The Legacy of Historical Conflict Evidence from Africa*

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Abstract

There is a great deal of interest in the causes and consequences of conflict in Africa, one of the poorest areas of the world where only modest economic progress has been made. This paper asks whether post-colonial conflict is, at least in part, a legacy of historical conflict by examining the empirical relationship between conflict in Africa since independence with recorded conflicts in the period 1400 to1700. We find evidence of a legacy of historical conflicts using between-country and within-country evidence. The latter is found by dividing the continent into 120km_120km grids and measuring the distance from 91 documented historical conflicts. We also provide evidence that historical conflict is correlated with lower levels of trust, a stronger sense of ethnic identity and a weaker sense of national identity.

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"Acts of violence, oppression, revolt, civil war, and so forth, chequer the history of every African state." (Fortes and Evans-Pritchard (1940, page 16))

1 Introduction

Understanding the economic and political determinants of civil war has become a major concern among researchers who are anxious to understand why some countries are prone to economically damaging conflicts.[1] However, the relative importance of different factors in generating conflict remains open to debate. Perhaps the most robust observation is that conflicts are prevalent in poor and weakly institutionalized countries. Many factors which make a country susceptible to conflict are, however, slow moving and the two-way causation between conflict and development creates a Gordian knot which is hard to unpick.

Given its weak economic performance in the post-independence period, determinants of conflict in Africa are of particular interest.[2] Moreover, conflict prevalence in Africa is comparatively high; the Armed Conflict Database (ACD) measure of civil conflict based on a threshold of 1000 battle deaths suggests that around 8.5% of country years in Africa since 1950 are conflict years compared to around 5% of country-years in the rest of the world over the same period.

But Africa's history does not begin with colonialism and its legacy. The quote at the start of this paper was an assessment made in 1940 by two leading anthropologists venturing into a comparative analysis of African political organization. As emphasized in Nunn (2008) among many others, slavery and its aftermath was a cornerstone of organized political violence in Africa. But standard efforts to secure and maintain territory and people also provided incentives for conflict, particularly among and within Africa's historical kingdoms. Historical research on Africa between 1400 and 1700, summarized in Brecke (1999) and based on written sources, confirms that conflict between its peoples is far from new.

Prior to being carved up by colonial powers, Africa was divided into a

[1] See Blattman and Miguel (2009) for a comprehensive review.

[2] See Acemoglu and Robinson (2010), Bates (2008a,b), Collier and Gunning (1999) and Easterly and Levine (1997) for discussions of African economic and political development.

patchwork of tribal structures and proto-states (historical kingdoms) with heterogeneous political systems. Some areas were under forms of territorial control which resembled states. However, other areas were closer to being stateless, some with acephalous forms of political organization. The mantra of colonialism in Africa was "indirect rule", an attempt to control the hinterland by coopting traditional power structures into colonial administration (see, for example, Lugard, 1922). This ensured a degree of continuity between the pre-colonial and post-colonial eras. That said, some traditional power structures were weakened by colonialism while others were strengthened.[3] The biggest impact on political geography was in the form of well-defined borders, initially between the colonial powers and latterly between newly created independent states.

This paper investigates to what extent the post-colonial period saw patterns of conflict that reflected the pattern observed in pre-colonial times. We use data from Brecke (1999) to locate 91 conflicts in Africa for the period 1400-1700. We use this period since almost all conflicts after 1700 had some European involvement. We find robust evidence that patterns of conflict after countries in Africa gained independence are correlated with having had more historical conflicts within their borders. We also find some evidence supporting the view that the mechanism at work may be a diminution in trust, a stronger sense of ethnic identity and a weaker sense of national identity. All three of these are likely to make it more difficult to establish cohesive states which resolve conflicts of interest in a peaceful manner. Finally, we use data at the sub-national level on conflicts between 1997 and 2010 to show that being closer to an historical conflict is positively correlated with more recent conflict. The result is robust to controlling for a wide variety of other historical and geographical features of conflict locations.

This paper belongs to an emerging body of research which traces the historical roots of contemporary economic and political outcomes.[4] Acemoglu, Johnson and Robinson (2001) is the landmark contribution which brought to researchers' attention the correlation between historical settler mortality and contemporary income levels and institutions around the world. In similar vein, Banerjee and Iyer (2005) found historical legacies of land tenure systems in India. This paper is particularly related to a number of recent studies which have looked at persistent effects of African history. A key

[3] See Herbst (2000, Chapter 2) for discussion.

[4] See Nunn (2009) for an overview of such findings.

contribution is Nunn (2008) which finds a link between patterns of contemporary development in Africa and the location of slave extraction. Nunn, and Wantchekon (2011) trace this to modern day attitudes towards trust in the Afro-barometer survey. And Nunn (2010) finds a correlation between the location of Christian missions and modern day outcomes. Exploiting historical data on political geography, Michalopoulos and Papaioannou (2011) examine the consequences of how Africa was partitioned between colonial powers and find that partitioned ethnic groups suffered greater conflict compared to those which have not been impacted by the border partition. Gennaioli and Rainer (2007) find a link between the nature of the pre-colonial regime and modern day provision of public goods. They emphasize, as we will, the importance of pre-colonial continuity in the form of political organization in affecting the contemporary performance of African states.

The remainder of the paper is organized as follows. In the next section, we discuss some background issues including our data and measurement. We then discuss between-country evidence in section 3 and within-country (grid level) evidence in section 4. Section 5 concludes.

2 Background

In this section, we first discuss some of the background literature and explanations of conflict. Second, we will also introduce our historical conflict data and its sources. And third, we provide an overview of African political organization in the pre-colonial and colonial periods.

2.1 Explaining Political Violence

The standard economic approach to political violence looks for factors that explain the costs and benefits of using violence to achieve specific ends, particular in the form of either remaining in power or mounting an insurgency.[5] On this basis, four main hypotheses are frequently proposed to explain why Africa is conflict prone: (i) natural resource dependence, (ii) weak and poorly functioning political institutions, (ii) ethnic fragmentation and polarization and (ii) endemic poverty. We briefly review these four strands of the literature.

[5] See Fearon (2008) for an excellent overview of the issues and Bates (2008a) for an interpretation of the prevalence of conflict in Africa and its origins.

Benefits from using violence are frequently couched in terms of capturing resources either directly, as in the capture of territory, or through winning political power. Both of these views motivate exploring the link between violence and natural resource rents as discussed in Ross (2004). Early empirical contributions to the literature on conflict such as Collier and Hoeffler (2004) and Fearon and Laitin (2003) find evidence to support this channel.

Since the use of violence is generally thought of as a last resort, civil wars are usually rationalized in terms of commitment and/or information problems. The extent of commitment power depends on the institutional structures in place. Besley and Persson (2011) model this as a constraint on the way that the state can be used for private ends which they refer to as "cohesive political institutions". This could be the product of formal veto threats enhanced by Parliamentary democracy or by greater trust between groups which foster more cooperative policy outcomes. This places an emphasis on the role of institutions and/or trust in affecting the likelihood of conflict. The way that citizens identify with the common good versus sectional interests could also be important in shaping how institutions function to mitigate conflict risk.

In Africa, much emphasis is placed on ethnicity as the salient cleavage which leads to polarization and conflict. In this vein, Montalvo and Reynal-Querol (2005a) find evidence that ethnic polarization is positively correlated with conflict. This is consistent with the theoretical approaches of Esteban and Ray (1999), Montalvo and Reynal-Querol (2005b) and Besley and Persson (2011b, Chapter 4).

Endemic poverty reduces the opportunity cost of fighting. When there is unemployment and/or low wages it should theoretically make it easier for each side in a conflict to recruit combatants. This ties to the robust finding in the existing empirical literature that there is a negative correlation between income per capita and the prevalence of conflict; see the discussion in Blattman and Miguel (2009) who also address the issue of reverse causation.

Most of the existing quantitative research which looks at the link between violence and ethnicity treats the latter as given. However, the question of how individuals identify with groups and are motivated to commit violent acts in the name of furthering that group interest is worthy of explanation and is arguably fluid over time. Recent research has begun to explore the logic of constructivist views of ethnic identity. Ahlerup and Olsson (2011) offer an evolutionary perspective on these issues. Michalopoulos (2011) explains ethnic diversity empirically in terms of variation in regional land quality and

elevation. Caselli and Coleman (2011) develop a model of endogenous ethnic identities and conflict. These contributions fit into a nascent interest in the economics of identify pioneered by Akerlof and Kranton (2010). Arguably, the trend over time in many countries has been a move away from identities based on smaller groups such as clans, tribes or ethnicities towards identities forged around nation states. An important issue is to understand how symbolic attachment and ritual can build and sustain attachment to nations or ethnicities (see, for example, Hobsbawm and Ranger, 1983). The role of past conflicts and the way that history portrays them can play a key role in narratives which nurture particular identities.[6]

This paper adds to a burgeoning literature that looks at causes and consequences of conflict in Africa at the sub-national level. One of the earliest contributions in this mode is Deininger (2003) who finds that the distance from infrastructure, asset inequality, cash-cropping and lower levels of education increase the likelihood of civil conflict in Uganda. Akresh and de Walque (2010) examine the magnitude of the Rwandan genocide on school attendance. Rohner et al (2011) study the effect of conflict in Uganda in the period 2002-5 on trust and expressions of ethnic and national identity and Ksoll et al (2010) study the disruptive effect of political violence in Kenya on the flower industry. Focusing on the causes of conflict rather than its consequences, Michalopoulos and Papaioannou (2011) show how Africa's partition by colonial powers affects contemporary patterns of conflict.[7]

Such sub-national studies are attractive since they are able to control for common country-level factors. More generally, they emphasize the need to look carefully at within country heterogeneity and remind us that civil conflict and political violence is often geographically specific. Such is the case, for example, with episodes of political violence in advanced countries such as with terrorism in the Basque country or Northern Ireland. Patterns of violence are even quite specific and episodic in weakly institutionalized polities where violence is rife such as Colombia (see Dube and Vargas (2011)).

[6]For an insightful discussion and critical review of different strands of thinking in this area see Fearon and Laitin (2000).

[7]Looking at evidence from Medieval European Voigtlaender and Voth (2011) show that violence towards Jews shows strong historical persistence.

2.2 Data and Measurement

We use data from the historical conflict catalogue of Brecke (1999).[8] The catalogue begins in 1400 and we will use all conflicts that he documents up to 1700; almost all of the wars in Africa after this date have some involvement by European powers. The core concept of conflict used in Brecke (1999) is taken from Cioffi-Revilla (1996) whom he cites as defining "(a) war (a war event) is an occurrence of purposive and lethal violence among two or more social groups pursuing conflicting political goals that result in fatalities, with at least one belligerent group organized under the command of authoritative leadership". Brecke (1999) uses a wide variety of published historical sources to document such conflicts.[9]

The aim of the published data base is to cover the universe of documented violent conflicts at any location in the world since 1400 in which 32 or more persons have died due to the conflict.[10] He treats multi-year conflicts as by consecutive years in which that threshold of 32 deaths is surpassed. He follows Luard (1987) in using the 1400 cut off since it falls between major dates for the Chinese (1366) and European and American (1492) populations, and demarcates a point before which the quality and extent of data about many parts of the world falls precipitously. Even then, it is possible that there are conflicts which have not been documented. However, conflicts that are likely to have a modern legacy are precisely those that are important enough to have been documented and hence passed into the historical record.[11]

For each violent conflict listed for Africa between 1400 and 1700 we have identified the modern country in which it took place as well as the specific geographical location. Where possible, we have cross-checked each data point by reading the history of each war. We focus on the data in the period before 1700 since we are interested in conflicts which predate major European interest in colonizing Africa.

For the between-country analysis, the main variable that we use is the

[8] These data are used in Iyigun (2008).

[9] See this reference for an exhaustive account of the many and varied published and unpublished historical sources that he uses.

[10] This is based on the mathematician Lewis Fry Richardson's famous base 10 log scale for violent conflicts – see Richardson (1960). The criterion of 32 deaths corresponds to a Richardson score of 1.5.

[11] There is a salutory example is the controversy begun by Cobbing (1988) over the historiography of the Mfecane and whether it was used to justify colonial oppression. We are grateful to Nathan Nunn for bringing this to our attention.

prevalence of violent conflict in a country between 1400 and 1700, specifically the number of years between 1400 and 1700 in which some area within the country is coded as having been in what would now be regarded as an internal conflict. This variable captures the intensity of pre-colonial conflict and has a mean of 5.13 with a range 0 to 91 and a standard deviation of 15.17. As a blunter measure, we also construct a dummy variable that is equal to one if the country has had *any* violent conflict between 1400 and 1700, and zero otherwise.

When we study conflict at the sub-national level, we take the 120km×120km grids from the Yale University Geographically Base Economic Dataset (G-econ). This gives 3546 grid cells spread across 49 countries in Africa.[12] For each grid cell in the data, we construct a dummy variable which is equal to one if there has been a conflict in that grid cell in the period 1400-1700 and zero otherwise. For the purposes of this exercise, we identify not only in which modern country this occurred, but also the precise geographical location (latitude and longitude) of the conflict using historical sources.[13] We then GIS code each conflict. Figure 1 plots the 91 conflicts between 1400 and 1700 that we have located precisely and which we will exploit in this analysis.[14]

We then match these data with information on the location of recent conflicts from the Armed Conflict and Location Event Data (ACLED).[15] These data give a precise GIS code to episodes of conflict in African countries in the years 1997 to 2010.[16] The dataset contains information on the date and location of conflict events, the nature of the event, and the groups involved.

The G-econ data provide a number of additional variables which we use as controls. We augment these with data that we have extracted from historical maps which we detail below.

[12] We use G-econ 3.1; see http://gecon.yale.edu/ for details on the grid construction and available data. The dataset codifies grids that straddle country borders as separate observations. Such grids are therefore smaller than 120km×120km in size.

[13] We use, in particular, Ade Ajayi and Crowder (1985) and Freeman-Grenville (1973).

[14] There fewer than 91 dots in the map since a few conflicts take place at the same locations.

[15] See http://www.acleddata.com/

[16] Such precise data is not available for the whole post-colonial period.

2.3 Political Development in Africa

Prior to the scramble for Africa in the late nineteenth century culminating in the Berlin conference of 1884, Africa was characterized by a patch work of heterogeneous political systems. Some of these were organized authority structures of long-standing including a number of historical kingdoms. Other areas were governed in a relatively stateless fashion. Just as in Medieval Europe, the conflicts that we study were in part a reflection of the process of indigenous state building. This was true, for example, of the Bunyoro-Buganda conflict in modern day Uganda in 1600 or the Songhai-Gourma conflict in modern day Mali in 1488, both of which appear in our data. Civil wars within kingdoms were common too (see, for example, Ben-Amos Girshick and Thornton, 2001). Of course, conflicts in organized political jurisdictions are also more likely to form part of the historical record. Anthropologists who have studied African political history draw a similar conclusion on the importance of territorial war in Africa. For example, Radcliffe-Brown (1940) notes that:

> "Amongst the various different kinds of warfare that can be distinguished, what we may call wars of conquest have been important in Africa, as they have been in Europe. When such war is successful it establishes one people as conquerors over another who are thus incorporated into a larger political society, sometimes in an inferior position as a subject people." (page xix).

This process of territorial consolidation lead, at various points in history, to the emergence of a variety of long-lived African kingdoms whose geographical reach is displayed in the hatched areas in Figure 1.[17] The map identifies 23 historical kingdoms in Africa.[18] Herbst (2000, Chapter 2) argues that these kingdoms found it difficult to consolidate power over wide areas because of the ease with which populations could migrate. Thus, the limits and territorial boundaries of such kingdoms were somewhat porous. Examining the locations of the dots which represent conflict locations, it is apparent that there is link between conflict and belonging to the territory of an historical

[17] This is based on maps in O'Brien (1999).

[18] These are Zulu, Merina, Monomotapa, Lozi, Malawi, Kilwa, Lunda, Congo, Luba, Rwanda, Buganda, Ashanti, Yoruba, Ethiopia, Axum, Wolof, Ghana, Mali, Kush, Songhay, Kanem, Classical Egypt and Carthage. Some of the kingdoms of West Africa were overlapping geographically but not temporally.

kingdom. This is confirmed statistically; conflicts are twice as likely to reside in 120km×120km grid cells which belong to historic kingdoms compared to those which do not.

As European powers somewhat reluctantly extended their rule into the African hinterland, significant use was made of pre-colonial power structures in efforts at indirect rule. But this process showed little respect for historic territorial boundaries. This too is apparent in Figure 1 where we have shaded countries according to colonial control by World War I which is largely a reflection of the aftermath of the 1884 Berlin conference. The map confirms that patterns of colonial control did not seem to respect the boundaries of historical kingdoms.

One of the most significant organizational changes in Africa from the colonial period onwards was the creation and maintenance of political jurisdictions with clearly defined boundaries throughout the continent. As discussed in Herbst (2000), colonialism also had a significant effect on the way that the proto-state structures that preceded it operated. Much of this actually weakened existing authority structures that had been created in pre-colonial times.[19] And this may help to explain why the positive role of historical conflicts in state building identified by Hintze (1911) and Tilly (1990) to be sources of European state strength are much less important in an African context.

The end of colonialism ushered in an era of mostly contrived nation state boundaries which therefore bore little relation to indigenous political structures, largely as a reflection of the arbitrariness of the boundaries created by the colonial division of Africa. On independence, most countries launched efforts to build nation states inside these well-defined boundaries broadcasting their intentions through national symbols such as flags, currencies and citizenship regulations. The great challenge, which has so often not been met, is to move beyond symbolism to create functional polities within state borders that can deliver public goods and security to their citizens. Referring to the salience of historical conflict in this process, Bates (2008a) remarks that

> "past conquests by monarchs and warriors created territorial disputes that reverberate to this day and so shape contemporary

[19] In fact, there is heterogeneity in the impact depending on initial conditions. It is likely that in the case where societies were initially stateless, colonialism strengethened the state (see, for example, Fortes and Evans-Pritchard, 1940).

politics." (page 85)

This, he argues, along with migration to secure agricultural land sow the seeds of modern day political tensions behind much contemporary conflict.

3 Between-country Evidence

We are interested in whether historical conflict is correlated with the prevalence of civil conflict in a country during its post-independence history.

Our basic specification is as follows:

$$y_j = \alpha + \beta c_j + \gamma x_j + \varepsilon_j$$

where y_j is the outcome of interest in country j, α is the intercept, c_j is the historical conflict variable and x_j are other controls. In every case, we include dummy variables for each colonizing power. The controls that we use are very similar to Nunn (2008): latitude, longitude, minimum rainfall, maximum humidity, low temperature, the log of the length of the coastline, a dummy for whether a country is an island, regional variables, measures of natural resource abundance,[20] legal origin, ethnic polarization,[21] proportion of the population that is Muslim, and the ruggedness of the terrain. We will also control for GDP.[22]

The main cross-country results are in Table 1. The outcome variable in columns (1) through (4) is the incidence of civil war between independence and 2007 measured using the Armed Conflict Database (ACD). Column

[20] We use the log of diamond, gold and oil production per head of population from Nunn (2008).

[21] Unlike Nunn (2008), we use ethnic polarization rather than ethnic fractionalization. This is because Montalvo and Reynal-Querol (2005a) have found that ethnic polarization rather than fractionalization is correlated with civil conflict. Like them, we use the index first introduced for religious polarization in Reynal-Querol (2002). For N ethnic groups with population share π_i, it is:

$$1 - \sum_{i=1}^{N} \left(\frac{0.5 - \pi_i}{0.5} \right)^2 \pi_i$$

[22] It is of course debatable whether GDP is best thought of as a control or an outcome here. However, as shall see, whether we include it or not in regressions explaining conflict does not affect our conclusions linking historical and contemporary conflicts.

(1) controls only for colonial dummies and finds a positive and significant correlation between the intensity of historical conflicts within a country and more recent experience. For each additional year of an historical conflict, the country suffers an extra 0.15 years (or about 2 months) of additional conflict in the post-independence period. Put another way, comparing a country with no history of conflict in the period 1400 to 1700 to one with 60 years of conflict over this period, then our point estimate predicts an additional 10 years of post-independence conflict.

In column (2), we add in our additional controls and find that the coefficient of interest on historical conflict is marginally smaller in size compared to column (1) and remains significant.[23] Column (3) adds the slave trade variable from Nunn (2008). This variable has a positive and significant coefficient suggesting that a greater prevalence of historical slave extraction does make a country more prone to conflict. At the same time, the coefficient on the historical conflict variable remains significant and is of similar size to what we found in column (2). Given the interplay between conflict and poverty, it is important to check that the result is robust to including GDP. This we do in column (4) where we also include regional dummies as controls.[24] GDP turns out not to be significant. However, the historical conflict variable does remain positive an significant.[25]

The remaining four columns in Table 1 are motivated by the study of political violence in Besley and Persson (2011a). They argue that, from a theoretical point of view, government repression and conflict are two sides of a coin and should be studied jointly. We follow them and measure repression using Banks' (2005) measure of the extent purges – i.e., the removal, by jailing or assassination, of opponents considered undesirable by the incumbent government. Column (5) shows that countries with a prior history of conflict are more likely to suffer from this form of political violence too (column 5). And this result is also robust to controlling for GDP (column 6). Finally in columns (7) and (8) we run some ordered logits where the ordered variable takes on the value zero when there is no violence, a value of one if there is repression and a value of two if there is conflict. The results also show that

[23] The core finding is robust to using ethnic fractionalization rather than ethnic polarization as a control.

[24] These are dummies for five regions as in Nunn (2008): northern, western, central, eastern and southern.

[25] Although significant in global samples of countries, GDP is typically not significant in explaining civil conflict in a sub-sample of African countries.

there is a significantly higher prevalence of political violence when a country has a history of conflict.

Taken together these results paint a pretty robust picture linking the legacy of conflict in a country in the period 1400-1700 with more contemporary experience.[26] Moreover, this effect appears to survive inclusion of a wide variety of controls including GDP raising the question of the mechanism through which the effect is operating.

Table 2 begins our exploration of mechanisms. The theoretical literature on conflict identifies low income as a risk factor and also emphasizes how conflict may reduce incentives to invest and can destroy assets.[27] Columns (1) through (3) in Table 2 explore whether historical conflict is correlated with low income in the post-colonial period. In all three columns, there is a negative correlation between the historical conflict variable and income per capita but it is only significant (at a 10% level) in column 3. The magnitude of the point estimate suggests that a country with a history of pre-colonial conflict at around its mean will have a 10% lower level of per capita GDP in 2000, compare with a country that has had no historical conflicts between 1400 and 1700.[28] The coefficient is similar in size and significance when other controls are included, such as the slave extraction variable of Nunn (2008). This provides some weak evidence that there may be a channel through economic effects but it is quite possible that this is simply a reflection of the fact that the higher prevalence of post-colonial conflict identified in Table 1 is also having a negative effect on the economy rather than via a direct effect from historical conflict.

In columns (4) and (5) of Table 2, we look to see whether historical conflict is correlated with two popular contemporary measures of the quality of the institutional environment: expropriation risk and the strength of checks and balances. In column (4), the dependent variable is the ICRG measure of expropriation risk which Acemoglu, Johnson and Robinson (2001) argue is the channel through which settler mortality affects modern day per capita income. We find no significant correlation between this variable at the

[26] The results are also robust to including the country-level pre-colonial centralization variable of Gennaioli and Rainer (2007).

[27] For evidence on the negative impact on economic activity, see for example, Abadie and Gardeazabal (2003), Besley and Mueller (2010), Blomberg and Hess (2002), Collier (1999), Goldin and Lewis (1975) and Zussman, Zussman and Orregaard Nielsen (2008).

[28] The mean of the left hand side variable is 5 years so the effect is calculated as $5\times(-0.02\times100)$).

country level and historical conflict. Column (5) chooses the extent of checks and balances from the PolityIV data which Besley and Persson (2011) argue is a plausible way of capturing institutional cohesiveness. Here, we use a cut-off value of five and above on the executive constraints scale of one through seven. Again, we find no significant correlation between this variable and historical conflict at the country level. While the measures of institutions here are quite crude, these findings are not particularly encouraging to the view that historical conflict creates a problematic institutional legacy.

Table 3 uses the Afrobarometer survey to look at whether there is an historical legacy of conflict in shaping contemporary attitudes. This could well be the case if the way that conflicts are reported across generations affects feelings towards particular groups due to historical rivalries. It may also, for the same reason, weaken attachments to nation states whose boundaries were largely created as a legacy of colonialism. Such things are likely to matter in affecting the way that institutional arrangements for peaceful resolution of conflict operate. Given any formal rules of the game, beliefs and the way that they affect a willingness to trust or cooperate may assist in generating a negotiated outcome rather than resorting to violence.

The Afrobarometer is a household level survey which explores a host of attitudinal questions among the citizens of African countries. The data that we use here are those collected for 2008 (round 3 of the survey). These surveys are available for 18 countries: Benin, Botswana, Cape Verde, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, Zimbabwe. And there is a total of 25397 respondents. Each national survey tries to be representative of the population and interviews are conducted in local languages.

We look first at inter-group trust where the survey asks how much the respondent trusts people from other groups. Answers are given on a four point scale where zero is "not at all", one is "just a little", two is "somewhat" and three is "a lot". We use this categorical variable as our dependent variable. The result is shown in column (1) of Table 3 where there is a negative correlation between trust and historical conflict. The specification that we use controls for a wide range of personal characteristics which are documented in the notes to the Table. We also control for colonial and regional dummies as well as GDP per capita at the country level. The standard errors are clustered by country.[29]

[29]The results are robust to using an ordered logit specification. Similar results are

In columns (2) and (3), we look at a different variable from the Afrobarometer which reports self-ascribed identity. We create two dummy variables from the survey: the first is equal to one if an individual reports only having feelings about their ethnic identity compared to all other feelings of identity and a second dummy variable which takes the value one if an individual expresses only a sense of national identity.[30] The results of regressions using these dummies as dependent variables are reported in Table 3. Column (2) shows that there is a positive and significant correlation between having only a sense of ethnic identity and the extent of historical conflict within a country. The opposite is found for a sense of national identity in column (3). Once again, we control for a wide variety of personal characteristics, colonial and region dummies and GDP per capita. These results are consistent with the idea that ethnic and national identities are in part constructed by salient historical events.

Taken together, the results in columns (1) to (3) in Table 3 give credence to the view that memories of the documented historical conflicts that we use here reduce trust between groups as well as affecting citizens' sense of identity. That said, it is possible that is mostly a reflection of contemporary rather than historical conflict, especially given that we have already shown that such conflicts are positively correlated. To gain some reassurance that the effect is due to documented historical conflicts, columns (4), (5) and (6) repeat the specifications in columns (1) through (3) while including the left hand side variable from Table 1 (the prevalence of post-colonial civil conflict) as a right hand side variable in explaining trust and identity. The historical conflict variables remain significant and of similar magnitude while contemporary conflict is not significant. This suggests that it is the historical conflict variable which matters in explaining these attitudes. This reinforces the idea that historical conflicts are still salient. Given that we are basing our results on conflicts recorded in Brecke (1999), there is likely to be a recall bias towards conflicts that are documented well-enough to become part of his data base. However, it is precisely these documented conflicts which are likely to be sufficiently salient to affect modern day beliefs.

Summing up, the results do provide some encouragement to the view that historical conflict in the period 1400-1700 has a legacy. However, the effects

found for trust in the local council, neighbors, family and within-group.

[30] The underlying variable takes on five possible values: ethnic identity only, ethnic identity more than national identity, national and ethnic identities equally, national identity more than ethnic identity and national identity only.

uncovered so far have been identified from cross-country variation. This raises the usual concern that historical conflict is correlated with some other (omitted) country level variable. This can be addressed by operating at a lower level of aggregation. Hence, we now turn to evidence at a sub-national level.

4 Within-country evidence

In view of the limitations of the between-country evidence, in particular concerns about omitted variables at the country level, we now turn to looking at evidence which exploits the more precise location of recent conflicts along with the exact location of the historical conflicts from Brecke (1999). This will permit to us to look at the historical conflict legacy using only within-country variation and hence include a country fixed effect which should capture common factors such as political institutions.

For this we use the 120km×120km grid cells that we described in section 2.2 above. Specifically, we construct a measure of how far each grid cell is from a documented conflict in the period 1400-1700.[31]

[31] To construct this distance, assume a spherical Earth with radius R. Then denote the locations of the two points (1 and 2) in spherical coordinates (longitude and latitude) as: longitude1, latitude1 and longitude2, latitude2. Then the formula that we use to calculate distances between those two points is the haversine formula (from spherical trigonometry). Specifically, for any pair of coordinates, define:

$$\begin{aligned} dlon &= longitude2 - longitude1 \\ &\text{and} \\ dlat &= latitude2 - latitude1 \end{aligned}$$

Then let

$$\alpha = \sin^2(dlat/2) + \cos(latitude1) * \cos(latitude2) * \sin^2(dlon/2)$$

The great circle distance that we use to measure distance is:

$$d = 2R \arcsin(\min(1, \sqrt{\alpha}))$$

where $R = 6378$ km is the equatorial radius of the earth. Given that we are working with grid cells, we actually construct a distance measure based on the difference between the coordinates at the southwest corner of a grid-cell and the exact latitude and longitude of each historical conflicts.

Having measured conflict at the grid level and the distance to historical conflicts, we proceed as follows. Let $y_{j\ell} \in \{0, 1\}$ denote whether grid cell ℓ country j has a conflict between 1997 and 2010 according to the ACLED data. Our core empirical specification is then:

$$y_{j\ell} = \mu_j + \beta d_{j\ell} + \gamma x_{j\ell} + \varepsilon_{j\ell}$$

where μ_j is a country dummy, $d_{j\ell}$ is our measure of distance to the nearest conflict, and $x_{j\ell}$ are other grid cell level controls. Standard errors are clustered at the country level.

We will use two core sets of controls $x_{j\ell}$. The first set are physical geography variables which are measured reliably and include: distance of the grid cell to the coast, elevation, the ruggedness of the terrain, its average temperature and precipitation. We also have a set of less reliable socioeconomic controls which are: income per capita, population and the share of minerals in locally generated income. These variables are all taken from the G-econ data set.

We will also include controls that we have extracted from a variety of maps. These include a measure of ethnic polarization constructed from Murdock (1959), dummy variables for which historical kingdom the grid belongs to and crude measures of the structure of the economy in the 1500-1800 period. We will also include controls for the location of missions from Nunn (2010) and explorer routes from Nunn and Wantchekon (2011). We detail how we use this information below.[32]

As a core measure, we will include a variable denoting whether there is a conflict in the grid and the distance to the nearest conflict. We will also explore how the effect varies with distance by constructing a series of dummy variables based on the percentiles in the distance distribution from an historical conflict: 0-10%, 10-25%, 25-50%, 50-75%, 75-90% and 90-100%. Having conflict in the grid itself would register as being at 0% in the distance distribution. In this case, the omitted category in the results below will be furthest distance away from the historical conflict (90-100%).

The core results are in Table 4.

Column (1) shows that having a conflict in the grid makes it 25% more likely that the grid had a conflict in the 1997 to 2010 period. The linear

[32] We are grateful to Jim Fearon for the suggestion that we investigate the possibility of using historical kingdom variables as controls and Nathan Nunn for his suggestion to control for missions and explorer routes (as well as providing the data).

distance to the nearest conflict is negative and significant with a negative effect at around 1000km distance from the grid.

In column (2), we use an array of distance dummy variables which show that proximity of an historical conflict is again positive and declines as the conflict is further away. Using the distance distribution, we find that the statistical effect of proximity to a pre-colonial conflict disappears at around 1000km away from a conflict.

Column (3) shows that the finding is robust to including geographic and socioeconomic controls from the G-econ data that we detailed above. The results suggest that conflict is more prevalent where there is rough terrain, possibility because rebel forces are better able to mount insurgencies in such locations. There also appears to be a negative and significant correlation with income measured at the grid level. This is in line with the standard negative correlation between income and conflict although, interestingly, that was not found by exploiting only within-country variation in Africa. There is a positive and significant effect of being in a grid with higher levels of annual precipitation.

As well as using the G-econ controls, we construct a measure of ethnic polarization at the grid level using data on ethnicity in Murdock (1959).[33] His data gives information on the spatial distribution of ethnic groups. We use these to calculate the distribution of ethnic groups in each 120km×120km grid. We then construct an ethnic polarization measure in the same way as Montalvo and Reynal-Querol (2005a). Column (3) shows, in line with the results in Montalvo and Reynal-Querol (2005), that polarization is positively correlated with conflict; if a grid goes from the minimum polarization to the maximum, the probability of conflict increases by around 3 percentage points. But importantly, our core results on distance from an historical conflict remain of similar size and significance.

In Table 5, we will assess the robustness of these results to including other potential controls which reflect historical features of the location.

Column (1) addresses the issue of whether historical conflicts are really proxying for being located in an historical African kingdom where violent conflict was more likely to be organized and documented. To investigate this, we used the historical maps of pre-colonial African kingdoms in the period 1500-1800 to locate each grid cell in an historical kingdom. Thus, we

[33] We make use of the GIS coding of the data by Nathan Nunn available at: http://www.economics.harvard.edu/faculty/nunn/data_nunn

are able to calculate whether each grid is inside the area of influence of an historical African kingdom and thence to construct a dummy variable which is equal to one if the grid is located in a particular historical kingdom and zero otherwise. These dummy variables are added in column (6) with the core results on distance from conflict remaining robust. The historical kingdom dummies are strongly significant with a p-value of 0.000.[34]

In column (2), we use the historical maps to classify regions according to their principal economic activities in the 1500-1800 period.[35] This addresses a potential concern that historical conflict variable proxies for persistent economic differences between areas which provoke conflict. We include these economic activity dummy variables in column (2) of Table 5 and the results on the importance of the distance to an historical conflict remain robust. The historical economic activity variables are however strongly jointly significant with a p-value of 0.000.[36]

Our next robustness check is based on controlling for the number of Christian missions in the locality using data from Nunn (2010). He identifies three types of missions: Protestant, Catholic and British and Foreign Bible Society Missions, showing historical persistence in conversion to Christianity. We use Nunn's map to locate missions in our grid cells and include whether there is any mission in a grid cell as a control in explaining the location of contemporary conflicts. Column (3) from Table 5 shows that there is a significant negative correlation between British and Foreign Bible Society missions and conflict, but no significant correlations with other types of mission. The correlation between historical conflict and contemporary conflict remains the same as in our core results.

Finally, we use data on early European explorer routes between 1768 and 1894 used in Nunn and Wantchekon (2011). Here we use the map to locate exploration routes within our grids to have a sense of which conflicts are

[34] Positive and significant dummies are found for Zulu, Kilwa, Luba, Rwanda, Buganda and a negative and significant effect for Merina, Malawi, Lunda, Axum, Kush. The remaining dummies are not significant different from zero, i.e. not different from parts of Africa that are not classified as parts of any historical kingdom.

[35] The activities are growing/producing/mining bananas, barley, camels, cattle, coconuts, copper, cotton, donkeys, ensete (a type of banana), fish, goats, gold, honey, horses, iron, ivory, leather, millet, palm oil, plantain, raffia cloth, rice, salt, sorghum, timber, wheat, and yams.

[36] A positive and significant effect is found for regions producing barley, goats, honey, gold, ivory, plantain, and timber with a negative and significant effect for camels, cattle, fish, leather and raffia cloth.

in more or less historically remote locations. We create a dummy variable if any early explorer route passed through the grid and include this in the regression explaining conflict at the grid level. The result is reported in column (4). We find no significant correlation between this variable and contemporary conflict but our core result is robust.

Finally, column (5) includes all of the extra controls simultaneously. Here, again we find that our core results are robust.

Taken together, Table 5 suggests that our initial finding that proximity to an historical conflict explains contemporary conflict is robust to including a variety of other historical features of the location.

5 Conclusions

This paper has shown that there is a correlation between historically recorded conflicts in Africa between 1400 and 1700 and the more recent experience of civil conflict (and political violence). This relationship is robust to exploiting between-country and within-country variation as well as to including a wide variety of controls.

Even if the historically recorded conflict catalogue in Brecke (1999) is incomplete and inaccurate, it seems likely that the conflicts identified by it are among the most salient to current citizens. And this explains why such recorded historical conflicts are negatively correlated with trust and a sense of national identity and positively correlated with identifying most strongly with an ethnic group. This follows a long tradition in social science which sees identities as important social categories with real consequences. More generally, the findings add fuel to the idea that some phenomena that we see in the world today are, at least in part, the product of historical legacies.

One reaction of the findings could be to create a sense of despair that much of what we see is historically determined and hence not easily amenable to manipulation. But that conclusion is too bleak. To the extent that there are headwinds in the face of progress which are due to historical legacies, it is better to understand them than to ignore them. The need to embed our theories of institutional change in an understanding of social structures shaped by history opens up many possibilities for research and for providing policy advice which is appropriately tailored to the particular circumstances in which it is given.

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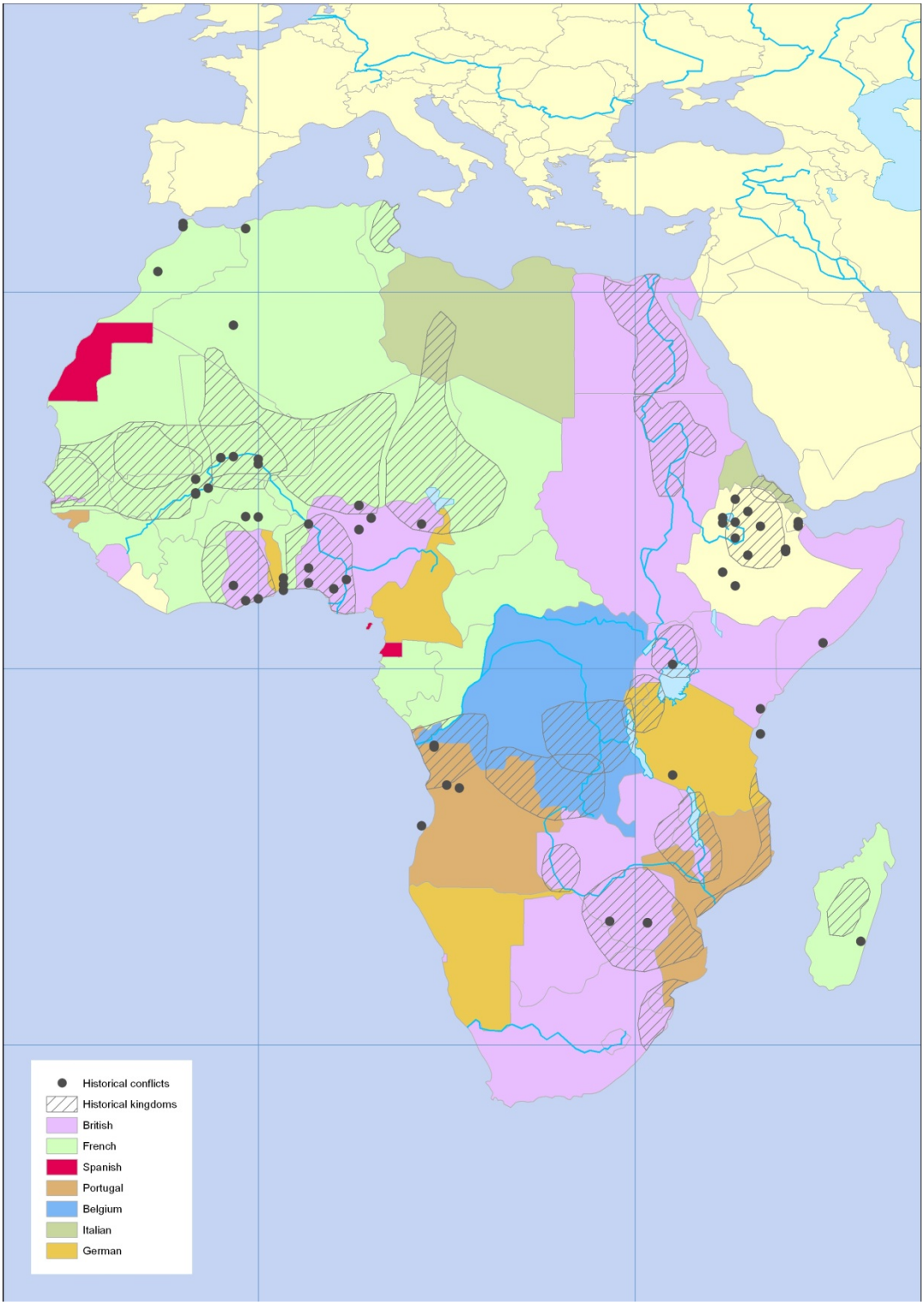

Figure 1:

Conflicts, Colonialism and Kingdoms in Africa

Notes: Historic conflicts are from Brecke (1999) as described in the text and are for the period 1400 to 1700. Colonialism by modern country is for the period preceding World War I. Historic kingdoms are for the period 1500-1900 and based on maps in O'Brien (1999).

TABLE 1:
Political Violence

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable	Civil war incidence	Civil war incidence	Civil war incidence	Civil war incidence	Purges	Purges	Conflict (ordered variable)	Conflict (ordered variable)
War incidence 1400-1700	0.15***	0.11**	0.08**	0.12***	0.002***	0.002***	0.06***	0.06**
	(0.05)	(0.05)	(0.04)	(0.05)	(0.000)	(0.000)	(0.02)	(0.03)
Other controls		Yes	Yes					
Slave trade (Nunn)			0.71**					
			(0.29)					
GDP (2000)				-0.46		-0.009		-1.68***
				(0.99)		(0.018)		(0.61)
Regional dummies				Yes		Yes		Yes
Colonial dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	49	47	47	48	49	48	49	48
R^2	0.3045	0.7756	0.8121	0.4236	0.4380	04860		
Pseudo-R^2							0.1058	0.2630

Notes: Robust standard errors in parentheses (*** 1% significant, ** 5% significant, * 10% significant). Sample is all African countries for which data is available. Other controls are as described in text.

TABLE 2:
GDP and Institutions

	(1)	(2)	(3)	(4)	(5)
Dependent varible	GDP per capita in 2000	GDP per capita in 2000	GDP per capita in 2000	Expropriation Risk	Checks and Balances
War incidence 1400-1700	-0.01	-0.01*	-0.01	-0.007	-0.002
	(0.005)	(0.006)	(.006)	(0.007)	(0.002)
Other controls		Yes	Yes		
Slave trade			-0.10*		
(Nunn)			(0.05)		
Colonial dummies	Yes	Yes	Yes	Yes	Yes
Observations	49	48	48	35	48
R-squared	0.1424	0.8088	.8465	0.1682	0.1685

Notes: Robust standard errors in parentheses (* 1% significant, ** 5% significant, * 10% significant).

TABLE 3 :

Trust and Identity

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	Inter group	Ethnic Identity	National Identity	Inter group	Ethnic Identity	National Identity
War incidence 1400-1700	-0.01***	0.002***	-0.005***	-0.01***	0.002***	-0.005***
	(0.002)	(0.0002)	(0.0005)	(0.002)	(0.0002)	(0.0006)
Civil war incidence				0.005	0.0004	-0.001
				(0.003)	(0.0009)	(0.002)
Colonial dummies	Yes	Yes	Yes	yes	Yes	Yes
Observations	19875	20044	20044	19875	20044	20044
R-squared	0.0941	0.0259	0.0997	0.0943	0.0259	0.0998

Notes: Robust standard errors clusterd by country in parentheses (* 1% significant, ** 5% significant, * 10% significant). Regressions are individual level and controls for age, age squared, gender, education, occupation, religion, living conditions, district level ethnicity. We also include GDP per capita in 2000, colonial dumies and regional dummies. The results are robust to including all of the additional controls included in column 2 of Table 1 and outlined in the text.

TABLE 4:

Grid Level Conflict:
Core Results

	(1)	(2)	(3)
Dependent variable	Conflict 1997-2010	Conflict 1997-2010	Conflict 1997-2010
Distance from the closest old conflict	-0.17***		
	(0.03)		
Old coflict in grid	0.25***		
	(0.03)		
Distance 0-10%		0.25***	0.26***
		(0.6)	(0.09)
Distance 10-25%		0.16***	0.22***
		(0.06)	(0.08)
Distance 25-50%		0.14***	0.21***
		(0.05)	(0.08)
Distance 50-75%		0.06*	0.14**
		(0.03)	(0.06)
Distance 75-90%		-0.04	0.03
		(0.04)	(0.04)
Distance to coast (1000 km)			0.09
			(0.08)
Elevation(1000km)			-0.08
			(0.07)
Ruggedness			0.27*
			(0.15)
Average temperature			-0.02**
			(0.01)
Average precipiation			0.001**
			(0.0003)
Per capita income			-114.81***
			(20.75)
Population			0.01*
			(0.007)
Share of minerals income			0.06
			(0.04)
Ethnic polarization			0.04**
			(0.01)
Country dummies	Yes	Yes	Yes
Observations	3546	3546	3361
R-squared	0.3249	0.3227	0.3708

Notes: Robust standard errors clustered by country in parentheses (*** 1% significant, ** 5% significant, * 10% significant). Variable descriptions are explained in text.

TABLE 5

Grid Level Conflict:
Robustness to Including Additional Controls

	(1)	(2)	(3)	(4)	(5)
Dependent variable	Conflict 1997-2010	Conflict 1997-2010	Conflict 1997-2010	Conflict 1997-2010	Conflict 1997-2010
Distance 0-10%	0.27***	0.28***	0.26***	0.26***	0.28***
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Distance 10-25%	0.23***	0.23***	0.22***	0.22***	0.24***
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Distance 25-50%	0.21**	0.22**	0.21**	0.21**	0.22**
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Distance 50-75%	0.15**	0.15**	0.015**	0.014**	0.016**
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Distance 75-90%	0.04	0.03	0.02	0.03	0.04
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Other Controls	Yes	Yes	Yes	Yes	Yes
Pre-colonial kingdom dummies (p-value)	Yes (0.000)				Yes (0.000)
Economic activity dummies (p-value)		Yes (0.000)			Yes (0.000)
British and Foreign Bible Society Missions			-0.12*		-0.14**
			(0.06)		(0.05)
Catholic Missions			0.04		0.009
			(0.04)		(0.03)
Protestant Mission			0.05		0.06*
			(0.03)		(0.03)
Early Explorer Route				0.0013	0.0009
				(0.016)	(0.018)
Country dummies	Yes	Yes	Yes	Yes	Yes
Observations	3361	3361	3361	3361	3361
R-squared	0.3852	0.3764	0.3732	0.3708	0.3926

Notes: Robust standard errors clustered by country in parentheses (* 10% significant, ** 5% significant, * 10% significant). Variable descriptions are explained in text. Other controls are as in Table 4: distance to coast, elevation, ruggedness, average temperature, average precipitation, per capita income, population, share of minerals income, and ethnic polarization.