for a range of district characteristics in table 4 for generalized trust and in table 5 for trust in neighbors (see Table 2 for the descriptive statistics of these controls). Trust remains an important determinant of school quality: trust in neighbors is now significant for all seven school-quality measures. None of the controls plays such an important role. The controls that are the most significantly correlated with school quality are participation in religious groups, farming organizations or professional and business associations. Participation in local religious or farming

organizations is positively correlated with many of the school-quality variables. On the contrary, the correlation with participation in business associations is negative. Social groups are considered as places in which social capital is created, supporting the idea that social capital is an important driver of school quality. EFI, which picks up ethnic fractionalization, plays only a marginal role compared to the other variables. The introduction of our controls here has only a limited effect on the estimated coefficients on both trust and EFI. However, as discussed in Section 2, trust, school quality and EFI are correlated. To deal with possible reverse causality, we use an instrumental variable (IV) strategy in the next section. For instance, better schools may produce more social capital, and limit the impact of ethnic fractionalization.

5.1.. Assessing the role of unobservable variables

A classical problem in statistics is that estimated coefficients may be biased due to unobservable variables. At the extreme, the inclusion of a new variable that correlates with both school quality and trust may result in the coefficient of "trust" to become non-significant. In other words, we would have wrongly attributed to "trust" an effect on education. By definition, we cannot control for unobservable variables. However, the method developed by Altonji et al. (2005) (Appendix A) allows us to use observables to assess the potential bias from unobservable variables. To see how this method works, consider two types of regressions: one with a restricted set of controls and another with a full set of controls. Let the estimated coefficient of the restricted regression be π^W and that from the regression with full controls be π^C. We then calculate the ratio: $\pi^C/(\pi^W - \pi^C)$. If the addition of controls does not affect coefficients much, π^W and π^C will have similar values. We will thus find a high absolute value for the ratio. For instance a value of 2 will indicates that the effect of unobservable variables need to be at least twice stronger that the one of observable variables to offset the effect of trust. It is generally considered that a ratio greater than 3 indicates that it is unlikely that the effect of trust is purely driven by unobservable variables Nunn and Wantchekon (2011). The ratio corresponding to our two measures of trust, namely generalized trust and the level of trust in neighbors, are reported in table 1. The absolute values range from 1.88 to 18.21. Five of the fourteen estimations are below three but close to 2. It is thus unlikely that the effect of trust on school quality is driven by unobservable variables. Negative ratio indicates that unobservable

Table 1: Altonji's ratio

	EXP	BSP	TABS	OWC	PFAC	ILP	PTE
TrustI_GVS ratio	-2.59	-2.94	-13.20	-8.13	-4.86	3.16	-3.19
Trust_neigh ratio	-2.10	-1.88	-2.50	-4.22	-3.62	18.21	-2.19

variables are, on average, negatively correlated with the outcome variables, suggesting a downward bias for our OLS estimates.

5.2.. Assessing causality: IV estimations

To implement IV estimation, we need instruments which satisfy two conditions: they must be relevant, i.e. they are correlated with the endogenous variable, and they must be exogenous, i.e. they affect the relevant variables via the instrumented variable, without any independent or autonomous role.

The first instrument that we consider here is a form of trust that is inherited along the ethnic lines. It is thus characteristic of an ethnic group and is likely to have been shaped over a long period, before modern states were established. Individuals move with their norms, but institutions and infrastructures stay. Individuals will "export" their inherited trust out of their homeland. Inherited trust will in turn impact the ability to produce public goods such as schools. The choice of this instrument is guided by the recent works providing evidence that inherited trust explains a considerable fraction of an individual's current trust (Algan and Cahuc (2010)),Uslaner (2008b)). Inherited trust is calculated from historical ethnic data on settlement patterns in Africa, taken from the ethnographic atlas of Murdock (1967), which is used to map the territory of many African ethnic groups before the formation of modern countries. We delimit 282 historical ethnic territories, as shown in Figure 1.

Each individual's inherited trust is the average trust level in his/her original ethnic group. For example, a member of the Bantu ethnic group who now lives in a Fon' ethnic group homeland will inherit trust given by the standardized level of trust in Bantu homelands. In this way, we bypass the problem of the mutual co-determination of trust and the quality of public goods. The

main difficulty here is that some ethnic groups have split up into different sub-groups, while others have completely changed their names. We use here the information from Nunn and Wantchekon (2011) (available at http://scholar.harvard.edu/nunn/pages/data-0) to link current ethnic groups to those identified in Murdock (1967). We find that 48 percent of respondents still live in their ethnic homelands. We calculate inherited trust in the ethnic homeland as the average trust level of the individuals who still live there. Inherited trust at the district level is the average of respondent's inherited trust, weighted by the relative size of each ethnic group in the district.

Our second instrument relates to fractionalization. We use population's density during the colonial period as an instrument. The idea that supports the choice density between the colonial periods as an instrument of ethnic fractionalization is that colonizers have used migrant workers to maintain the facilities and infrastructure that they have been built across the continent (see Green (2012)) for more evidence). As noted by Boserup (1985), Africa had very little indigenous urbanization in pre-colonial period. The few cities in the continent were set up during the colonial period to be used as centers of colonial administration and trade. The cities were essentially implanted to exploit local resources for exportations. However, in most of the cases, labor forces were insufficient because of the Africa's initial low population density. The colonizers have used voluntary or forced migrant workers in these cities. Areas that initially had a lower density have used more migrants and therefore are more heterogeneous today. Corresponding data come from Nunn and Wantchekon (2011). The fractionalization instrument is the logarithmic of the initial density of the population in the colonial period

5.3.. Econometric specification and first stage regressions

Our IV equation is specified as:

$$\omega_{c,d} = \pi_0 + \pi_1 Trust_{c,d} + \pi_2 EFI_{c,d} + \pi_3 X_{c,d} + \varepsilon_{c,d} \tag{2}$$

$$Trust_{c,d} = \rho_0 + \rho_1 Inherit_{c,d} + \rho_3 X_{c,d} + \xi_{c,d} \tag{3}$$

$$EFI_{c,d} = \eta_0 + \eta_1 Ln\_init\_pop\_dens_{c,d} + \eta_3 X_{c,d} + \vartheta_{c,d} \tag{4}$$

where $Inherit_{c,d}$ is inherited trust in the district, $Ln\_init\_pop\_dens_{c,d}$ is the logarithmic of the

initial density of the population in the colonial period and the other variables are the same as those defined in Section 4.

Table 6 shows the results of the first stage estimation. As expected, inherited trust is strongly correlated with current trust levels, both for GVS and trust in neighbors. Thus, a one percent increase in inherited GVS trust leads to a 0.70 percent increases in predicted district generalized trust. This correlation is even stronger for trust in neighbors, with an analogous figure of 0.80. We find also that the initial population densities are negatively correlated with ethnic fractionalization. The coefficient is highly significant. For three trust measures, the models suggest no problems of weak instruments. The F-statistics are greater than 10. The partial correlations between inherited trust and district current trust appear in Figure 2.

5.4.. IV results

Before interpreting the estimation results, we first consider the results from the Durbin-Wu-Hausman test. The relevant p-values appear at the bottom of tables 7 and 8. Apart from BSP and ILP, the test statistics reveal that we cannot reject the null hypothesis that the OLS estimation of generalized trust is consistent. Regarding trust in neighbors, the test statistics suggest an endogeneity problem in the estimation of the coefficients of three variables (BSP, ILP and PTE), and reject the null hypothesis that the OLS estimator is consistent. The IV estimates are therefore preferable.

The results of IV estimation appear in tables 7 and 8 respectively for generalized trust and trust in neighbors. IV estimation confirms the positive and significant effect of trust on school quality. The estimated trust effect is large and suggests that districts with higher levels of generalized trust and trust in neighbors perform with respect to school management. The coefficients from IV estimation are considerably larger than those in the OLS estimates.

The estimated effects of generalized trust and trust in neighbors are substantial in size. All else being equal, a one percent increase in generalized trust reduces the problem of book supply in schools by 1.14 percent, the problems of book supply by 0.96 percent, the problem of illegal payments by 0.62 percent, and the problem of poor teaching in the district by 1.03 percent. We do not find any causal relationship between generalized trust and problems of expenses: the significant

coefficient on generalized trust in school expenses problems in OLS estimation disappears in the IV specification. The effect of generalized trust on teacher absenteeism is insignificant.

The IV estimation results of the level of trust on the quality of school services can be found in table 8. The general results here are very similar to the OLS estimates, except for the estimation of teacher absenteeism. We find that districts with greater trust in neighbors have in general better quality schools. The effect of trust in neighbors is larger than that of generalized trust. Six of the seven indicators of school quality are causally significantly linked to trust in neighbors. As shown in the first column of table 8, the effect of trust in neighbors is large in size. A rise of only one percent reduces the problem of school expenses by .20 percent, with figures of 0.44 and 0.315 percent for problems with book supply and overcrowded schools.

These results are consistent with the differences in the ability of communities to manage local public goods depending critically on their levels of trust. Districts where individuals declare greater trust in their neighbors are more willing to deal with a number of problems in schools, and there are fewer problems of book supply, overcrowded classrooms, illegal payments, and poor teaching and facilities. To a lesser extent, we find that generalized trust also helps to explain district school quality. This positive effect of trust seems larger than the negative effect of ethnic fractionalization, which is often considered as the most important determinant of public-good provision in Africa.

6.. Robustness checks

To satisfy the exclusion restriction condition, the inherited trust should only affect the quality of schools through the actual level of trust. The condition is not met if inherited trust affects the school quality through other sources namely local institutions or some historical variables. To see if the exclusion restriction condition is likely to occur, we perform a battery of tests. We first identify historical variables through which the inherited trust affect the quality of trust (the former presence of colonizers, railways and the presence of a pre-colonial city, the deadliness of the disease environment and a measure of the historic exposure of the territory to the transatlantic and Indian Ocean slave trade). If the effect of trust on school quality disappears after the inclusion of these historical variables, this suggests that the effects found in previous estimates are mostly driven to

the omission of these historical variables.

The results can be read in the tables 9 and 10. The impact of EFI also becomes insignificant. Only the effect of the localized trust remains significant. As such, EFI does not causally affect school quality, and the OLS correlations reflect omitted variables. However, trust in neighbors, our indicator of local trust, continues to causally affect school quality. In particular, we find that a rise of one percent in local trust reduces the problem of lack of book supply by 0.258 percent, the problem of classrooms by 0.376 percent, illegal payments by 0.415 percent and lack of facilities by 0.307 percent.

In tables 11, we report the results of the estimation of the IV equation using districts where respondents living outsides of their ethnicities homelands are majorities. The results suggest that although the effect of trust found does change slightly, the coefficients are more important. More precisely, the effect of trust in neighbors remains strong. These results confirm, first, that our results are strong and second that the fully effect of the inherited trust is attributed to the current level of trust.

7.. Conclusion

The purpose of this paper was to study the determinants of collective at the local level. In particular, we wish to highlight the importance of social capital to promote better schools in Africa. We identify social capital as a key aspect of the ability to undertake collective action.

Following a now well establish tradition, we proxy social capital by the average level of trust. To circumvent endogeneity problems caused by the co-variation of trust and the local governance, we constructed inherited trust variables. Using information on the historical settlement patterns of ethnic groups in Sub-Saharan Africa, two measures of inherited trust are considered: trust in close neighbors and generalized trust. Trust inherited by individuals living in a district is strongly related to that find in their ethnic homeland. Trust is to a large part inherited along the ethnic lines. In line with previous findings Algan and Cahuc (2010)) and Uslaner (2008b), we find that social capital builds in the long run. As a consequence, we can use inherited levels of trust as an instrument.

Both trust in neighbors and generalized trust successfully passed a battery of tests and robustness checks aiming at establishing a causal relationship. The effect of generalized trust and ethnic division are only limited. We also note that, surprisingly, the OLS estimates of localized trust on the quality of public goods are downward-biased. Since we suspect reverse causality, we expected a positive rather than a negative bias. We provide two possible explanations of this negative bias. First, this can result from measurement error in local trust. First, the way that trust is measured by survey question is open to debate. It is not clear to what extent these survey questions can provide reliable measures of trust. The second explanation relies on the existence of exclusive club in the districts (like religious groups or Community Based Organizations - CBOs) which contribute to the quality of public goods and at the same time affect local trust. In some districts clubs may exist whose benefits are reserved only for members and which manage certain types of public goods such as wells, schools or health centers. Alesina et al. (2003) have shown that closed associations and clubs harm trust. If these associations and clubs reach a critical number, they can cause negative bias which is larger than the upward bias caused by reverse causation. While this result goes against the current view in the literature, it is, however, consistent with what Glennerster

and Rothenberg (2000) found in Sierra Leone. While much work has emphasized ethnic diversity as a factor behind poor economic outcomes of African countries, this does not seem to hold at the local community level. Local communities are seemingly better able to manage any adverse effects of ethnic division, with local trust (as a measure of social capital) playing a key role.

Last, our paper raises some intriguing questions about the link between trust and the production of public goods. In particular, public goods can benefit from a higher level of trust among community members through different channels. There are two main possible channels through which social capital can affect the quality of school in local communities. First, social capital affects community management of school by promoting behaviors recognized as essential ingredients of good governance. It helps local communities to reach consensus, avoid free riding and disputes. Thereby, in high level trust communities, people can more easily rely on each other to enforce norms and punish free riders. Second, the social capital may affect the quality of schools by its help in the coordination of communities' actions, such as lobbying. Members of communities may be more effective at getting financial support, from government or NGOs, to finance schools. To date, we lack convincing evidence regarding which channel is the more active in transforming trust into public goods.

Alesina, A., A. Devleeschauwer, S. Easterly, W. Kurlat, and R. Wacziarg (2003). Fractionalization. *National Bureau of Economic Research, NBER Working Papers 9411*.

Alesina, A. and E. La Ferrara (2000). Participation in heterogeneous communities. *The Quarterly Journal of Economics 115*(3), 847–903.

Algan, Y. and P. Cahuc (2010, December). Inherited trust and growth. *The American Economic Review, 100*(5), 2060–2092.

Algan, Y. and P. Cahuc (2013). Trust and human development: Overview and policy implications. *Handbook of Economic Growth eds Philippe Aghion and Steven Durlauf forthcoming*, 639–647.

Altonji, J. G., E. Elder, Todd, and R. Taber, Christopher (2005). Selection on observed and unobserved variables: Assessing the effectiveness of catholic schools. *Journal of Political Economy 113*(1), 151–184.

Coleman, J. (1990). *Foundations of Social Theory*. Cambridge, MA: Harvard University Press.

Durlauf, S. and M. Fafchamps (2005). *Handbook of Economic Growth* (Philippe Aghion and Steven Durlauf ed.), Volume 1, Chapter Social Capital, pp. 1639–1699.

Easterly, W. and R. Levine (1997). Africa.s growth tragedy: Poli- cies and ethnic divisions. *Quarterly Journal of Economics 112*(4), 1203–50.

Glaeser, E., D. Laibson, J. Scheinkman, and C. Soutter (2000). Measuring trust. *Quarterly Journal of Economics 115*(3), 811–846.

Glennerster, R. Miguel, E. and A. Rothenberg (2000). Collective action in diverse sierra leone communities. *The Economic Journal 123*(568), 285–316.

Green, E. (2012). Explaining african ethnic diversity. *International Political Science Forcoming*.

Guiso, L., P. Sapienza, and L. Zingales (2007). Social capital as good culture. *NBER Working Paper 13712*.

Haddad, L. and J. Maluccio (2003, April). Trust, membership in groups, and household welfare: Evidence from kwazulu-natal, south africa. *Economic Development and Cultural Change 51*(3), 573–601.

Horowitz, D. (1985). *Ethnic Groups in Conflict*. Berkeley: University of California Press.

Miguel, E. and M. K. Gugerty (2005). Ethnic diversity, social sanctions, and public goods in kenya. *Journal of Public Economics 89*, 2325–2368.

Miller-Grandvaux, Y. and K. Yoder (2002). A literature review of community schools in africa. *(Washington, DC, SARA Project/USAID) 115*.

Murdock, G. P. (1967). *Ethnographic Atlas: A Summary*. Pittsburgh: The University of Pittsburgh Press.

Nannestad, P. (2008). What have we learned about generalized trust, if anything? *Annual Review of Political Science 11*, 413–436.

Nunn, N. and L. Wantchekon (2011). The slave trade and the origins of mistrust in africa. *Quarterly Journal of Economics 101*(7), 3221–52.

Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press (November 30, 1990).

Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon et Schuster.

Sobel, J. (2002). Can we trust social capital? *Journal of Economic Literature 40*, 139–154.

Sturgis, P. and P. Smith (2010). Assessing the validity of generalized trust questions: what kind of trust are we measuring? *International Journal of Public Opinion Research 22*, 74–92.

Tabellini, G. (2008). Institutions and culture. *Journal of the European Economic Association 6*(2-3), 255–94. Presidental address.

Uslaner, E. (2008a). Where you stand depends upon where your grandparents sat:the inheritability of generalized trust. *Public Opinion Quarterly 72*(4), 725–740.

Uslaner, E., M. (2008b). The foundations of trust: micro and macro. *Cambridge Journal of Economics 32*.

Yamada, S. (2013). Determinants of community participation: the tradition of local initiatives and the institutionalisation of school management committees in oromia region, ethiopia. *Compare: A Journal of Comparative and International Education DOI: 10.1080/03057925.2012.746899*.

Appendix A: Using a selection of observable variables to assess the potential bias

The method developed by Altonji et al. (2005) and Miguel and Gugerty (2005) allow us to use a selection of observable variables to assess the potential bias from unobservable variables. To see how this method works, consider a set-up where quality of local public goods is related to scalar co-variates, trust and some unobservable heterogeneity at community level (Γ) via the classical linear regression model:

$$\omega = \pi_0 + \pi_1 Trust + \gamma\Gamma + \varepsilon \tag{5}$$

where $\varepsilon_{c,d}$ is zero-mean. OLS estimation of this model yields estimators $\hat{\pi}_1$. Ignoring Γ leads to OLS lead to a classical omitted bias which equal to:

$$plim\hat{\pi}^W 1 = \hat{\pi}_0 + \gamma\frac{Cov(Trust, \Gamma)}{Var(Trust)} \tag{6}$$

Now, suppose that there is a set of observed controls X and that these controls are related to the index unobservable characteristics index Γ in the following way:

$$\Gamma = X'\alpha + \gamma\tilde{\Gamma} + \varepsilon \tag{7}$$

We assume that these controls are related to quality of public goods only through their relationship with unobserved characteristics. If we include this set of controls in the estimating equation:

$$\omega = \hat{\pi}_0 + \hat{\pi}_1 Trust + X'\alpha + \gamma\tilde{\Gamma} + \varepsilon \tag{8}$$

Now, ignoring Γ leads to OLS prediction:

$$plim\hat{\pi}^C 1 = \hat{\pi}_0 + \gamma \frac{Cov(Trust, \tilde{\Gamma})}{Var(Trust)} \tag{9}$$

By using the difference between $\pi^W 1$ and π^C we can show that the difference between the estimates of without and with controls is given by:

$$\hat{\pi}^W 1 - \hat{\pi}^C 1 = \gamma \frac{Cov(Trust, X'\alpha)}{Var(Trust)} \tag{10}$$

The ratio on the right hand side is easily computed using the coefficients from two OLS regressions with and without controls included. Now the question that we would like to answer is how strong the covariance between the unobserved part of the community characteristics index and trust must be to explain away our entire effect? To answer to this question, we set $\gamma = 0$ and then divide 9 and 11 to get the following relationship.

$$\frac{\hat{\pi}^W 1}{\hat{\pi}^W 1 - \hat{\pi}^C 1} = \frac{Cov(Trust, \tilde{\Gamma})}{Cov(Trust, X'\alpha)} \tag{11}$$

The ratio on the right hand side is easily computed using the coefficients from two OLS regressions with and without controls included.

Appendix B

Figure 1: Partial correlations between inherited and actual trust

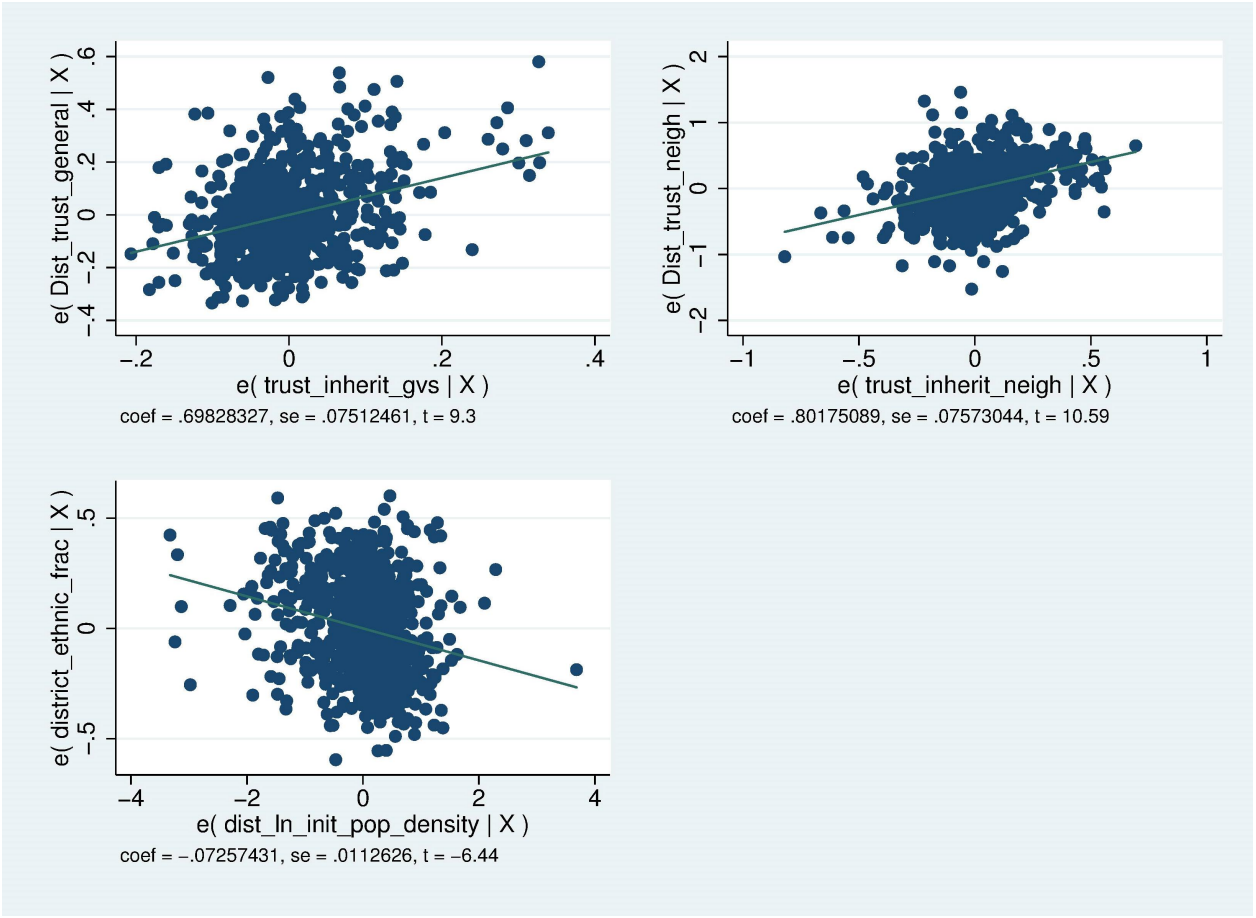

Table 2: Summary statistics

Variable	Description	**Mean**	**Std. Dev.**	**N**
	School Quality			
PTE	Poor teaching	1.006	0.680	1331
ILP	Illegal Payment	0.560	0.563	1332
PFAC	Poor facilities	1.197	0.748	1333
OWC	Overcrowd Classrooms	1.345	0.752	1331
TABS	Teacher absenteeism	1.002	0.643	1332
BSP	Book supply	1.118	0.693	1334
EXP	School too expensive	0.845	0.652	1334
	District Level of Trust			
$Trust_{GVS}$	Level of generalized trust	0.185	0.183	1327
$Trust_{neigh}$	Level of trust in neighbors	1.744	0.563	1263
	District-level characteristics			
EFI	District Level of ethnic fractionalization	0.313	0.279	1181
Dist_wealth	District level wealth index	0.014	0.429	1355
Median_age	Age median	34.785	7.971	1291
Prop_male	Proportion male	0.493	0.117	1292
Prop_educated	Proportion educated	0.643	0.317	1355
Prop_catholic	Proportion Catholic	0.217	0.225	1292
Prop_protestant	Proportion Protestant	0.123	0.177	1292
Prop_rural	Proportion in an urban area	0.31	0.421	1292
Pay-bribe	Proportion who paid bribes	0.049	0.481	1355
Memb_farmer	Proportion in farming group	0.284	0.201	1355
Atten_protest	Proportion in protest	0.503	0.224	1355
Atten_rising	Proportion raise issues	0.831	0.174	1355
Atten_meet	Proportion attending meetings	0.898	0.139	1355
Memb_cbo	Proportion of member of CBO	0.328	0.211	1355
Memb_profes	Proportion in professional group	0.199	0.164	1355
Memb_religious	Proportion in religious group	0.756	0.212	1355
Dist_com_bldg	Distribution of community buildings	0.727	1.586	1355
Dist_school	Distribution of schools	0.817	0.387	1169
Dist_Health_clinic	Distribution of health clinics	0.49	0.435	1264
Dist_Road	Distribution of roads	0.366	0.43	1355
Dist_recrea_fa	Distribution of facilities	0.555	0.435	1333

Table 3: OLS estimate of the effect of the level of trust on school quality

	EXP	BSP	TABS	OWC	PFAC	ILP	PTE
Trust_GVS	.123	.218*	.185*	.437***	.262**	.331***	.203*
	(.1021)	(.1122)	(.1063)	(.1267)	(.1216)	(.0925)	(.1100)
EFI	.090	.022	.044	-.116	-.031	.068	-.043
	(.0669)	(.0735)	(.0695)	(.0830)	(.0797)	(.0606)	(.0721)
Constant	-1.386***	-1.518***	-1.302***	-1.900***	-1.567***	-.995***	-1.546***
	(.0739)	(.0812)	(.0767)	(.0915)	(.0880)	(.0669)	(.0795)
Adj. R^2	.207	.145	.147	.128	.190	.215	.211
No. Obs	1069	1069	1068	1066	1068	1068	1067
Trust_NEIGH	.042	.078**	.074**	.135**	.150***	.217***	.095**
	(.0357)	(.0393)	(.0371)	(.0445)	(.0424)	(.0319)	(.0384)
EFI	.089	.022	.045	-.114	-.026	.082	-.039
	(.0671)	(.0736)	(.0696)	(.0832)	(.0795)	(.0598)	(.0722)
Constant	-1.418***	-1.581***	-1.367***	-1.991***	-1.735***	-1.252***	-1.641***
	(.0894)	(.0981)	(.0928)	(.1110)	(.1059)	(.0797)	(.0961)
Adj. R^2	.207	.144	.147	.126	.197	.238	.212
No. Obs	1068	1068	1067	1065	1067	1067	1066

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Standard errors are in parentheses. All regressions are OLS with country fixed effects. The dependent variables refer to district school quality. * Significant at 90%, ** Significant at 95% and *** Significant at 99%.

Table 4: OLS estimates of the effect of generalized trust on school quality

	EXP	BSP	TABS	OWC	PFAC	ILP	PTE
Trust_GVS	.183*	.310**	.166	.470***	.270**	.233**	.225**
	(.1065)	(.1159)	(.1111)	(.1328)	(.1275)	(.0953)	(.1139)
EFI	.050	-.111	-.020	-.206**	-.160*	.114*	-.109
	(.0735)	(.0800)	(.0766)	(.0917)	(.0882)	(.0658)	(.0787)
Dist_wealth	.114*	.209**	.057	.094	.169**	-.034	.016
	(.0674)	(.0733)	(.0705)	(.0844)	(.0808)	(.0603)	(.0722)
Prop_catholic	-.043	.099	.047	.068	.034	-.215**	.225**
	(.0971)	(.1056)	(.1011)	(.1209)	(.1163)	(.0871)	(.1038)
Prop_urban	.009	.035	.086	.157**	.052	-.052	.094
	(.0545)	(.0593)	(.0568)	(.0679)	(.0653)	(.0487)	(.0583)
Memb_farmer	.031	.177	.185	.588***	.374**	.013	.115
	(.1255)	(.1366)	(.1307)	(.1562)	(.1503)	(.1124)	(.1342)
Attent_protest	.053	-.050	-.187*	-.088	-.049	-.191**	-.160
	(.1009)	(.1098)	(.1051)	(.1257)	(.1209)	(.0904)	(.1079)
Join_rising	-.215	-.397**	-.271	-.254	-.392**	-.100	-.322*
	(.1622)	(.1765)	(.1689)	(.2020)	(.1943)	(.1453)	(.1735)
Memb_cbo	.068	-.131	-.162	-.282*	-.361**	.010	-.228*
	(.1213)	(.1320)	(.1264)	(.1511)	(.1453)	(.1085)	(.1297)
Memb_profess	-.207	-.327**	-.297*	-.397**	-.074	-.196	-.209
	(.1530)	(.1664)	(.1593)	(.1905)	(.1832)	(.1368)	(.1636)
Memb_religious	.448***	.443***	.230**	.240*	.002	.289**	.259**
	(.1074)	(.1168)	(.1121)	(.1344)	(.1288)	(.0961)	(.1157)
Prop_male	.653**	.308	-.530**	-.022	-.028	-.267	-.411*
	(.2205)	(.2399)	(.2296)	(.2744)	(.2641)	(.1972)	(.2357)
Dist_Road	-.072	.012	-.072	-.096	-.002	-.069	-.015
	(.0511)	(.0555)	(.0531)	(.0635)	(.0611)	(.0457)	(.0546)
Dist_recrea_faci	-.009	-.103**	-.081*	-.014	-.041	.009	-.054
	(.0462)	(.0503)	(.0481)	(.0576)	(.0554)	(.0413)	(.0494)
Constant	-1.566***	-1.351***	-.966***	-1.708***	-1.064***	-.551**	-1.551***
	(.2336)	(.2542)	(.2432)	(.2908)	(.2799)	(.2090)	(.2501)
Adj. R^2	.232	.189	.176	.161	.210	.245	.249
No. of cases	1028	1028	1027	1025	1027	1027	1026

All regressions are OLS with country fixed effects. Standard errors are in parentheses. * Significant at 90%, ** Significant at 95% and *** Significant at 99%.

Table 5: OLS estimation of the effect of trust in neighbors on school quality

	EXP	BSP	TABS	OWC	PFAC	ILP	PTE
Trust_NEIGH	.071*	.155***	.113**	.173***	.202***	.206***	.163***
	(.0396)	(.0429)	(.0411)	(.0496)	(.0470)	(.0349)	(.0421)
EFI	.052	-.111	-.021	-.204**	-.160*	.112*	-.110
	(.0735)	(.0798)	(.0764)	(.0917)	(.0876)	(.0649)	(.0783)
Dist_wealth	.113*	.227**	.073	.104	.195**	.004	.045
	(.0685)	(.0744)	(.0715)	(.0859)	(.0816)	(.0605)	(.0731)
Prop_urban	.014	.044	.092	.169**	.063	-.042	.102*
	(.0545)	(.0592)	(.0567)	(.0679)	(.0648)	(.0481)	(.0580)
Memb_farmer	.017	.156	.171	.558***	.350**	-.008	.098
	(.1254)	(.1362)	(.1303)	(.1562)	(.1492)	(.1108)	(.1334)
Attent_protest	.055	-.034	-.172	-.077	-.023	-.157*	-.135
	(.1013)	(.1099)	(.1052)	(.1262)	(.1205)	(.0895)	(.1077)
Attent_rising	-.206	-.401**	-.271	-.253	-.383**	-.106	-.330*
	(.1629)	(.1768)	(.1693)	(.2029)	(.1938)	(.1439)	(.1734)
Memb_cbo	.082	-.109	-.150	-.249*	-.340**	.027	-.212
	(.1211)	(.1314)	(.1259)	(.1509)	(.1441)	(.1069)	(.1289)
Memb_profes	-.217	-.363**	-.327**	-.425**	-.126	-.257*	-.256
	(.1536)	(.1667)	(.1596)	(.1913)	(.1827)	(.1355)	(.1635)
Memb_religious	.442***	.437***	.228**	.231*	-.003	.289**	.258**
	(.1074)	(.1165)	(.1118)	(.1344)	(.1279)	(.0947)	(.1151)
Prop_male	.668**	.279	-.543**	-.041	-.030	-.310	-.450*
	(.2239)	(.2431)	(.2327)	(.2788)	(.2664)	(.1976)	(.2382)
Dist_road	-.073	.012	-.069	-.100	.005	-.060	-.010
	(.0510)	(.0553)	(.0529)	(.0635)	(.0606)	(.0450)	(.0542)
Dist_Recrea_fa	-.018	-.116**	-.089*	-.033	-.055	-.002	-.063
	(.0462)	(.0501)	(.0480)	(.0576)	(.0550)	(.0407)	(.0491)
Constant	-1.670***	-1.539***	-1.130***	-1.892***	-1.389***	-.851***	-1.773***
	(.2453)	(.2662)	(.2548)	(.3056)	(.2919)	(.2165)	(.2614)
Adj. R^2	.232	.192	.178	.159	.220	.266	.255
No. of cases	1027	1027	1026	1024	1026	1026	1025

All regressions are OLS with country fixed effects. Standard errors are in parentheses. * Significant at 90%, ** Significant at 95% and *** Significant at 99%.

Figure 2: Historical territories of ethnic groups

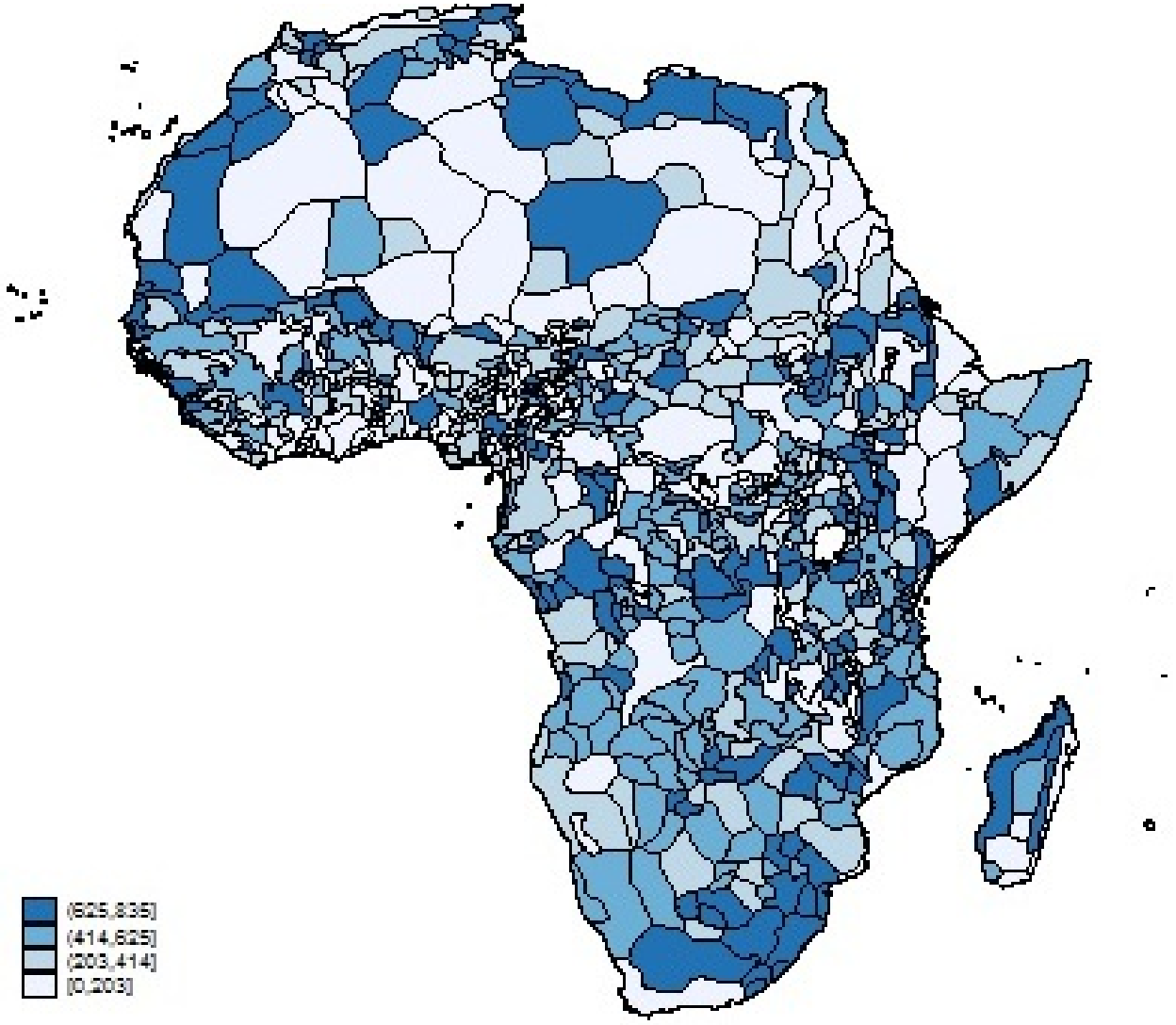

Table 6: First-stage regressions

	trust_GVS		trust_neigh		EFI	
Inherit_GVS Beta_coef	.6983***	(.0751)				
Inherit_NEIGH Beta_coef			.8018*** .563***	(.0757)		
Ln_init_pop_dens Beta_coef					-.0726*** -.375***	(.0113)
EFI	.0249	(.0238)	.0506	(.0593)		
Dist_wealth	-.0489**	(.0224)	-.1430**	(.0559)	.1711***	(.0350)
Prop_urban	-.0031	(.0181)	-.0572	(.0451)	.0927***	(.0280)
Memb_farmer	-.0442	(.0394)	.1416	(.0981)	-.0511	(.0614)
Attend_protest	-.0326	(.0332)	-.1270	(.0830)	-.0891*	(.0518)
Attend_rising	-.1141**	(.0536)	.0443	(.1332)	-.0850	(.0824)
Memb_cbo	.0328	(.0406)	-.1769*	(.1016)	.0128	(.0633)
Memb_profes	.0426	(.0499)	.3184**	(.1244)	.1067	(.0779)
Memb_religious	.0013	(.0342)	.0376	(.0852)	.0744	(.0530)
Prop_male	-.2669***	(.0790)	.0375	(.1974)	-.0370	(.1311)
Dist_Road	-.0301*	(.0166)	-.0406	(.0415)	-.0228	(.0256)
Dist_Recrea_f	-.0136	(.0149)	.0535	(.0371)	-.0559**	(.0229)
Constant	.3747***	(.0955)	.2567	(.2885)	.5972***	(.1457)
exclusion rest. test						
F-statistic	86.40***		112.08***		41.52***	
Adj. R^2	.368		.542		.360	
No. of cases	766		766		739	

.
All regressions are OLS with country fixed effects. Standard errors are in parentheses. * Significant at 90%, ** Significant at 95% and *** Significant at 99%.

Table 7: IV estimation of the effect of generalized trust on school quality

	EXP	BSP	TABS	OWC	PFAC	ILP	PTE
Trust_GVS	.415	1.182**	.038	.963**	.075	.622*	1.029**
	(.3645)	(.4076)	(.3806)	(.4585)	(.4350)	(.3269)	(.3965)
EFI	.056	-.103	.002	-.198**	-.142	.123*	-.087
	(.0735)	(.0822)	(.0761)	(.0919)	(.0878)	(.0663)	(.0799)
Constant	-1.914***	-2.166***	-1.221***	-2.482***	-1.506***	-1.070***	-2.216***
	(.2405)	(.2690)	(.2489)	(.2995)	(.2869)	(.2160)	(.2612)
Exogeneity test							
DWH (pvalue)	0.535	0.031	0.718	0.270	0.567	0.234	0.031
Adj. R^2	.221	.130	.163	.135	.201	.221	.204
No. obs	1011	1011	1010	1008	1010	1010	1009

.
This table shows IV estimation results. The regressions include country fixed effects. Standard errors are in parentheses. The district-level controls are median age, economic conditions, the proportion of members with formal education, the proportion of individuals living in an urban area, the proportion of men, the percentage of people who paid bribes in the districts, the proportions of Christian and Protestant, the proportion of membership in CBO and religious groups, the distribution of schools and health clinics in walking distance, and district roads, community buildings and recreational facilities. * Significant at 90%, ** Significant at 95% and *** Significant at 99%.

Table 8: IV estimation of the effect of trust in neighbors on school quality

	EXP	BSP	TABS	OWC	PFAC	ILP	PTE
Trust_NEIGH	.197**	.437***	.129	.315**	.283**	.393***	.388***
	(.0978)	(.1080)	(.1007)	(.1204)	(.1154)	(.0873)	(.1042)
EFI	.053	-.106	-.003	-.196**	-.152*	.115*	-.089
	(.0736)	(.0813)	(.0758)	(.0916)	(.0870)	(.0657)	(.0785)
Constant	-2.055***	-2.380***	-1.404***	-2.601***	-1.912***	-1.434***	-2.416***
	(.2464)	(.2720)	(.2531)	(.3059)	(.2910)	(.2199)	(.2626)
Exogeneity test							
DWH (pvalue)	0.170	0.007	0.945	0.203	0.548	0.021	0.020
Adj. R^2	.217	.148	.170	.139	.214	.234	.230
No. obs	1011	1011	1010	1008	1010	1010	1009

.
This table shows IV estimation results. The regressions include country fixed effects. The dependent variables refer to district school quality. Standard errors are in parentheses. The district-level controls are median age, economic conditions, the proportion of members with formal education, the proportion of individuals living in an urban area, the proportion of men, the percentage of people who paid bribes in the districts, the proportions of Christian and Protestant, the proportion of membership in CBO and religious groups, the distribution of schools and health clinics in walking distance, and district roads, community buildings and recreational facilities. * Significant at 90%, ** Significant at 95% and *** Significant at 99%.

Table 9: IV estimate of the effect of generalized trust with historic controls

	EXP	BSP	TABS	OWC	PFAC	ILP	PTE
Trust_GVS	-.229	.828*	-.287	.866	.105	.079	.635
	(.4498)	(.4573)	(.4381)	(.5268)	(.4858)	(.3950)	(.4580)
EFI	1.228**	.039	.312	-.036	-.419	.765**	.380
	(.3932)	(.3997)	(.3763)	(.4501)	(.4221)	(.3453)	(.3953)
Slave_exports	-.00**	-.001***	-.00*	-.00	-.000*	-.00*	-.00
	(.0001)	(.0002)	(.0001)	(.0002)	(.0002)	(.0001)	(.0001)
Total_missions	-117.89	76.92	122.6	-64.22	24.72	-26.189	168.606*
	(86.90)	(88.36)	(83.49)	(100.26)	(93.74)	(76.33)	(87.69)
Cities_1400_dum	.274**	.163*	.122	.034	.090	.298***	.071
	(.0933)	(.0949)	(.0891)	(.1071)	(.1006)	(.0820)	(.0942)
Dist_Saharan_l	.001	.000	.002	-.000	-.000	.001	-.000
	(.0010)	(.0011)	(.0010)	(.0012)	(.0011)	(.0009)	(.0010)
Dist_Saharan_n	-.001	-.000	-.001	.001	.000	-.001	.000
	(.0010)	(.0010)	(.0010)	(.0012)	(.0011)	(.0009)	(.0010)
Railway_contact	-.032	.090	.116	.198**	.152*	.039	.075
	(.0743)	(.0756)	(.0715)	(.0860)	(.0802)	(.0653)	(.0751)
Malaria_ecology	-.007	.003	.000	-.004	-.009	-.002	-.005
	(.0071)	(.0072)	(.0068)	(.0082)	(.0077)	(.0062)	(.0072)
Constant	-1.483**	-.951**	-.985**	-2.005***	-.803*	-.541	-1.975***
	(.4526)	(.4602)	(.4341)	(.5224)	(.4884)	(.3975)	(.4602)
Adj. R^2	.071	.214	.184	.186	.280	.184	.218
No. of cases	721	721	720	718	720	721	719

.
This table shows IV estimation results. The regressions include country fixed effects. The dependent variables refer to district school quality. Standard errors are in parentheses. The district-level controls are median age, economic conditions, the proportion of members with formal education, the proportion of individuals living in an urban area, the proportion of men, the percentage of people who paid bribes in the districts, the proportions of Christian and Protestant, the proportion of membership in CBO and religious groups, the distribution of schools and health clinics in walking distance, and district roads, community buildings and recreational facilities. * Significant at 90%, ** Significant at 95% and *** Significant at 99%.

Table 10: IV estimate of the effect of trust in neighbors with historic controls

	EXP	BSP	TABS	OWC	PFAC	ILP	PTE
Trust_NEIGH	.017	.258*	.077	.376**	.307**	.267**	.415**
	(.1335)	(.1358)	(.1272)	(.1510)	(.1442)	(.1166)	(.1352)
EFI	1.211**	.075	.285	-.007	-.438	.747**	.388
	(.3814)	(.3880)	(.3625)	(.4392)	(.4101)	(.3332)	(.3838)
Slave_exports	-.000**	-.000**	-.000	-.000	-.000	-.000	-.000
	(.0002)	(.0002)	(.0002)	(.0002)	(.0002)	(.0001)	(.0002)
Total_missions	-108.971	82.956	141.318*	-43.633	58.369	3.455	199.106**
	(86.2547)	(87.7537)	(82.2186)	(100.0850)	(93.1641)	(75.3432)	(87.1605)
Cities_1400_dum	.273**	.119	.114	-.028	.046	.260**	.007
	(.0950)	(.0967)	(.0903)	(.1098)	(.1026)	(.0830)	(.0960)
Dist_Saharan_l	.001	.000	.002	-.000	-.000	.001	-.000
	(.0010)	(.0010)	(.0010)	(.0012)	(.0011)	(.0009)	(.0010)
Dist_Saharan_n	-.001	-.000	-.001	.000	.000	-.001	.000
	(.0010)	(.0010)	(.0009)	(.0012)	(.0011)	(.0009)	(.0010)
Railway_contact	-.018	.060	.138**	.171**	.165**	.052	.066
	(.0680)	(.0692)	(.0647)	(.0787)	(.0734)	(.0594)	(.0687)
Malaria_ecology	-.007	.002	.001	-.004	-.007	-.001	-.004
	(.0069)	(.0070)	(.0066)	(.0080)	(.0075)	(.0061)	(.0070)
Constant	-1.659**	-1.084**	-1.339**	-2.384***	-1.480**	-1.137**	-2.603***
	(.5081)	(.5169)	(.4831)	(.5778)	(.5481)	(.4438)	(.5156)
Adj. R^2	.080	.220	.201	.183	.285	.201	.224
No. of cases	721	721	720	718	720	721	719

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This table shows IV estimation results. The regressions include country fixed effects. The dependent variables refer to district school quality. Standard errors are in parentheses. The district-level controls are median age, economic conditions, the proportion of members with formal education, the proportion of individuals living in an urban area, the proportion of men, the percentage of people who paid bribes in the districts, the proportions of Christian and Protestant, the proportion of membership in CBO and religious groups, the distribution of schools and health clinics in walking distance, and district roads, community buildings and recreational facilities. * Significant at 90%, ** Significant at 95% and *** Significant at 99%.

Table 11: IV PASEC 1

	Toilet	office	Store	Lib	Drugstore	Ground	Closing
Trust_NEIGH	2.250***	1.482**	1.046**	1.607	3.446**	.715*	-.028
	(3.812)	(2.995)	(2.116)	(1.479)	(2.837)	(1.873)	(-.076)
EFI	-5.204***	-1.024	-1.856	-1.361	-4.196**	.109	-1.492
	(-3.479)	(-.891)	(-1.551)	(-.671)	(-2.004)	(.117)	(-1.547)
Constant	-9.898*	-8.029*	-7.276	(.) 5.798	-6.976	1.489	-3.258
Adj. R^2							
No. of cases	233	233	233	142	233	233	233
Trust_GVS	4.541*	.435	-.312	2.536	1.617	3.766*	1.081
	(1.870)	(.198)	(-.132)	(.587)	(.477)	(1.669)	(.560)
EFI	-1.951*	.607	-.463	-.791	-2.149	1.245	-1.398
	(-1.740)	(.591)	(-.473)	(-.381)	(-1.352)	(1.239)	(-1.523)
	(-1.738)	(-1.863)	(-1.612)	(.441)	(-.673)	(.394)	(-.945)

Table 12: IV PASEC 2

	nbequipecol	parentfacil	Freqreunautre	implication	stricks	refuseco
Trust_NEIGH	1.797**	1.305**	.445	-.380	-.305*	-.291*
	(2.834)	(2.410)	(1.444)	(-1.428)	(-1.703)	(-1.728)
EFI	-7.062***	-1.921	-.365	-.347	-.754	.059
	(-4.112)	(-1.341)	(-.436)	(-.477)	(-1.555)	(.130)
Constant	-2.817	-8.926**	.395	1.391	3.282**	.698
	(-.486)	(-2.016)	(.140)	(.569)	(2.008)	(.453)
Adj. R^2	.006		-.061	.018	.546	.116
No. of cases	233	233	233	232	233	233
Trust_GVS	2.366	3.704	-.037	.825	.564	-1.396
	(.827)	(1.390)	(-.024)	(.580)	(.569)	(-1.499)
EFI	-3.776**	.095	.242	-.572	-.997**	-.496
	(-2.925)	(.081)	(.349)	(-.889)	(-2.229)	(-1.180)

Table 13: IV Kenya

	pupil/teacher	pupil/class	pupil/toilet	boystoi	girlsto	teacherstoilets
Trust_NEIGH	-0.324	-2.319**	-8.321***	1.195***	1.253***	0.102
	(-0.303)	(-2.700)	(-6.589)	(5.198)	(5.188)	(0.890)
EFI	21.220***	18.918***	5.738	-0.293	-1.167	0.103
	(4.418)	(4.903)	(1.012)	(-.284)	(-1.076)	(0.200)
Constant	-17.623	-41.317**	18.369	-7.776*	-2.406	-2.266
	(-0.841)	(-2.454)	(0.742)	(-1.726)	(-0.508)	(-1.007)
Adj. R^2	.009	.013	.024	.040	.046	.031
No. of cases	4696	4696	4696	4696	4696	4696
Trust_GVS	-29.177***	-18.253**	8.321	-4.361**	-2.447	-1.445
	(-3.531)	(-2.610)	(.825)	(-2.392)	(-1.263)	(-1.468)
EFI	15.730***	11.725**	-7.263	1.496	.834	.323
	(3.636)	(3.202)	(-1.375)	(1.567)	(0.823)	(0.627)
Constant	-2.495	-13.865	67.896**	-10.284**	-5.708	-1.800
	(-.117)	(-.770)	(2.616)	(-2.192)	(-1.145)	(-.711)
Adj. R^2	.015	.033	.014	.025	.038	.030
No. of cases	4696	4696	4696	4696	4696	4696