Colonial legacy, state-building and the salience of ethnicity in Sub-Saharan Africa*

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December 2015

Abstract

Ethnicity has received increased attention in studies of Africa's economic and institutional development. We present evidence on the long-term effects of Britain's "divide-and-rule" colonial strategy that deliberately fostered ethnic rivalries to weaken and control locals. Using micro data from Sub-Saharan Africa, we find that citizens of Anglophone (as compared to Francophone) countries are more likely to: (1) attach greater importance to ethnic identity (vis-á-vis national identity); (2) have weaker norms against tax evasion; and (3) face extortion by non-state actors. We address endogeneity concerns using IV regression and regression-discontinuity. These results suggest that Britain's divide-and-rule strategy may have undermined state-building.

JEL Classification: N47, N97, O17, O55, H10
Keywords: Colonial legacy; development; ethnicity; state capacity; Sub-Saharan Africa.

*This article was prepared with financial support from the International Center for Tax and Development (www.ICTD.ac). Useful comments on earlier drafts were received from Ragnar Torvik and participants at the 2014 ICTD Annual Conference in Arusha.

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1 Introduction

The role of ethnic rivalries in the institutional and economic development of states has received significant attention. Higher ethnic fractionalization is found to be correlated with slower economic growth, higher incidence of civil conflicts, weaker state capacity and under-provision of public good (see, e.g., Mauro, 1995; Easterly and Levine, 1997; Alesina et al., 2003; Miguel and Gugerty, 2005). The implication of these empirical patterns appears to be most severe in Africa due to the higher level of ethnic fractionalization among African countries. Despite a lot of emphasis on the detrimental impact of ethnic rivalry on the construction of national identity and state-building (Acemoglu et al., 2014a), the legacies of colonialization in fomenting these rivalries and undermining state-building remains poorly understood. In this study, using nationally representative micro data from Sub-Saharan Africa (SSA), we examine whether differences in occupation strategies during the colonial era adopted by the two dominant powers, France and Britain, led to different outcomes with regard to the construction of national identity and state capacity in present-day Africa.

Our study is motivated by the differences in colonial strategies used by the two major colonial powers in Africa to control local populations. As outlined by Frederick Lugard, the most prominent British colonial practitioner in Africa, Britain adopted the strategy of divide-and-rule where ethnic cleavages were fostered and exploited to weaken and control the local populations (Khapoya, 2010). Existing ethnic divisions were institutionalized into the colonial power structure by subduing local chiefs. In many instances where there were no clear ethnic divisions, the colonial masters went as far as inventing new "ethnic" groups and installing chiefs to govern the locals (Khapoya, 2010). In contrast, systematic exploitation of ethnic rivalries played a less prominent role in France's control strategy (Miles, 1994). We will return to a more detailed discussion of the historical background in Section 2 below.

In this paper, we present empirical evidences on the impact of this distinction in colonial strategy on state-building in post-colonial Africa. Our data are drawn from round 5 of the Afrobarometer surveys, which are nationally representative value surveys. Our sample covers 21 countries, consisting of twelve Anglophone and nine Francophone states. We compare Anglophone and Francophone countries with respect to three outcomes that are related to ethnic rivalry and state-building.

One may expect that rivalries among ethnic groups fostered by the divide-and-rule colonial strategies would undermine the construction of shared national identity. Thus, the first outcome variable captures the salience of ethnic identity as compared

to national identity. The other two outcome variables capture two key aspects of state capacity – the "fiscal" and "public good" aspects.On the fiscal side, we look at citizens' attitude toward tax obligations. One way in which inter-ethnic rivalry and weak sense of nationhood hinder state-building could be by lowering the willingness to contribute to the provision of public goods (Miguel and Gugerty, 2005). Another important aspect of state capacity is the ability of the state to provide public good. The Afrobarometer data have useful information on one of the most important public goods that a state is supposed to provide - the protection of citizens against extortion by non-state actors (e.g., organized gangs). The widespread prevalence of extortion by non-state actors could be considered as an indicator of the state's inability to "monopolize violence".

Results from the OLS regressions are consistent with the view that state-building in Anglophone countries is challenged by the legacy of British rule. On average, citizens in Anglophone countries tend to have a weaker sense of nationhood, are less likely to view tax compliance as an important obligation and are more likely to face extortion by non-state actors.

Even though the patterns revealed by the OLS results are themselves interesting, causal interpretation requires a more robust analysis. To mitigate endogeneity concerns, we deploy two identification strategies. First, we construct an instrumental variable to instrument the likelihood that an African territory becomes a British or French colony. Construction of the instrument is guided by historical patterns in the expansion of colonial territories. During the "scramble for Africa" (from the late 19th to early 20th century), European colonizers moved from a few coastal areas of Africa and expanded their control inland. Their strategy was to gradually expand their control by incorporating lands adjacent to their existing colonies. Due to transportation constraints, the control of adjacent lands required less logistics. Thus, a key determining factor for whether a territory would be colonized by France or Britain was its distance from an existing French or British colony. We construct an instrument based on this idea, and find that it has a strong predictive power for the probability of a territory becoming a French or British colony. We also show that the instrument is uncorrelated with observable factors (e.g., pre-colonial level of state centralization) that may affect the outcome variables.

In the second identification strategy, we exploit the fact that the Afrobarometer data have a wide geographic coverage in each country. We use regression discontinuity (RD) focusing on a subset of observations that reside in areas around the borders between Anglophone and Francophone countries. In our benchmark regression, we consider observations that reside within 100 km from the borders. Given the arbitrary

nature of colonial borders, results from this RD analysis are expected to capture a "border effect". The findings from both the instrumental variable regression and RD analysis confirm the OLS results.

Our paper intersects several previous studies on ethnicity, state capacity and colonial legacy. There has been increasing interest in the role of ethnicity. The first set of studies, some of which are cited above, examine the effect of ethnic structure on economic and institutional outcomes. More recently, Hjort (2014) has show that the negative effect of ethnic diversity can also hinder productivity within private firms. Furthermore, this negative effect worsens during periods of inter-ethnic tensions. Hjort's findings speak to a seminal study by Leeson (2005), who argues that ethnic diversity in itself does not lead to detrimental outcomes. Leeson discusses several historical examples where pre-colonial Africans managed to establish inter-ethnic cooperation through a wave of "traditional" institutions, which were latter disrupted by colonial rules.

Our paper is also related to studies on the legacy of conquests and colonialism. These studies find that the legacies could be multi-faceted, both in terms of outcomes and mechanisms. Acemoglu et al. (2001; 2002) show that the legacy of institutional changes left behind by colonial powers has affected current institutional and economic outcomes. The effect depends largely on the strategies adopted by colonizers to maximize their benefit. In a more recent study, Acemoglu et al. (2014b) show the legacies of indirect rule practiced by Britain in Sierra Leone. Feyrer and Sacerdote (2009) find that longer colonial occupation is associated with higher current per capita GDP, and the extent of this effect varies by colonizer (e.g., larger for Dutch and British colonies than Portuguese). La Porta et al. (2008) emphasize the legal system that the colonizers put in place (i.e., civil versus common laws) and its impact on later institutional outcomes. Dell (2010) focuses on the long-term effect of forced labor. Iyer (2010) studies the legacy of direct versus indirect rule in India, and finds that the indirect rule is associated with higher provision. Using data from Cameroon, Lee and Schultz (2012) also find similar results. Examples of other papers studying the long-tem effects of colonialism include Banerjee and Iyer (2005), Michalopoulos and Papaioannou (2013a; 2013b) and Huillery (2009). Both the focus and the findings of existing studies vary, demonstrating the complexity of colonial legacy. Our paper provides one further channel - the salience of ethnic tensions- through which colonial legacy may affect current institutional and economic outcomes.

The remainder of the paper is organized as follows. The next section will provide brief historical background about the different colonial rulings and their consequences. This is followed by discussion of the data and results in Sections 3 and 4.

The paper ends with some concluding remarks in Section 5.

2 Historical Background

Britain's divide-and-rule colonial strategy to control local populations in Africa, first formulated by the renowned British colonial master Lord Frederick, is characterized by two key components.

The first component involves identifying locally powerful men from the pre-colonial power structure, such as tribal chiefs, and making them part of the colonial administration (Crowder, 1964). In areas where identifiable tribes or tribal chiefs did not exist, the British colonizers went as far as creating them (Khapoya, 2010). The main task of the chiefs was to control the local population and extract taxes on behalf of their colonial masters (Mamdani, 1996). In return, the chiefs would pocket a share of the tax revenues. The chiefs would also receive British support to suppress resistance from the locals, empowering themselves over the local population (Migdal, 1988; Mann and Roberts, 1991; Mamdani, 1996).

Several examples from the colonial periods illustrate the British strategy. Lugard himself implemented divide-and-rule first in Nigeria by using local chiefs from the Islamic emirates in Northern Nigeria (Mamdani, 1996). Existing indigenous chiefs were also used in colonial administration in Buganda Kingdom (Lwanga-Lunyiigo, 1987). There are also a number of cases where British colonizers created "chiefs" and "tribes". In Tanganyika, entirely new "chiefs" and "tribes" were created by British colonizers following the takeover from Germany (Khapoya, 2010). The "warrant chiefs" among the Igbos in South-Eastern Nigeria are also another examples of those who were appointed as local representatives of the British colonial administration (Afigbo, 1972). Before British colonial rule, the Igbos were not politically organized as a single ethnic group; rather, they belonged to several groups that were politically fragmented.

A second key component of the divide-and-rule strategy was fostering and exploiting rivalries among ethnic groups to weaken and control the local populations. This strategy primarily aimed at undermining cooperation among various ethnic groups that could have led to a more unified and stronger resistance against the colonial power. Instances where colonial soldiers from selected ethnic groups were utilized to put down resistance from other ethnic groups have been widely documented across British colonies. For example, the British used the Nubians to control Akoholi from the early 1870s in what is now Uganda (Lwanga-Lunyiigo, 1987). The Nubians, who

comprised the core of the colonial army in Uganda, also helped defeat kingdoms of other ethnic groups such as the Bunyoro and Buganda kingdoms in the 1890s, and helped put down violence throughout Uganda (ibid). After colonizing Buganda, the British also used Bugandan chiefs to help govern and administer other territories that had less centralized systems of political organization and thus were harder for the British to deal with directly. Britain's colonial strategy also promoted segregation of the local population along tribal lines that undermined inter-ethnic cooperation and integration (Blanton et al., 2001).

Several historians agree that exploitation and fostering of ethnic rivalries were not the major features of France's colonial strategy (see, e.g., Crowder, 1964; Mamdani, 1996; Miles, 1994). First, local administrative boundaries (called 'cantons') did not necessarily represent specific ethnic groups, and often cut across preexisting political boundaries (Crowder, 1964). Thus, the local administrative boundaries in French colonies did not hinder various ethnic groups from belonging to the same political unit (ibid). This stands in marked contrast with the way in which Britain divided and segregated its colonies along ethnic lines. Second, France deliberately suppressed the local chiefs and significantly undermined their power (Whittlesey, 1937). The chiefs in British colonies, as compared to their counterparts in French colonies, tended to have more power in local governments.

Why the French did not follow Britain's style of control is a matter of speculation. According to the renowned political geographer Whittlesey (1937), the deliberate weakening of traditional chiefs and the nominal power of the canton chiefs in French colonies were the result of France's policy of centralized administration and assimilation of the Africans into French culture: "France is in Africa to make Frenchmen out of Africans." Although a full-scale policy of assimilation was perhaps undesirable and impractical, the integration policy was noted in numerous incidences, such as education, language, and in few cases, rights of citizenship (Crowder, 1964). Education in the colonies was modeled on the French system, and the use of French was encouraged throughout the colonies as the language of the government and commerce (Clapham, 1985). Educated natives were also allowed to assume administrative positions. In a few instances, citizenship rights were granted to local educated elites, as in four cantons in Senegal (Crowder, 1964).

Miles (1994) provides an illustrative example of this distinction in British and French colonial rulings using a case study from Hausaland. During the pre-colonial era, the Hausa people lived under an amalgamation of loose political unions without any particular distinctions between the Nigerian and Nigérien sides of the border. As is the case with the arbitrary nature of many colonial borders with respect to pre-

colonial ethnic and political structures, the Hausa were divided between the French and British colonies (present-day Niger and Nigeria, respectively) and the two regions experienced divergent colonial experiences. Miles (1994) notes,

> Politically and administratively, the driving ethos behind French colonial policy in Africa was centralization: a single structure, a single hierarchy, a single set of rules. Structurally, this ethos was reflected in their policy of federation: unlike the British, who treated their various colonies throughout West Africa as discrete administrative entities, the French merged theirs into a single Afrique Occidentale Francaise (p. 95).

The legacy of this distinction in colonial strategy and its impact on state-building has been a subject of controversy among scholars. On the one hand, Herbst (2014) argues that colonizers lacked effective control in most part of their official territory except in ports and capital cities. As a result, differences in style of colonial control can only play a minor role, if any, in explaining the nature of modern African States. Herbst (2014) emphasizes that the role of colonization is limited mostly to border demarcations (following the Berlin conference) that accelerated the formation of states with clearly defined borders. The other line of literature suggests that colonization, and particularly the indirect rule of the British colonial administration, plays an important role in state-building in present-day Africa (see, e.g., Mamdani, 1996, 2007; Blanton et al., 2001; Lange, 2004; Acemoglu et al., 2014a).

Broadly speaking, there are two possible reasons in the literature as to why the divide-and-rule strategy may pose a lasting challenge to state-building in Anglophone Africa. First, an important part of state-building is the construction of national identity that inculcates a sense of solidarity among fellow citizens, and historical rivalries among ethnic groups within a state could make it difficult to construct a strong sense of nationhood. Animosities against ethnic groups could be highly persistent (Voigtländer and Voth, 2012). Holmén (1990) notes that divide-and-rule strategies may have prevented the spread of national identity even after independence and instead created "poor and unintegrated nations". In Uganda, for example, Lwanga-Lunyiigo (1987) argues that the use of Buganda to conquer other territories "established a lasting hatred between the Baganda and a sizable chunk of the rest of Uganda – a weak premise on which to build a nation." Badru (2010) attributes the massacre of Igbos in Nigeria's civil war following independence to the animosity towards the Igbos that had resulted from the colonial strategy of using members of the Igbo to control other populations. Mamdani (2007) argues that the deep ethnic divisions

created in Nigeria during colonization allowed for fragmentation of Nigeria's politics along ethnic lines.

Second, the chiefs that were empowered in British colonies during the colonial era still tend to retain significant power in many Anglophone countries, which can undermine the process of building a strong central state should such a state be viewed as a threat to the chiefs' power. If the emergence of a strong central state would pose a threat to locally powerful chiefs, the chiefs would have an incentive to use their current power to keep the state weak. For example, Badru (2010) notes that in Nigeria, the national elites "found it convenient, like the British colonialists did, to maintain the divisiveness as a means to sustaining their hold on power". Acemoglu et al. (2014b) also describes how the unconstrained power of local chiefs in Sierra Leone allows them to control civil society and influence both local and national governance. The power and influence of the local chiefs minimizes the incentive of the state to broadcast its power, especially in peripheries, as this might trigger resistance from local chiefs who would like to retain control.

3 Data Source and Description

Our primary data source is the most recent round of the Afrobarometer survey (Round 5), a nationally representative survey of several countries in Africa undertaken during 2011 and 2012. The survey collects data on adult citizens about their attitudes towards democracy and governance, markets, and civil society, among other topics. In addition, the survey also gathers data on individuals' socio-economic characteristics, such as education, age, asset ownership, political participation and access to services.

The questionnaires vary slightly across countries that some survey questions are not asked in all countries.[1] As a result, even though the Round 5 survey covers 31 countries, only 21 countries have data that can serve the purposes of our analysis. We report the list of countries in our analysis along with year of colonization and name of colonizer in the appendix (Table A.4). The table also reports the number of respondents in the Afrobarometer survey and the survey year. We have twelve Anglophone and nine Francophone countries. Cameroon is excluded from the analysis due to the ambiguity of its colonial status. Since both Britain and France colonized parts of Cameroon, it is not straightforward to define Cameroon's colonial status as

[1]This could partly be due to the political sensitivity of some survey questions.

either Anglophone or Francophone.[2]

The next section describes the construction of the main outcome variables using data in the survey (in Section 3.1), followed by a description of moments of the variables in the analysis.

3.1 Main outcome variables

As discussed in Section 1, the empirical analysis focuses on the comparison of Anglophone and Francophone countries with regard to three outcomes: (1) the importance of national identity relative to ethnic identity, (2) citizens' view towards tax compliance, and (3) the prevalence of extortion by non-state actors. To this end, we focus on three variables in the Afrobarometer dataset that are considered to capture these three outcomes.

The first variable includes responses regarding the importance of national versus ethnic identity. In the questionnaire, respondents were asked to choose among five statements ranked with respect to the importance of national versus ethnic identity. Taking the Kenyan generic questionnaire as an example, the survey question reads:

- *Let us suppose that you had to choose between being a Kenyan and being a [member of RESPONDENT'S ethnic group]. Which of the following statements best expresses your feelings?*

  (a) I feel only Kenyan.

  (b) I feel more Kenyan than a [member of RESPONDENT'S ethnic group].

  (c) I feel equally Kenyan and a [member of RESPONDENT'S ethnic group].

  (d) I feel more a [member of RESPONDENT'S ethnic group] than Kenyan.

  (e) I feel only a [member of RESPONDENT'S ethnic group].

Using answers to this question, we construct two alternative indices to measure one's sense of national identity. The first index, labeled *National Identity Rank*, assumes values ranging from 0 to 4, where higher values are assigned to statements corresponding to a higher salience of national identity. The second index, labeled *National Identity Binary*, is a binary variable that assumes 1 if the respondent chooses

[2]Note, however, that British Cameroon is relatively small in terms of size comprising only 9% of the whole area of Cameroon.

either statement (a) or (b), i.e., if the respondent puts a higher importance on national than on ethnic identity. Otherwise, *National Identity Binary* equals 0.

The second outcome variable focuses on the extent to which respondents view tax compliance as an important obligation. Respondents are asked to choose among three ranked statements that reflect varying levels of compliance attitude. The generic question in the survey reads:

- *Please tell me whether you think that not paying the taxes people owe on their income is:*

  (a) not wrong at all.

  (b) wrong but understandable.

  (c) wrong and punishable.

We constructed two indices to measure attitudes towards tax compliance. The first variable, labeled *Compliance Rank*, equals 0, 1 or 2 if the respondent chooses statement (a), (b) or (c), respectively. Thus, a higher value of *Compliance Rank* captures a stronger attitude in favor of tax compliance. We also constructed an alternative binary index of compliance attitude, labeled *Compliance Binary*, that equals 1 if the respondent chooses statement (c) (i.e., "wrong and punishable"). Otherwise, *Compliance Binary* equals 0.

Finally, the third outcome relates to the extent to which the state protects its citizens from extortion by non-state actors. The survey asks respondents to assess the prevalence of extortion by non-state actors in their community. The survey question reads:

- *In the last year, how often have powerful people or groups other than government, such as criminals or gangs, made people in your community or neighbourhood pay them money in return for protecting them, their property or their businesses?*

  (a) Never.

  (b) Only once.

  (c) A few times.

  (d) Often.

Using these responses, we constructed two indices to measure the level of extortion by non-state actors. The first index, labeled *Extortion Rank*, equals 0, 1, 2 or 3 if the respondent chooses option (a), (b), (c) or (d), respectively. A higher value of "Extortion Rank" indicates a higher prevalence of extortion by non-state actors. We also constructed a binary index, labeled *Extortion Binary*, that equals 0 if the respondent replies "never" and 1 otherwise.

3.2 Summary statistics

Table 1 presents means and standard deviations of the variables in our analysis, both for the whole sample as well as for the Anglophone and Francophone subsamples. The top panel includes variables sourced from the Afrobarometer survey, where respondents are the unit of analysis. To account for country-level differences, we also include some macro variables in our analysis. These are presented in the bottom panel.

The mean of the national identity index, *National Identity Rank* is larger for Francophone countries by 0.25 standard deviations (2.92 vs 2.63). Similarly, the share of respondents who prioritize national identity over ethnic identity, as captured by *National Identity Binary*, is 59% in Francophone countries whereas it is only 43% in Anglophone countries. We also see that the tax compliance index *Compliance Rank* is higher in Francophone countries (1.46 vs 1.31). The share of respondents who view tax evasion as "wrong and punishable" is higher by 9 percentage points in Francophone countries (55% vs 46%). The more striking difference is the prevalence of extortion by non-state actors. Looking at *Extortion Binary*, Anglophone respondents are 3.25 times more likely to report payments to non-state actors than are Francophones. The other measure of extortion by non-state actors, *Extortion Rank*, also shows a large difference between Francophones and Anglophones (0.08 vs 0.21, a difference of 0.23 standard deviations).

We include a number of socio-economic characteristics of respondents in our analysis, such as age, gender, levels of education, wealth, employment status and area of residence. Francophone respondents are more likely to be from urban areas and less likely to be employed. The share of employed respondents is very low, partly a result of a very low labor force participation rate (68% and 57.4% for males and females, respectively). In both Anglophone and Francophone subsamples, male and female respondents are equally represented. The education measure ranges from 0 = "no formal schooling" to 9 = "postgraduate qualifications". Respondents in Anglophone countries are younger and tend to have a higher level of education.

Table 1: Descriptive Statistics

	Francophone		Anglophone		Total	
	mean	sd	mean	sd	mean	sd
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Individual level						
Nation identity rank	2.92	(1.20)	2.63	(1.12)	2.72	(1.15)
Nation identity binary	0.59	(0.49)	0.43	(0.49)	0.48	(0.50)
Compliance rank	1.46	(0.65)	1.31	(0.71)	1.36	(0.69)
Compliance binary	0.55	(0.50)	0.46	(0.50)	0.49	(0.50)
Extortion payment rank	0.08	(0.40)	0.21	(0.61)	0.17	(0.56)
Extortion payment binary	0.04	(0.20)	0.13	(0.33)	0.10	(0.30)
Urban	0.40	(0.49)	0.35	(0.48)	0.37	(0.48)
Age	37.77	(14.40)	36.46	(14.45)	36.88	(14.45)
Employment	0.20	(0.40)	0.39	(0.49)	0.33	(0.47)
Education	2.37	(2.22)	3.53	(1.87)	3.16	(2.06)
Male	0.50	(0.50)	0.50	(0.50)	0.50	(0.50)
Wealth	0.51	(0.29)	0.47	(0.26)	0.48	(0.27)
N	9317	-	20136	-	29453	-
Panel B: Country level						
West Africa	0.89	(0.33)	0.25	(0.45)	0.52	(0.51)
East Africa	0.11	(0.33)	0.50	(0.52)	0.33	(0.48)
Landlocked country	0.33	(0.50)	0.42	(0.51)	0.38	(0.50)
Ethnic fractionalization	0.75	(0.07)	0.67	(0.21)	0.70	(0.17)
Pre-colonial state centralization	0.45	(0.23)	0.64	(0.30)	0.56	(0.29)
Former German colony	0.11	(0.33)	0.17	(0.39)	0.14	(0.36)
N	9	-	12	-	21	-

This table reports means and standard deviations of the variables. The top/bottom panel reports individual-/country-level variables. Standard deviations are in parentheses. The means and standard deviations are reported for the whole sample as well as for Francophone and Anglophone samples.

We construct an individual wealth index following the standard factor analysis method.[3] The Afrobarometer data provide information on the ownership of radio, TV, car, water, latrine and type of roof material. We first implement the principal-component factoring method to find the main factors among the five items that capture individuals' level of wealth. Then, we generate a wealth index as an average of the main factors. To account for heterogeneity among countries, we do the factor analysis for each country separately. For instance, TV, car, water and latrine are the four main factors for Ghanaian respondents according to the principal-component factoring result. The individual wealth index for a Ghanaian respondent is then calculated as the number of items owned divided by four.

The lower panel presents the country-level variables. These variables are meant to control for factors that may affect the outcome variables independently of colonial status though they may still be correlated with colonial status. These may include factors like geography, ethnic composition and pre-colonial institutions.

In order to account for differences in precolonial institutions, we consider the pre-colonial centralization measure provided by Gennaioli and Rainer (2007).[4] The hierarchy data describe ethnic group centralization level in Africa before European colonization. Gennaioli and Rainer (2007) use countries' ethnic composition from the Soviet Atlas to calculate the share of each country's non-European population belonging to centralized groups identified from Murdock data. The centralization index varies from 0 (non-centralized/fragmented) to 1 (centralized). We see that Anglophone countries on average have a higher level of pre-colonial centralization.

In our regressions, we also account for the possible effect of German occupation in some African countries. One Francophone and two Anglophone countries in our sample were former German colonies (Tanzania, Namibia and Togo) prior to World War I[5]; however, after the defeat of Germany, these countries were later transferred to Britain and France.

To account for differences in ethnic composition, we use the ethnic fractionalization index from Alesina et al. (2003). The index measures the probability that two

[3]Lawrence Hamilton, Statistics with STATA, 2013, Cengage: Chapter 12 (p. 337)

[4]The data are created by matching ethnic group jurisdictional hierarchy data collected by anthropologist George P. Murdock and ethnic group composition data published in *Atlas Narodov Mira* by Miklukho-Maklai Ethnological Institute in the Soviet Union in 1964.

[5]In addition, two Anglophone countries – Ghana and Nigeria – both had a small part of land transferred from German ownership (British Togo joined Ghana, and British Cameroon joined Nigeria); however, the majority of the country was under British rule. Thus, these two countries are not treated as former Germany colonies.

randomly selected individuals from a country belong to different ethnic groups.[6] We see that Francophone countries have a higher level of fractionalization.

4 Empirical Results

The regression equation under consideration is:

$$Outcome_{i,e,c} = \beta \times Anglophone_c + \mathbf{X_c'}\Gamma + \mathbf{X'_{i,e,c}}\Omega + \varepsilon_{i,e,c} \tag{1}$$

where i indexes individuals, e ethnic groups, and c countries. $Outcome_{i,e,c}$ is one of the three individual-level outcomes: (1) the salience of national identity, (2) attitude towards tax compliance, and (3) payment to non-state actors. These outcomes are measured using the variables constructed in Section 3.1. $Anglophone_c$ is a dummy for Anglophone countries – it equals 1 for Anglophone respondents and 0 for Francophones. β is our coefficient of interest – it captures the effect from Anglophone countries. $\mathbf{X_c}$ and $\mathbf{X_{i,e,c}}$ are vectors of country- and individual-level controls, respectively. In all of the regressions, we cluster standard errors both by ethnic group and country.[7]

We will first report estimation results from OLS regressions. OLS coefficients are interesting as they depict the correlations between the outcome variables and colonial status; however, one can have reasonable endogeneity concerns that the OLS estimates may be biased. That is, the differences in the three main outcomes between Francophone and Anglophone countries, rather than being results of colonial legacies, could be driven by some unobservable differences between the two sets of countries. This may, for example, be the case if Britain, with the aim of using the divide-and-rule strategy, targeted regions that have more ethnic divisions to begin with. France, on the other hand, with the objective of implementing a more direct rule, may have focused on regions that consist of relatively homogeneous ethnic groups. This colonial strategy would then imply that the current differences in the level of inter-ethnic friction between Anglophone and Francophone countries, rather resulting from colonial legacy, might already have existed before colonization.[8]

[6] The construction of the ethnic fractionalization measure used data ranging from 1983 for Ghana and Uganda to 2001 for Kenya; however, as also argued by the authors, group shares in ethnic fractionalization measures are generally considered to be sufficiently stable over a relatively long period of time.

[7] The ethnicity clustering is based on Murdock's ethnographic map.

[8] However, H. L. Hesseling documented in his book "*Divide and Rule. The Partition of Africa,*

We attempt to address endogeneity concerns using two identification strategies. First, using geographic variations during the "scramble for Africa," we construct a novel instrument for the likelihood that an African country becomes a British (or French) colony. In our second identification strategy, we apply regression-discontinuity focusing on observations in areas near shared borders between Anglophone and Francophone countries. The results from the instrumental variable and regression discontinuity will be presented in Sections 4.2 and 4.3, respectively.

4.1 Benchmark regression results

We start with the OLS results on the salience of national versus ethnic identities. In Table 2, the dependent variable is *National Identity Rank* – an index ranging from 0 to 4, with larger values indicating a higher sense of national identity. The first column in the Table presents results where we only control for a set of geographic indicators. These include two region dummies, one for East and one for West Africa. The benchmark group is Southern Africa. These controls are meant to account for differences in location that may be correlated with the type of colonizers. For example, West Africa was predominantly colonized by France and East Africa by Britain. Thus, the geographic controls help address the concern that the regional differences may affect state-building in other ways than the colonial legacy (e.g., through differential experience of slave trade). We also include a dummy for landlocked countries. Access to the sea may affect state-building through a complex web of several possible channels. For example, sea access may help state-building by facilitating international trade and economic integration, which in turn may encourage inter-ethnic cooperation.

We see that all of the geographic indicators in column (1) are significant. The coefficient on *Anglophone* is negative and statistically significant. As measured by *National Identity Rank*, the average level of national identity in Anglophone countries is lower by 0.53 than in Francophone countries. For comparison, this effect is about 20% of the mean of *National Identity Rank*, which is equal to 2.72 (see Table 1).

Column (2) controls for the pre-colonial level of state centralization and ethnic fractionalization. The former variable is meant to capture the legacy of state centralization during the pre-colonial era, whereas the latter controls for the effect of ethnic fragmentation on one's sense of nationhood.[9] A negative coefficient on *Ethnic fractionalization* is consistent with the notion that constructing national identity can

1880-1914" (p. 177-8) that the massive French occupation in West Africa was driven more by the navy's desire to redeem itself from past humiliation than by any strategic concern.

[9]See Section 3 for the construction of these variables

Table 2: OLS results for national identity. Dependent variable is *National Identity Rank*

	(1)	(2)	(3)	(4)
Anglophone	-0.53^{**}	-0.52^{***}	-0.49^{***}	-0.50^{***}
	(0.24)	(0.17)	(0.16)	(0.16)
West Africa	-0.29	0.11	0.18	0.18
	(0.26)	(0.21)	(0.18)	(0.18)
East Africa	0.18	0.66^{***}	0.67^{***}	0.67^{***}
	(0.14)	(0.20)	(0.15)	(0.15)
Landlocked	-0.37^{***}	-0.47^{***}	-0.38^{***}	-0.38^{***}
	(0.13)	(0.10)	(0.08)	(0.07)
Ethnic fractionalization		-1.67^{***}	-1.72^{***}	-1.72^{***}
		(0.46)	(0.43)	(0.43)
Pre-colonial state centralization		-0.40^{*}	-0.47^{**}	-0.47^{**}
		(0.21)	(0.20)	(0.20)
Former German colony			0.27^{**}	0.27^{**}
			(0.12)	(0.12)
Urban				0.01
				(0.04)
Age				0.00
				(0.00)
Employment				0.01
				(0.03)
Education				0.01
				(0.01)
Male				0.06^{***}
				(0.02)
Wealth				-0.06
				(0.09)
R-squared	0.04	0.07	0.07	0.07
Observations	28967	28967	28967	28967
Number of country clusters	21	21	21	21
Number of ethnic clusters	316	316	316	316

Robust standard errors clustered by country and ethnic group are in parentheses. *** Significant at 1%, ** significant at 5%, * significant at 10%.

be a challenging task in ethnically diverse societies. Notice that the sign on *West Africa* reverses as we move from column (1) to (2). This is because West Africa on average has a higher level of fractionalization and lower level of national identity; however, even though the average national identity level is lower in West Africa, once we control for differences in ethnic fractionalization, this is no longer the case. The coefficient on *Pre-colonial state centralization* is negative. On the one hand, a higher level of centralization may enhance the sense of national identity as people share a long history of cooperation within the same state. On the other hand, centralization may foster ethnic animosity if the central state is dominated by a powerful ethnic group. From the results in column (2), the latter effect seems to dominate. The coefficient on *Anglophone* remains fairly stable as we include these controls.

Some countries in our sample were former German colonies up until World War I, and transferred to Britain and France thereafter. To account for the possibility that this may have affected the style of British and French rule in those countries, column (3) includes a dummy for former German colonies. We see that sense of national identity appears to be higher in former German colonies. The coefficient on *Anglophone* stays more or less the same.

Finally, column (4) includes individual socio-economic characteristics. Except for gender, no other variables show a significant coefficient, suggesting that individual characteristics have a less important effect on the salience of ethnic versus national identity. Thus, unsurprisingly, the coefficient on *Anglophone* does not change significantly in response to controlling for the individual characteristics.

Table 3 reports results for the second outcome – citizens' attitude towards tax compliance. The dependent variable is *Compliance Rank*. We include the same set of controls that we discuss above. Unlike the results from national identity, individual socio-economic characteristics seem to matter significantly for attitudes towards tax compliance. Our coefficient of main interest, the coefficient on *Compliance Rank*, is largely insignificant; however, the signs are consistently negative across all columns. Thus, even though the lack of statistical significance means that the evidence is not conclusive, the negative signs are in line with the idea that attitudes towards tax compliance are weaker among Anglophones. In fact, as we will see in Section 4.3, the coefficient becomes significant in alternative specifications where we attempt to address endogeniety concerns.

We now turn to results on the third outcome – payment to non-state actors. In Table 4, the dependent variable is *Extortion Payment Rank*, whose higher value indicates a more frequent payment to non-state actors. We see that the coefficient on *Anglophone* is significantly positive. That is, respondents in Anglophone countries

Table 3: OLS results for tax compliance. Dependent variable is *Compliance Rank*

	(1)	(2)	(3)	(4)
Anglophone	−0.03	−0.01	−0.01	−0.02
	(0.07)	(0.07)	(0.07)	(0.07)
West Africa	0.12	0.12	0.13	0.14
	(0.13)	(0.14)	(0.14)	(0.13)
East Africa	−0.09	−0.04	−0.04	−0.03
	(0.13)	(0.11)	(0.11)	(0.10)
Landlocked	−0.04	−0.03	−0.02	−0.00
	(0.07)	(0.05)	(0.06)	(0.06)
Ethnic fractionalization		−0.36**	−0.36**	−0.31**
		(0.16)	(0.16)	(0.15)
Pre-colonial state centralization		−0.29***	−0.30***	−0.29***
		(0.11)	(0.11)	(0.11)
Former German colony			0.02	0.02
			(0.06)	(0.05)
Urban				0.08***
				(0.02)
Age				0.00***
				(0.00)
Employment				−0.03
				(0.02)
Education				0.03***
				(0.01)
Male				0.02**
				(0.01)
Wealth				−0.02
				(0.05)
R-squared	0.03	0.03	0.03	0.04
Observations	28079	28079	28079	28079
Number of country clusters	21	21	21	21
Number of ethinic clusters	316	316	316	316

Robust standard errors clustered by country and ethnic group are in parentheses. *** Significant at 1%, ** significant at 5%, * significant at 10%.

report payments to non-state actors more frequently than in Francophone countries. The magnitude of this effect, at about 0.18, is also large compared to the mean of *Extortion Payment Rank* in the whole sample, which stands at 0.17 (see Table 1).

As a robustness check, we run the regressions where we used the binary outcome measures (*National Identity Binary*, *Compliance Binary* and *Extortion Payment Binary*) as our dependent variables. We also run alternative regression models (i.e., OLS, probit and ordered logit). We found similar results from the robustness checks. The results from the robustness regressions are reported in the appendix (Table A.1).

To summarize, the broad picture from the above empirical patterns suggests that Anglophone countries appear to face a relatively difficult challenge in state-building, to the extent of the dimensions of state outcomes captured by the dependent variables. The findings show that, in Anglophone countries, the construction of national identity is significantly mitigated and social norms toward tax compliance are weaker. Moreover, the state is less likely to protect its citizens from extortion by non-state actors.

4.2 Results from instrumental variable estimates

This section presents results from the instrumental variable regressions as a first attempt to address the endogeneity concerns that may arise in the above estimates. One needs an instrumental variable that is correlated with the likelihood that an African country becomes a French or British colony, but that is not directly correlated with the outcome variables. Before turning to the IV regression results, we first describe the construction of our instrument.

A. Construction of the instrument

To construct the instrument, we exploit the patterns of colonial expansion during the massive scramble for Africa by European powers that started in the late 19th century. Before the 1880s, European settlers mainly stayed along the African coastline, and very few had explored inland. Then, in the early 1880s, tension among European powers increased. To avoid the looming threat of military conflict in Africa over territorial claims, European powers held the Berlin Conference (1884-85) where they reached a broad consensus on how to stake claims in Africa. The main outcome of the conference was that actual control on African soil would essentially imply territorial ownership. This outcome ushered in an era of rapid colonial expansion to inland Africa. Since controlling nearby areas was logistically less costly than distant

Table 4: OLS results for extortion payments. Dependent variable is *Extortion Payment Rank*

	(1)	(2)	(3)	(4)
Anglophone	0.17**	0.18***	0.18***	0.18***
	(0.07)	(0.06)	(0.05)	(0.05)
West Africa	0.16**	0.11	0.10	0.10
	(0.07)	(0.08)	(0.08)	(0.07)
East Africa	0.11***	0.08*	0.08*	0.08**
	(0.02)	(0.04)	(0.04)	(0.04)
Landlocked	−0.02	0.00	−0.01	−0.00
	(0.02)	(0.03)	(0.03)	(0.03)
Ethnic fractionalization		0.03	0.03	0.04
		(0.11)	(0.11)	(0.10)
Pre-colonial state centralization		−0.11	−0.11	−0.10
		(0.08)	(0.08)	(0.08)
Former German colony			−0.02	−0.02
			(0.03)	(0.03)
Urban				0.02
				(0.03)
Age				−0.00**
				(0.00)
Employment				−0.00
				(0.02)
Education				−0.00
				(0.00)
Male				0.00
				(0.01)
Wealth				0.10**
				(0.04)
R-squared	0.02	0.02	0.02	0.02
Observations	28384	28384	28384	28384
Number of country clusters	21	21	21	21
Number of ethnic clusters	316	316	316	316

Robust standard errors clustered by country and ethnic group are in parentheses. *** Significant at 1%, ** significant at 5%, * significant at 10%.

areas, colonial forces expanded their territory primarily by annexing areas adjacent to existing colonies.

This expansion pattern implies that whether a given African country ends up being a French or British colony is strongly influenced by the country's distance from the nearest existing British and French colonies – a pattern that we exploit in order to construct the instrumental variable. For each African country, we measure its distance from the nearest British and French colonies in the year before the country was colonized. We then use the ratio of these distances to predict the colonizer. For example, consider Malawi – an Anglophone country. Its colonization by Britain began in 1889. The nearest British colony prior to 1889 was Zimbabwe (830 kms), and the nearest French colony was Antsiranana (1675 kms). The idea is that the relative proximity of Malawi to Zimbabwe was a significant factor in Malawi ending up as a British (rather than a French) colony. For each of the countries in our sample, the distances to to nearest existing French and British colonies in the year prior to colonization are provided in the appendix (see Table A.4).[10] In all cases, we consider the straight-line distance between the centroids of each geographic unit.

The instrumental variable, *Relative Distance*, is defined as:

$$\textit{Relative Distance} = \frac{\text{Distance to the nearest existing British colony}}{\text{Distance to the nearest existing French colony}}$$

In order for the IV regression to deliver a consistent estimate, it is not enough that the instrument provides a significant correlation in the first stage; we also need that the instrument should not affect the outcome variables other than through its effect on the endogenous variable. That is, the instrument should not only be relevant, but it also needs to be exogenous.

Admittedly, as is the case with any instrument, one cannot conclusively rule out all possible channels by which the instrument may affect the outcome variables. While aware of this caveat, we find it quite hard to imagine plausible scenarios where distance to the nearest existing French and British colonies is not orthogonal to factors that may potentially affect the outcome variables in our analysis. Our outcome variables, like inter-ethnic rivalries, seem to be primarily driven by domestic situations within the territory such as the level of ethnic fractionalization and historical inter-ethnic conflicts. On the other hand, the exact distances of the nearest British and French colonies from a territory at the time of the territory's occupation (which

[10]The years of colonization are determined according to various historical sources listed in the appendix.

are the source of variation for our instrument) are likely to be determined by historical situations that the colonizers faced in the lead-up to the conquest of the nearest colonies. These historical situations may include, among other factors, the colonizers' military resources, the level of resistance that the colonizers had faced and difficulty of the terrain *during previous* conquests. For example, in 1888 (the year of Ugandan occupation), Britain possessed colonies much closer to Uganda than did France. Our identifying assumption is that these differences of distance are not primarily the results of domestic situations within Uganda. Instead, they were outcomes of historical factors that led Britain to occupy the southern African territories (and France to occupy the western African territories) in the earlier years – factors that do not seem to be results of the domestic situations at the time within the Ugandan territory. Thus, it seems plausible to assume that these distance differences are orthogonal to domestic factors within Uganda and hence our outcome variables.

Moreover, in an attempt to diagnose possible violations of the exogeneity assumption more systematically, we regress the instrument on each of the country-level control variables to check whether there is a sign of correlation between the instrument and observable factors that can potentially affect the outcome variables. Table 5 presents the results. We see that none of the control variables show significant correlation with the instrument, indicating no violation of the exclusion restriction.

B. Results

Turning to the IV regressions, Table 6 reports the results for the salience of national identity. The dependent variable is *National Identity Rank*. We include control variables following the patterns in our OLS specifications in the previous tables. In the bottom panel, we report the first-stage coefficient on the instrument *Relative Distance* and F-stat on the excluded instrument. The coefficient on the instrument has the expected sign and is significant. The F-stat is also fairly large.

The first column controls only for geographic variables. We see that the coefficient on *Anglophone* is negative and significant, implying that the salience of national identity is relatively low in Anglophones and reaffirming the results from the OLS estimations. The second column controls for ethnic fractionalization and pre-colonial state centralization. Both of the controls enter significantly. Column (3) includes an indicator variable for whether the country was a former German colony. This control is also significant. Finally, we control for individual-level respondent characteristics. Notice that even though many of the controls enter significantly (particularly national-level variables), the coefficient on *Anglophone* remains stable

Table 5: Coefficient from regressions of the instrument on country characterstics.

	(1)	(2)	(3)	(4)	(5)	(6)
West Africa	0.39					
	(0.33)					
East Africa		-0.06				
		(0.36)				
Landlocked country			-0.29			
			(0.34)			
Ethnic fractionalization				1.38		
				(0.98)		
Pre-colonial state centralization					-0.54	
					(0.60)	
Former German colony						-0.01
						(0.48)
R-squared	0.07	0.00	0.04	0.09	0.04	0.00
Observations	21	21	21	21	21	21

Robust standard errors are in parentheses. *** Significant at 1%, ** significant at 5%, * significant at 10%.

Table 6: Results from IV regressions. The dependent variable is *National Identity Rank*

	(1)	(2)	(3)	(4)
Anglophone	-0.42^{*}	-0.43^{**}	-0.42^{***}	-0.42^{***}
	(0.24)	(0.18)	(0.16)	(0.16)
West Africa	-0.22	0.16	0.22	0.22
	(0.27)	(0.20)	(0.18)	(0.18)
East Africa	0.18	0.66^{***}	0.67^{***}	0.67^{***}
	(0.14)	(0.20)	(0.15)	(0.15)
Landlocked	-0.36^{***}	-0.46^{***}	-0.37^{***}	-0.37^{***}
	(0.13)	(0.10)	(0.08)	(0.08)
Ethnic fractionalization		-1.68^{***}	-1.73^{***}	-1.72^{***}
		(0.48)	(0.44)	(0.44)
Pre-colonial state centralization		-0.42^{**}	-0.48^{**}	-0.49^{**}
		(0.19)	(0.19)	(0.19)
Former German colony			0.28^{**}	0.28^{**}
			(0.11)	(0.11)
Urban				0.01
				(0.04)
Age				0.00
				(0.00)
Employment				-0.00
				(0.03)
Education				0.00
				(0.01)
Male				0.06^{***}
				(0.02)
Wealth				-0.05
				(0.09)
First-stage coefficient on the excluded instrument	-0.51	-0.51	-0.51	-0.49
F-stat on the excluded instrument	59.59	64.78	87.63	97.47
R-squared	0.04	0.07	0.07	0.07
Observations	28967	28967	28967	28967

Robust standard errors clustered by country and ethnic group are in parentheses. *** Significant at 1%, ** significant at 5%, * significant at 10%.

across columns. This is reassuring since the stability of the coefficient on *Anglophone*, despite inclusion of controls that enter significantly, suggests that the effect in the IV regression appears to be insulated from confounding factors.

Table 7 presents results for tax compliance. The dependent variable is *Compliance Rank*. As is the case with the OLS estimates, even though the signs are consistently negative, the tax compliance results lack statistical significance.

Table 8 reports the results for the prevalence of extortion by non-state actors. We see that the IV results reaffirm the findings from OLS regressions, namely, that Anglophones are more likely to face extortion by non-state actors. Once again, the coefficient on *Anglophone* remains stable as we include more controls.

As a robustness check, we run the IV regressions with the binary outcome measures (*National Identity Binary*, *Tax Compliance Binary* and *Extortion Binary*) as our dependent variables, and found similar results (see Table A.2 in the appendix).

4.3 Regression Discontinuity

Turning now to the second approach to address the endogeneity, we implement regression discontinuity (RD) on a limited set of observations in our sample that reside in areas near borders shared by Anglophone and Francophone countries. There is little disagreement among African scholars that African borders were for the most part arbitrarily drawn by colonizers. As the British prime minister at the time Lord Salisbury said, *"we have been engaged in drawing lines upon maps where no white man's feet have ever trod; we have been giving away mountains and rivers and lakes to each other, only hindered by the small impediment that we never knew exactly where the mountains and rivers and lakes were."*[11] Thus, the borders typically divided communities that belonged to relatively homogeneous groups that shared similar ethnicity, political organization and agro-economic zones (see Michalopoulos and Papaioannou (2011) for more systematic evidence). This means that discontinuities at borders can be reasonably interpreted as "border effects," i.e., effects of colonial border demarcations as opposed to, say, pre-colonial differences.

Of the twenty-one countries in our sample, nine have borders shared by an Anglophone and a Francophone country, all in West Africa. Three of them are Anglophone countries (Ghana, Nigeria and Sierra Leone), and the rest are Francophone (Guinea, Cote d'Ivoire, Burkina Faso, Togo, Benin and Niger). As shown in Figure 1, there are

[11] Geographical Journal, vol. xxciii, Proceedings, Mar. 9, 1914.

Table 7: Results from IV regressions. The dependent variable is *Tax Compliance Rank*

	(1)	(2)	(3)	(4)
Anglophone	−0.04	−0.04	−0.04	−0.05
	(0.07)	(0.05)	(0.05)	(0.06)
West Africa	0.11	0.11	0.11	0.12
	(0.13)	(0.13)	(0.13)	(0.12)
East Africa	−0.09	−0.04	−0.04	−0.03
	(0.12)	(0.11)	(0.11)	(0.10)
Landlocked	−0.04	−0.03	−0.03	−0.01
	(0.06)	(0.05)	(0.06)	(0.06)
Ethnic fractionalization		−0.35**	−0.36**	−0.31**
		(0.15)	(0.15)	(0.14)
Pre-colonial state centralization		−0.29***	−0.29***	−0.28***
		(0.11)	(0.11)	(0.10)
Former German colony			0.02	0.02
			(0.06)	(0.06)
Urban				0.08***
				(0.02)
Age				0.00***
				(0.00)
Employment				−0.03
				(0.03)
Education				0.03***
				(0.01)
Male				0.02**
				(0.01)
Wealth				−0.03
				(0.06)
First-stage coefficient on the excluded instrument	−0.51	−0.51	−0.51	−0.49
F-stat on the excluded instrument	59.24	63.92	86.46	95.69
R-squared	0.03	0.03	0.03	0.04
Observations	28079	28079	28079	28079

Robust standard errors clustered by country and ethnic group are in parentheses. *** Significant at 1%, ** significant at 5%, * significant at 10%.

Table 8: Results from IV regressions. The dependent variable is *Extortion Rank*

	(1)	(2)	(3)	(4)
Anglophone	0.19***	0.19***	0.19***	0.20***
	(0.05)	(0.04)	(0.04)	(0.04)
West Africa	0.17***	0.11*	0.11*	0.11**
	(0.05)	(0.07)	(0.06)	(0.06)
East Africa	0.12***	0.08*	0.08*	0.08**
	(0.02)	(0.04)	(0.04)	(0.04)
Landlocked	−0.02	0.00	−0.00	0.00
	(0.02)	(0.03)	(0.03)	(0.03)
Ethnic fractionalization		0.03	0.03	0.04
		(0.10)	(0.10)	(0.09)
Pre-colonial state centralization		−0.12	−0.11	−0.10
		(0.08)	(0.08)	(0.08)
Former German colony			−0.02	−0.02
			(0.04)	(0.03)
Urban				0.02
				(0.03)
Age				−0.00***
				(0.00)
Employment				−0.00
				(0.02)
Education				−0.00
				(0.00)
Male				0.00
				(0.01)
Wealth				0.10**
				(0.04)
First-stage coefficient on the excluded instrument	−0.51	−0.51	−0.51	−0.49
F-stat on the excluded instrument	59.95	65.34	87.11	96.49
R-squared	0.02	0.02	0.02	0.02
Observations	28384	28384	28384	28384

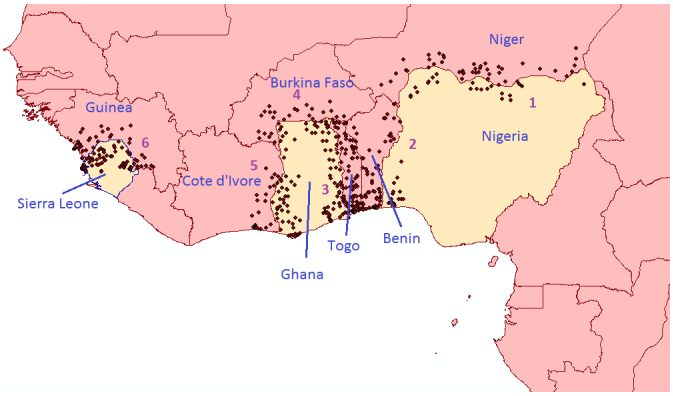
Robust standard errors clustered by country and ethnic group are in parentheses. *** Significant at 1%, ** significant at 5%, * significant at 10%.

Table 9: Results from regression-discontinuity

	National Identity Rank		Compliance Rank		Extortion Payment Rank	
	(1)	(2)	(3)	(4)	(5)	(6)
Angolophone	-0.32^{***}	-0.35^{***}	-0.11^{***}	-0.11^{***}	0.14^{***}	0.15^{***}
	(0.06)	(0.06)	(0.04)	(0.04)	(0.03)	(0.03)
Age		-0.00		0.00^{*}		-0.00
		(0.00)		(0.00)		(0.00)
Male		0.03		0.04^{**}		0.00
		(0.03)		(0.02)		(0.01)
Employment		0.03		-0.05^{**}		0.00
		(0.04)		(0.02)		(0.02)
Urban		-0.03		0.06^{***}		0.01
		(0.04)		(0.02)		(0.02)
Education		0.03^{***}		0.01^{**}		0.00
		(0.01)		(0.00)		(0.00)
Wealth		0.11^{*}		0.01		0.15^{***}
		(0.07)		(0.04)		(0.03)
Distance		1.30^{**}		-0.23		0.74^{***}
		(0.52)		(0.29)		(0.28)
Distance square		-1.96		1.06		-1.74^{***}
		(1.27)		(0.71)		(0.63)
Distance cube		1.02		-0.78^{*}		1.10^{***}
		(0.87)		(0.47)		(0.40)
R-squared	0.15	0.16	0.08	0.09	0.08	0.08
Observations	5749	5749	5600	5600	5517	5517

This table reports results from regression-discontinuity. The observations are drawn from respondents residing within 100 km from shared borders between Anglophone and Francophone countries. Fixed-effects for ethnic groups and border segments are included in the regressions. Robust standard errors clustered by ethnic group are in parentheses.
*** Significant at 1%, ** significant at 5%, * significant at 10%.

Figure 1: Border



six segments of shared borders among these countries.[12] Using geodata, we located the village of each respondent.[13] In the baseline regression, we selected respondents that were located within 100 kilometers of the borders. We also did robustness checks with 75 and 125 km and found similar results. Thanks to the wide geographic coverage of the Afrobarometer surveys within each country, we have more than 5,500 observations for our analysis (in the baseline regression).

Table 9 reports results from the discontinuity regressions for national identity, tax compliance and prevalence of extortion by non-state actors. The dependent variables are *National Identity Rank*, *Compliance Rank* and *Extortion Payment Rank*. In all of the regressions, we include fixed effects for each of the border segments to account for potential heterogeneity among different segments arising from, for example, differences in how the borders are drawn.[14] We also include fixed effects for each ethnic territory. This helps account for differences in ethnic compositions across borders. In order to account for the possible effect of distance from the borders, we control for distance from borders. The polynomial distance terms are meant to capture potential non-linearities in the effect of distance.

[12]The shared border between Nigeria and Cameroon is excluded from our six border group. In 1961, southern part of British Cameroons joined Cameroon while the northern part joined Nigeria; thus, the current border between Nigeria and Cameroon is not the original dividing line between French and British rule.

[13]The geodata on Afrobarometer respondents are from Kotsadam et al. (2015). We would like to thank Eivind Hammersmark Olsen for collecting the geodata and sharing it with us.

[14]Some borders, like the one between Ghana and Burkina Faso, may be more reflective of natural differences (due to the Volta River between the two borders) than others like the Nigeria-Niger border.

Using the binary outcome measures – *National Identity Binary*, *Compliance Binary* and *Extortion Payment Binary* – as the dependent variables delivers similar results (see Table A.3 in the appendix).

The results reiterate the empirical patterns that we have uncovered in the previous tables. Anglophones report a lower salience of national identity. They also report weaker attitudes towards tax compliance, and face a higher frequency of extortion by non-state actors.[15] One important pattern is that the coefficient for attitudes towards tax compliance, which was not significant in the OLS and IV regressions, is now significant.

5 Concluding remarks

The role of ethnicity in economic and institutional development of states has received increased attention in recent years. Despite the emphasis on the detrimental impact of ethnic rivalry on the construction of national identity and state-building, the role of historical factors in fomenting these rivalries and undermining state-building remains poorly understood. This paper examines the legacies of different styles of colonial rule in Africa. Our study is motivated by debates surrounding the distinction between the strategies adopted by Britain and France, as well as their implications for long-term state-building in Africa. While Britain adopted the "divide-and-rule" strategy, which is argued to have fostered (and sometimes created) local ethnic rivalries, the exploitation of inter-ethnic rivalries played a less prominent role in control strategy adopted by France.

Two key features characterize the divide-and-rule strategy. The first involves identifying (or creating) locally powerful men from the pre-colonial power structure, such as tribal chiefs, and making them part of the colonial administration. The second involves fostering and exploiting rivalries among ethnic groups to weaken and control local populations. This strategy is primarily aimed at undermining cooperation among various ethnic groups that might otherwise have led to a more unified and stronger resistance against the colonial power.

Broadly speaking, there are two possible reasons in the literature as to why the divide-and-rule strategy may pose a lasting challenge to state-building in Anglophone Africa. First, historical rivalries among ethnic groups within a state could make it difficult to construct a strong sense of nationhood. Second, the chiefs that were

[15]There are slight variations in the number of observations across columns due to missing values for some variables in the Afrobarometer data.

empowered in British colonies during the colonial era still tend to retain significant power in many Anglophone countries, which can undermine the process of building a strong central state if such a state may be viewed as a threat to the chiefs' power. These arguments contrast with the view that the distinction in colonial occupation strategy should matter very little for post-colonial state development in Africa since the colonizers' control, which tended to be limited to capitals and coastal towns, did not appear to be strong enough to affect post-colonial institutions.

The empirical findings lend support to the hypothesis that Britain's divide-and-rule strategy has had a lasting negative impact on state-building. We find that citizens in Anglophone countries tend to report a lower salience of national identity. Anglophone respondents are also less likely to view paying taxes as an important obligation, which is a sign of weaker norms towards tax compliance. They are also more likely to face extortion by non-state actors, indicating the weakness of Anglophone states to monopolize violence. Furthermore, these results hold both in the instrumental variable and regression discontinuity identification strategies we deploy in our analysis.

In addition to highlighting the role of history in fostering inter-ethnic rivalries, the results also suggest that policies adopted by those who control the central government can either exacerbate or mitigate frictions among ethnic groups. Colonial policies are likely to be one of the many factors that affect rivalries among ethnic groups. Thus, future research could provide valuable insights in order to identify what kind of government policies influence inter-ethnic cooperation and state-building.

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Appendix A Country details and robustness regressions

Table A.4: Country details

Country (colonizer)	Sample size	Colony established*	Nearest British/ French colony	D_{bri}/D_{fra} $(RD)^{**}$
Benin (F)	1186	1892- 1900	Lagos (B port) / Cotonou (F port)	373 / 368 (1.01)
Botswana (B)	675	1880 - 1885	South Africa / Antsiranana (F port)	863 / 3069 (0.28)
Burkina Faso (F)	1000	1896 - 1919	Ghana / Mali	480 / 622 (0.77)
Cote d'Ivoire (F)	2169	1886 - 1893	Ghana / Grand-Bassam (F port)	470 / 310 (1.52)
Ghana (B)	2269	1821 - 1867	Cape Coast (B port) / Dakar (F port)	320 / 1908 (0.16)
Guinea (F)	1004	1890 - 1898	Freetown (B port) / Conakry (F port)	336 / 319 (1.05)
Kenya (B)	833	1888 - 1895	Mombasa (B port) / Antsiranana (F port)	514 / 1923 (0.27)
Lesotho (B)	2069	1867 -1868	South Africa/ Antsiranana (F port)	360 / 3124 (0.12)
Madagascar (F)	1126	1885 - 1896	South Africa / Antsiranana (F port)	2684 / 884 (3.04)
Malawi(B)	732	1889 - 1891	Zimbabwe / Antsiranana (F port)	830 / 1675 (0.50)
Mali(F)	2317	1890 - 1892	Ghana / Mauritania	1113 / 833 (1.33)
Namibia(B)	1133	1915 -1915	Botswana / Congo	731 / 2441 (0.30)
Niger (F)	2357	1895 - 1900	Lagos (B port) / Mali	1422 / 1436 (0.99)
Nigeria (B)	2165	1879 - 1900	Lagos (B port)/ Dakar (F port)	641 / 2901 (0.22)
Senegal (F)	1166	1850 - 1865	Freetown (B port) / Dakar (F port)	680 / 333 (2.04)
Sierra Leone (B)	2142	1800- 1895	Freetown (B port) / Dakar (F port)	160 / 938 (0.17)
Tanzania (B)	1071	1924 - 1924	Malawi / Madagascar	787 / 2004 (0.39)
Togo (F)	918	1920 - 1920	Ghana / Benin	340 / 197 (1.73)
Uganda (B)	871	1888 - 1894	Mombasa (B port) / Antsiranana (F port)	992 / 2420 (0.41)
Zambia (B)	1132	1886 - 1890	Botswana / Antsiranana (F port)	1108 / 2403 (0.46)
Zimbabwe (B)	1118	1885 - 1888	Botswana / Antsiranana (F port)	774 / 2302 (0.34)

* This column lists the periods during which control of each colony's territory took place.

** $RD \equiv \frac{D_b}{D_f}$, where $D_b(D_f)$, denotes distance to nearest British (French) colony.

Table A.1: Results from OLS, probit and ordered logit models

Dependent variable	Model Specification	(1)	(2)	(3)	(4)
National Identity Rank	Ordered Logit	-0.93**	-0.92***	-0.86***	-0.88***
		(0.40)	(0.29)	(0.27)	(0.27)
National Identity Binary	OLS	-0.26***	-0.25***	-0.24***	-0.24***
		(0.09)	(0.06)	(0.06)	(0.06)
National Identity Binary	Probit	-0.67***	-0.66***	-0.62***	-0.63***
		(0.26)	(0.18)	(0.17)	(0.17)
Observations: 28967					
Compliance Rank	Ordered Logit	-0.09	-0.04	-0.03	-0.08
		(0.22)	(0.20)	(0.20)	(0.20)
Compliance Binary	OLS	-0.03	-0.02	-0.02	-0.03
		(0.06)	(0.05)	(0.05)	(0.05)
Compliance Binary	Probit	-0.08	-0.05	-0.04	-0.07
		(0.15)	(0.14)	(0.13)	(0.13)
Observations: 28079					
Extortion Rank	Ordered Logit	1.35***	1.43***	1.46***	1.49***
		(0.43)	(0.35)	(0.35)	(0.33)
Extortion Binary	OLS	0.68***	0.71***	0.73***	0.74***
		(0.21)	(0.17)	(0.17)	(0.16)
Extortion Payment Binary	Probit	-0.67***	-0.66***	-0.62***	-0.63***
		(0.26)	(0.18)	(0.17)	(0.17)
Observations: 28384					
Location control		Yes	Yes	Yes	Yes
Ethnic fraction and centralization control		No	Yes	Yes	Yes
Former German colony control		No	No	Yes	Yes
Individual control		No	No	No	Yes
Number of country/ethnicity clusters: 21/316					

This table reports estimated coefficients on *Anglophone* from alternative specifications. The first (second) column describes the dependent variables (regression models). The last four columns include alternative sets of controls in the regressions, which are listed in the bottom rows. Standard errors clustered by country and ethnic group are in parentheses. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table A.2: Results from IV regressions. The dependent variables are *National Identity Binary* (Panel A), *Compliance Binary* (Panel B) and *Extortion Payment Binary* (Panel C).

Panel A: *National Identity Binary*				
Anglophone	-0.19*	-0.19***	-0.19***	-0.19***
	(0.10)	(0.07)	(0.07)	(0.06)
R-squared	0.05	0.08	0.09	0.09
Observations	28967	-	-	-
Panel B: *Tax Complaince Binary*				
Anglophone	-0.04	-0.04	-0.04	-0.04
	(0.05)	(0.04)	(0.04)	(0.04)
R-squared	0.02	0.03	0.03	0.03
Observations	28079	-	-	-
Panel C: *Extortion Payment Binary*				
Anglophone	0.12***	0.12***	0.12***	0.12***
	(0.03)	(0.02)	(0.02)	(0.02)
R-squared	0.02	0.03	0.03	0.03
Observations	28384	-	-	-
Location control	Yes	Yes	Yes	Yes
Ethnic fraction and centralization control	No	Yes	Yes	Yes
Former German colony control	No	No	Yes	Yes
Individual control	No	No	No	Yes

This table reports the IV regression results for three dependent variables. The list of control variables included in the regressions are provided below the coefficients. Standard errors clustered by countries and ethnic groups are in parenthesis.
* significant at 10%, ** significant at 5%, *** significant at 1%.

Table A.3: Results from regression discontinuity

	National Identity Binary		Compliance Binary		Extortion Payment Binary	
	(1)	(2)	(3)	(4)	(5)	(6)
Angolophone	-0.18^{***}	-0.19^{***}	-0.08^{***}	-0.08^{***}	0.09^{***}	0.09^{***}
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Age		-0.00		0.00		-0.00^{*}
		(0.00)		(0.00)		(0.00)
Male		0.00		0.04^{***}		0.00
		(0.01)		(0.01)		(0.01)
Employment		0.01		-0.02		0.00
		(0.02)		(0.02)		(0.01)
Urban		-0.02		0.03^{*}		0.00
		(0.02)		(0.02)		(0.01)
Education		0.01^{***}		0.01		0.00
		(0.00)		(0.00)		(0.00)
Wealth		0.07^{**}		0.03		0.08^{***}
		(0.03)		(0.03)		(0.02)
Distance		0.49^{**}		-0.16		0.54^{***}
		(0.23)		(0.24)		(0.15)
Distance square		-0.70		0.87		-1.27^{***}
		(0.54)		(0.57)		(0.33)
Distance cube		0.39		-0.68^{*}		0.80^{***}
		(0.36)		(0.38)		(0.21)
R-squared	0.19	0.19	0.08	0.09	0.10	0.11
Observations	5749	5749	5600	5600	5517	5517

This table reports results from regression-discontinuity. The observations are drawn from respondents residing within 100 km from shared borders between Anglophone and Francophone countries. Fixed-effects for ethnic groups and border segments are included in the regressions. Robust standard errors clustered by ethnic group are in parentheses.
*** Significant at 1%, ** significant at 5%, * significant at 10%.

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