Colonial Legacy and Contemporary Armed conflict in Africa

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Contents

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Abstract

This paper explores how variations in the colonial experience of African countries correlate with the contemporary levels of conflict on the continent, hence entering a broader body of research about the historical roots of comparative development. We closely follow previous research on the impact of ethnic partitioning on conflict, also using a geo-referenced conflict events dataset from the Armed Conflict Location and Event Data (ACLED) as well as other geographical, ecological and demographic geo-referenced data on the African continent. A negative binomial model with multi-way clustered standard errors is estimated, and the main findings point at the existence of a significant correlation between variations in the colonial experience and conflict levels across the African continent.

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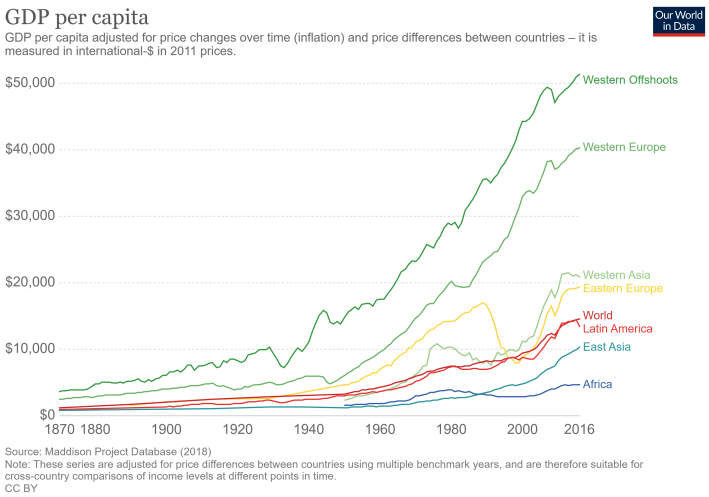
1 Introduction

The past half-century on the African continent has been marked by a devastating wave of armed conflicts, one of the most salient ones being the Second Congo War which, by 2008, had caused 5.4 million deaths, making it the deadliest conflict worldwide since World War II [2]. But Congo's case is not unique. Scholars E. Elbadawi and N. Sambanis assert that "Over the last forty years, nearly 20 African countries have experienced at least one period of civil war"[10]. That represents about forty percent of African countries suffering the long-lasting detrimental effects of such conflicts. Indeed, by utilizing the forecasts from IMF's World Economic Outlook focusing on ten conflicts on the African continent, a Regional Economic outlook study titled *The Economic Consequences of Conflicts* shows that five years after a conflict, "[the] per capita GDP is, on average, 8 percent below its pre-conflict level" [11]. This serves as evidence for the fact that African economies have not experienced the same exponential growth as other economies did [4], as illustrated in the below figure, and as of today, conflict remains among the greatest impediments to African development[16], given the negative implications it has on various key necessities such as human capital, security, stability, safety to invest, infrastructures and institutions.



As conflict represents such a critical factor in understanding Africa's underdevelopment, there has been a growing number of studies focusing on the roots and implications of conflict on the African continent. A particularly increasing number of empirical studies argue that Africa's relative under-performance at different levels (Economic, Institutional, social) can be traced back to the colonial era. Indeed, only two out of fifty-four African countries were not colonies at any point in the past, and therefore African countries have undergone tremendous involuntary changes under the influence of colonizers in the form of institutions, religion, languages and many other day-to-day dimensions. Such forced external influenced African countries' long-term development paths, but the challenge lies in unravelling the nature of such an influence.

In that light, our main interest in this research project is the relationship between colonial legacies and contemporary armed conflict in Africa. Finding answers to the questions of the role of colonial legacies on contemporary outcomes is, as stated by authors Stelios Michalopoulos and Elias Papaioannou in their review of the literature on *Historical Legacies and African Development*, "not only from an intellectual standpoint", but "carries lessons for policy-makers, development practitioners, and investors alike"[14]. This research project therefore enters a broader body of research about the historical roots of comparative development, focusing on the issue of contemporary conflict in Sub-Saharan Africa. We specifically explore how variations in the colonial experience correlate with the varying levels of contemporary conflict, adding to the previous literature in two major ways. Firstly, instead of treating colonial variable as simply absence or presence of colonialism, this study takes a more nuanced approach to the colonial experience, which spans various colonizer identities. Secondly, the literature on colonialism and conflict, especially in the context of Africa, focuses on conflicts during the latter part of the last century. Following the lead of authors Michalopoulos and Papaioannou (2018, ACLED), we use more recent data on conflict, hence analysing the long term incidence of the colonial experience on conflict levels. As such, the broad question

of this research is,

> "Are variations in the colonial experience important in explaining today's conflict levels in Africa?"

To answer the above, this study builds on Michalopoulos, Papaioannou (2018), using a geo-referenced conflict events dataset from the Armed Conflict Location and Event Data (ACLED) [6] as well as other geographical, ecological and demographic geo-referenced data on the African continent. A negative binomial model with multi-way clustered standard errors is estimated. The main findings point at the existence of a significant correlation between variations in the colonial experience and conflict levels across the African continent.

2 Literature Review

2.1 Pre-colonial roots

There is a large body of research aiming to understand the origins of contemporary conflict in Africa. Some of this research has sought to find its answers in the pre-colonial Era. Emilio Chauvin examines the role of historical political centralization on the likelihood of contemporary civil conflict in Sub-Saharan Africa in his research paper titled *State history and contemporary conflict: evidence from Sub-Saharan Africa*. He compiles a State History Index covering the 1000 - 1850 CE period and also different areas' time-varying proximity to the nearest historical African city, which he uses as a proxy for long-run exposure to statehood [7]. He also uses data on conflict from the Uppasala Conflict Data Program. Chauvin finds a robust relationship between long-run exposure to statehood and contemporary conflict, concluding that areas with a longer exposure to statehood are less prone to experience contemporary conflict.

Timothy Besley and Marta Reynal-Queyrol approach the issue of contemporary conflict from a different angle in their research titled *The Legacy of Historical Conflict: Evidence from Africa*. They investigate how patterns in post-colonial conflict reflect conflict patterns during pre-colonial times in Africa. In order to explore their question, they use data from the Historical Conflict Catalogue, spanning the period between 1400 and 1700, to capture the intensity of pre-colonial conflict. As for post-colonial conflict, they use data from the Armed Conflict and Location Event Data on 49 African countries, spanning the years between 1997 and 2010. Besley and Reynald-Queyrol find that there is indeed evidence for the claim that contemporary civil conflict and are a legacy of historically recorded conflict, given the robust relationship between both phenomena [3]. These two examples attempting to link post-colonial conflict outcomes to pre-colonial factors have in general, found robust relationships between the two phenomena.

2.2 The impact of colonialism

Whether through its institutions, or its extractive practices, colonialism has been deemed to be a significant explanatory factor in Africa's contemporary armed conflict issues. Starting from the premise that colonizing powers strongly influenced their colonies through institutions, Simeon Djankov and Marta Reynal-Querol look at the influence of institutions on civil war in their paper titled *The Causes of Civil War*. They collect their data from the Armed Conflict Dataset, looking at a sample of 211 countries over the 1960-2005 period. They also use two proxies for measuring the strength of institutions, the first one being a variable derived from previous works, measuring the likelihood of "expropriation of private foreign investment by government"[8]. The second proxy, collected from the International Country Risk Guide, measures the strength of law and order in each country of observed. Djankov and Reynal-Querol's results support the claim that the quality of institutions is indeed a fundamental determinant of

contemporary conflict.

In their paper titled *Dividing and Ruling the World? A Statistical Test of the Effects of Colonialism on Postcolonial Civil Violence*, Matthew Lange Andrew Dawson (2009) also discuss the origin of contemporary conflict. They examine the influence of colonialism on post-colonial civil violence, utilizing data on conflict from the Minorities at Risk Project and covering 160 countries over the 1960-1999 period. Using various sources, they also construct a dataset on the colonial past of the 160 countries in their sample. Among other variables, they consider the colonial status of an observation, the identity of the colonizing power, and the colonial duration. They also account for a number of control variables, including state history, the gross domestic product of countries of interest, as well as the prevalence of democracy. Lange and Dawson's findings support the claim that "Inter-communal violence is a common legacy of colonialism-especially of British colonialism and colonialism by minor colonial powers"[12].

The last and most recent paper reviewed in this preliminary review is Stelios Michalopoulos and Elias Papaioannou's work titled *the Long-run Effects of the Scramble for Africa*, in which they seek to analyze the effects of ethnic partitioning during colonization on contemporary conflict. They estimate the degree of ethnic partitioning by overlapping two sets of geo-referenced data: the first one, covering contemporary borders of African countries, and the second, reflecting the special distribution of various ethnicities on the African continent in the late 19th century and early 20th century. The authors also import their data on conflict from the Armed Conflict Location and Event Data, focusing on the 1997-2013 period. They find that in countries occupied by previously partitioned groups, "conflict intensity is approximately 40% higher, conflict duration 50% to 60% higher, and the likelihood of conflict 8% higher"(Michalopoulos and Papaioannou 2016).

From the works reviewed, we understand that the literature on the

effects of colonialism on contemporary conflict documents a strong impact of colonialism on conflict, although through different means. In the following section, we will be situating our work in the context of the existing literature on the topic.

2.3 Contribution

The existing literature on the relationship between colonial legacies and contemporary conflict in Africa establishes a causal relationship – through different factors – between the two phenomena. That being said, this research project will seek to complement the existing literature at two levels.

Firstly, we focus on the variations in the colonial experience and their impact contemporary conflict levels in Africa. Only a small number of works within the literature focus on the variations in outcomes between different colonial experiences (i.e. whether the countries in Africa were colonized by French, British or other colonizers), while most research compares data from both colonized and non-colonized countries in their empirical analysis, hence taking a more global approach. In Lange and Dawson's paper on colonialism and civil violence, for example, we notice that beyond the global scope of their analysis, the authors insert a "regional dummy for sub-Saharan Africa"[12] to capture "diverse" regional characteristics affecting the intensity of conflict in Sub-Saharan Africa as a whole. Instead of using a dummy variable to characterize the entire region, there is a need to dig deeper and focus on the differences within Africa – in terms of colonial experiences – in order to yield more nuanced results.

Secondly, in analyzing the effects of colonialism over post-independence conflicts, there is a general focus on conflicts that occurred over the period of time immediately following the decolonization era, hence capturing a short-term relationship. Indeed, the decolonization of Africa has taken place progressively between the late 1950s and the early 1970s. Therefore, analyzing contemporary

data on conflict may yield different results from an analysis of conflict in the period immediately following the decolonization era. While Lange and Dawson's study uses data from the Minorities at Risk Project capturing conflict over the 1960-1999 period, Djankov and Reynal-Queyrol collect data from the Armed Conflict Dataset spanning the 1960-2005 period. Hence this project will seek to add value to the literature by focusing on conflict over the last two decades, therefore analyzing the long-term relationship between the colonial experience and conflict.

3 Analysis

3.1 Data and Variables

Our main dependent variable of interest in this study is conflict. The data on conflict is obtained from the Armed Conflict Location and Event Data (ACLED), which "collects real-time data on the locations, dates, actors, fatalities, and types of all reported political violence and protest events" across the world.[**dataacled**]. ACLED's fundamental unit of observation is the *event*, which "occur[s] between designated actors [...], at a specific named location (identified by name and geographic coordinates) and on a specific day"[1]. While it does not provide a definition of this fundamental unit, ACLED codes for nine types of conflict events, both violent and nonviolent [1]. Our dataset of interest covers 199,312 conflict events spanning 51 African countries from 1997 through 2019.

The unit of analysis is country-ethnicity, obtained by overlaying a map of current African national borders to Murdock's 1959 ethnographic map of Africa. That process generates 1334 observations, among which 577 partitioned groups, and 757 non-partitioned, where our historical partitioning index is a binary variable coded "1" for ethnicities having at least 10% of their surface area

across different countries, and "0" otherwise. In conformity to Michalopoulos and Papaioannou's work, we also create a "spillover effect" variable which denotes the percentage of adjacent partitioned groups, for each observation.

Our set of independent variables of interest is a vector of indicator variables signaling the colonial experience for each observation. This vector of variables points at three types of colonial backgrounds: French, British, and "mixed". While African countries have undergone colonial influences from seven European powers in total, including Britain, France, Germany, Belgium, Spain, Portugal, and Italy, we make this choice of variables for two reasons. The first one is that France and Britain are the two major colonizing powers in Africa. That gives us enough variation in the observations falling within these categories, and allows us to specifically compare the two colonial backgrounds. Secondly, the choice of "mixed" as our third category comes from the acknowledgement that the colonial experience for many countries has not always been homogeneous over time, hence the need to take into account such variations. It is also important to note here that our indicator variables are not mutually exclusive.

Further, the above choice of variables infers that our omitted category comprises country-ethnicity regions whose colonial background is non-British, non-French and non-mixed. This corresponds to 301 observations spanning 9 African countries: Angola, Democratic Republic of the Congo, Equatorial Guinea, Ethiopia, Guinea-Bissau, Liberia, Libya, Mozambique, and South Sudan. Throughout our analysis, the above group of entities will be referred to as our **reference group**, and we will be mainly interested in assessing whether variations in the colonial experience infer significant and consistent deviations from the reference group in terms of conflict levels.

Finally, we add a number of control variables ranging from geographical information to information about locations of natural resources. These include the land surface area and mean elevation of country-ethnicity regions, popula-

tion density, water bodies indicators, environmental conditions favoring malaria transmission, indicators for natural resources and petroleum fields as well as other geographic indicators such as the proximity to the coast, national border, or capital city. The addition of such control variables, which are potential factors favoring of inhibiting conflict, allows to account for endogeneity issues whereby the colonizer identity may be associated with specific geographical characteristics of the colonized territory. The variables are coded by exploiting various geo-referenced datasets using *ARCGIS*, and subsequently completing the coding through *Stata*.

The below graphic is a snapshot of our data which shows on panel A, an overlay of African national borders and Conflict events, and on panel B, and overlay of African national borders and Murdock's ethnographic map of Africa, which generates 1334 observations, among which 577 partitioned groups, and 757 non-partitioned.

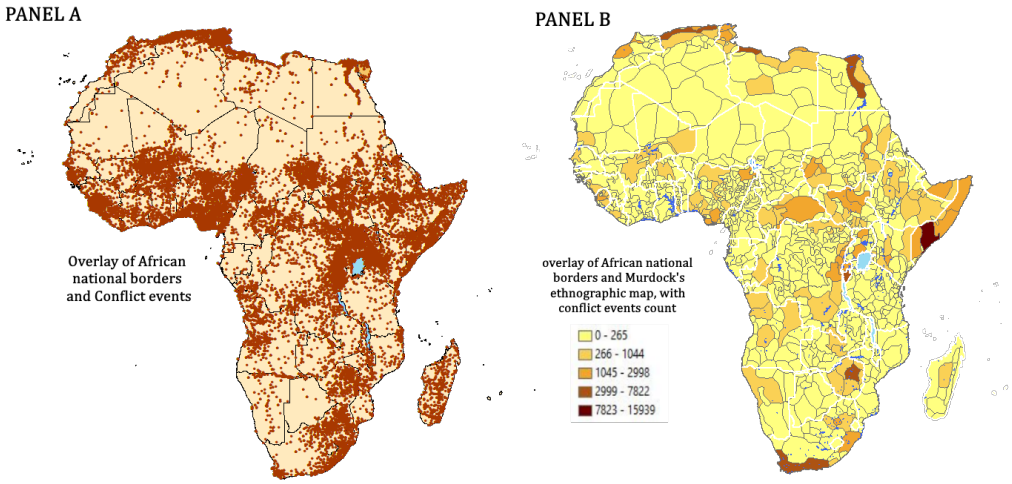


Figure 1: Data snapshot

3.2 Methodology

The first part of this study is a replication of Michalopoulos and Papaioannou's work on the impact of ethnic partitioning on conflict in Africa. By overlapping contemporary borders of African countries to the *George Murdock map of ethnographic regions for Africa* [15], they leverage the arbitrariness of border design during colonization which effectively partitioned pre-existing ethnic homelands into different pieces crossing national borders. They therefore exploit variations in conflict levels across ethnic homelands rather than across countries, henceforth accounting for some endogeneity-related shortcomings of cross-country studies. Given that the dependent variable is a count, they estimate their model using a negative binomial regression. They also use multi-way clustered standard errors, accounting for the non-independence in observations from the same ethnic group as well as the non-independence in observations from the same country, with ethnic groups spread across borders. They hence run variants of the following specification:

$$log(Y_{i,c}) = \alpha_c + \beta SPLIT_{i,c} + \gamma SPIL_{i,c} + \phi GEO_{i,c} + \epsilon_{i,c}$$

After the replication exercise, we next add our variables of interest: a vector of dummies capturing the identity of the colonizer, to study conflicts levels' correlation with the colonizer identity across Africa. In doing so, we ask, "beyond ethnic partitioning, does the identity of the colonizer has any significant effect on levels of conflict?". Hence we estimate the following specification:

$$log(Y_{i,c}) = \alpha_c + \beta SPLIT_{i,c} + \gamma SPIL_{i,c} + \theta COLONIAL_{i,c} + \phi GEO_{i,c} + \epsilon_{i,c}$$

The final part of this study aims at examining how much of the effect of the colonial background on conflict can be attributed to ethnic partitioning. We therefore interact of the colonizer identity and ethnic partitioning indicator variables, specifying the following model:

$$log(Y_{i,c}) = \alpha_c + \beta SPLIT_{i,c} + \gamma SPIL_{i,c} + \theta COLONIAL_{i,c} +$$
$$\lambda COLONIAL_{i,c} * SPLIT_{i,c} + \delta COLONIAL_{i,c} * SPIL_{i,c} + \phi GEO_{i,c} + \epsilon_{i,c}$$

The above model is estimated separately for each of our colonizer identity indicator variables, which are also interacted with the [**SPIL**] variable to account for spillover effects. In the next section, we present and discuss the results of our estimations models.

3.3 Replication exercise: Ethnic Partitioning and Civil Conflict

3.3.1 Border (Ethnic Partitioning) Artificiality: Geography, Ecology, Natural Resources and Ethnic Partitioning

Our first replication analysis is a simple linear probability model associating the binary ethnic partitioning index (split) with various geographic, ecological, and natural resource variables. Its objective is to assess the systematic differences between partitioned and non-partitioned country-ethnicity regions with regards to their observable characteristics, therefore attending to the issue of the potential endogeneity of ethnic partitioning.

Table 1: Border Artificiality: Linear probability model.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	split10pc	split10pc	split10pc	split10pc	split10pc	split10pc	split10pc
	b/se/t	b/se/t	b/se/t	b/se/t	b/se/t	b/se/t	b/se/t
Log land area	0.0003	-0.0070	-0.0124	-0.0135	-0.0037	-0.0100	-0.0126
	(0.0079)	(0.0098)	(0.0109)	(0.0135)	(0.0111)	(0.0098)	(0.0142)
	0.04	-0.71	-1.14	-1.00	-0.33	-1.03	-0.89
Lake dummy		0.0114	0.0266	0.0104	0.0128	0.0156	0.0219
		(0.0445)	(0.0477)	(0.0440)	(0.0437)	(0.0449)	(0.0428)
		0.26	0.56	0.24	0.29	0.35	0.51
River dummy		0.0839	0.0960*	0.0848	0.0829	0.0932*	0.0919*

		(0.0524)	(0.0522)	(0.0580)	(0.0529)	(0.0543)	(0.0547)
		1.60	1.84	1.46	1.57	1.72	1.68
Mean elevation			-0.0001				-0.0001*
			(0.0001)				(0.0001)
			-1.34				-1.85
mean_suit			-0.0381				
			(0.1320)				
			-0.29				
malaria				-0.1433			-0.1987
				(0.1548)			(0.1436)
				-0.93			-1.38
Distance to the sea				-0.0000			0.0000
				(0.0000)			(0.0000)
				-0.17			0.08
Mineral resources					-0.0026		0.0063
					(0.0425)		(0.0409)
					-0.06		0.15
petroleum fields					-0.1182		-0.1298
					(0.0826)		(0.0817)
					-1.43		-1.59
adjacent groups in the same cluster						-0.0619	
						(0.0703)	
						-0.88	
Log Likelihood	.001914	.0062065	.0121263	.0092097	.0101072	.0081529	.0198283
N	1331	1331	1296	1271	1331	1301	1270

From the above table, we learn three things: (1) There is no systematic difference between partitioned and non-partitioned groups with respect to the observable geographic and ecological characteristics. (2) Secondly, there is evidence of a random design of colonial borders, consistent with the literature in showing that in most cases "Europeans did not consider ethnic features and local geography in the design of colonial borders"[14]. (3) Lastly, our replicated results are in line with the original analysis given that we obtain results pointing

at similar conclusions.

3.3.2 Ethnic Partitioning and Civil Conflict: Baseline Country Fixed Effects Estimates

Now that the exogeneity of ethnic partitioning has been established, the following negative binomial analysis aims at estimating the impact of ethnic partitioning and its spillovers on conflict levels across the recorded country-ethnicity regions.

Table 2: Negative binomial model: Baseline Country Fixed Effects Estimates.

	(1)	(2)	(3)	(4)	(5)	(6)
	conflict levels	conflict levels	conflict levels	conflict levels	conflict levels	alnb6
Partitioning Index	0.2482*	0.3460***	0.2570**	0.2665**	0.2784**	0.2432*
	(0.1466)	(0.1260)	(0.1223)	(0.1236)	(0.1246)	(0.1276)
	1.69	2.75	2.10	2.16	2.23	1.91
Spillover effect	0.5774*	0.7672***	0.5800***	0.5578***	0.5575***	0.5774***
	(0.3456)	(0.2652)	(0.2181)	(0.2090)	(0.2091)	(0.2126)
	1.67	2.89	2.66	2.67	2.67	2.72
Log	-5799.008	-5474.578	-5413.580	-5177.542	-5080.374	-4842.133
Likelihood	1304	1304	1304	1247	1237	1202
country_fixed	No	Yes	Yes	Yes	Yes	Yes
area_demographic	Yes	Yes	Yes	Yes	Yes	Yes
Geographic	No	No	No	Yes	Yes	Yes
location	No	No	Yes	Yes	Yes	Yes
bottom_99	No	No	No	No	Yes	No
non_capital	No	No	No	No	No	Yes

From the table, we learn three things. Fisrtly, ethnic partitioning and its spillovers effects have a positive and significant impact on conflict. Secondly, the significance observed is consistent across different levels of control. Lastly,

the results obtained in this replication are equally in line with the original study given, that we obtain similar results in terms of the significance and direction of our partitioning and spillover variables.

3.4 Colonial experience, Ethnic partitioning and Civil Conflict

3.4.1 Colonial experience, Ethnic partitioning and Civil Conflict: Baseline Country Fixed Effects Estimates

After having run the replication of relevant results from Michalopoulos and Papaioannou's work, no we add our variables of interest, which is a vector of dummies capturing the identity of the colonizer. The following table presents the results of a negative binomial model estimated at various levels of control.

Table 3: Baseline Country Fixed Effects Estimates.

	(1)	(2)	(3)	(4)	(5)
	conflict levels	conflict levels	conflict levels	conflict levels	conflict levels
Partitioning Index	0.3425***	0.2549**	0.2658**	0.2778**	0.2427*
	(0.1267)	(0.1232)	(0.1242)	(0.1252)	(0.1282)
	2.70	2.07	2.14	2.22	1.89
Spillover effect	0.7666***	0.5755***	0.5527***	0.5521***	0.5724***
	(0.2661)	(0.2190)	(0.2100)	(0.2100)	(0.2137)
	2.88	2.63	2.63	2.63	2.68
French colonial	2.3604***	2.6957***	1.1182**	1.3000***	1.2477***
	(0.4158)	(0.3518)	(0.4710)	(0.3669)	(0.3662)
	5.68	7.66	2.37	3.54	3.41
British colonial	0.1279	0.2129	0.0770	-0.0292	-0.0264
	(0.4453)	(0.2934)	(0.3211)	(0.3128)	(0.3093)
	0.29	0.73	0.24	-0.09	-0.09
mixed backgrounds	-2.9266***	-2.9417***	-2.7942***	-2.7042***	-2.7340***
	(0.3471)	(0.2859)	(0.3036)	(0.2958)	(0.3038)
	-8.43	-10.29	-9.20	-9.14	-9.00

Log_Likelihood	-5442.702	-5382.760	-5148.458	-5051.270	-4812.981
N	1292	1292	1239	1229	1194
area_demographic	Yes	Yes	Yes	Yes	Yes
Geographic	No	No	Yes	Yes	Yes
location	No	Yes	Yes	Yes	Yes
bottom_99	No	No	No	Yes	No
non_capital	No	No	No	No	Yes

We can interpret the negative binomial regression coefficients as follows: for a one unit change in the predictor variable, "the difference in the logs of expected counts of the response variable is expected to change by the respective regression coefficient, given that the other predictor variables are held constant"[5]. This corresponds to the following formula:

$$\beta = log(\mu_{x_{0+1}}) – log(\mu_{x_0})$$

where β is the regression coefficient and μ is the expected count of conflict events. When it comes to the French variable, for example, we learn that the difference in the logs of expected conflict counts between an entity with a French colonial background and our reference group[1] is 2.3604 , while holding the other variables constant. Our main takeaways here are that relative to the reference group, (1) a French colonial background is significantly positively correlated with conflict, (2) a British colonial background is positively but not significantly correlated with conflict, and finally, (3) a mixed colonial background is negatively and significantly correlated with conflict. Furthermore, The incidence rate ratios, which have a multiplicative effect in the y scale, indicate that country-ethnicity

[1] country-ethnicity regions whose colonial background is non-British, non-French and non-mixed: this corresponds to 301 observations spanning 9 African countries: Angola, Democratic Republic of the Congo, Equatorial Guinea, Ethiopia, Guinea-Bissau, Liberia, Libya, Mozambique, and South Sudan.

regions with a French colonial background are 3.059 times more likely to experience conflicts than country-ethnicity regions in the reference group. For the British, the effects remain insignificant, while country-ethnicity regions with mixed colonial backgrounds, are less likely to experience conflicts. The latter group experiences 16 times fewer conflicts.

3.4.2 Colonial experience, Ethnic partitioning and Civil Conflict: Colonizer identity interactions

The following table is a summary our interaction models estimated at various levels of control, for each colonizer identity, whose respective tables can be found in the Appendix. The first, second, and third couples of columns respectively summarise the results from the interaction of our French, British, and mixed indicator variables with partitioning and spillover variables. It is also important to notice that results from every second column are restricted to country-ethnicity observations close to national borders. This is highlighted at the bottom of the table.

Table 4: Summary of variable interactions.

	(1)	(2)	(3)	(4)	(5)	(6)
	conflict levels	conflict levels	conflict levels	conflict levels	conflict levels	conflict levels
French colonial	1.0121**	0.3395				
	(0.5023)	(0.6953)				
	2.01	0.49				
frenchXspillover	0.0946	-0.5170*				
	(0.2207)	(0.2730)				
	0.43	-1.89				
frenchXspillover	0.1460	0.0430				
	(0.5307)	(0.6229)				
	0.28	0.07				
British colonial			0.8414**	2.1261		
			(0.3895)	(1.9210)		
			2.16	1.11		
britishXspillover			-0.1305	0.5574**		
			(0.1895)	(0.2536)		

			-0.69	2.20		
britishXspillover			-1.3116***	-0.6446		
			(0.4343)	(0.6424)		
			-3.02	-1.00		
mixed backgrounds					-2.6237***	-3.5758***
					(0.3502)	(0.6711)
					-7.49	-5.33
mixedXspillover					0.3547	1.0497***
					(0.2755)	(0.3664)
					1.29	2.86
mixedXspillover					-0.6989	-0.1076
					(0.5222)	(0.8145)
					-1.34	-0.13
Log	-5148.070	-2013.874	-5136.043	-2013.674	-5146.436	-2010.562
Likelihood	1239	594	1239	594	1239	594
border_proximity	No	Yes	No	Yes	No	Yes

Here we notice that the direction and significance of coefficients for the French, British, and Mixed variables are largely consistent with the results showed in the previous section, at the exception the British variable, which is significant in this interaction model. We also notice that the coefficients for entities close to the national borders are consistently insignificant. In order to get a better understanding of the significance and direction of our coefficients of interest,we calculate the predicted change in conflict counts for each of the colonial variables, holding all other variables in the model at their means. We find that a French colonial background is associated with 162 additional conflicts in average, relative to the reference group. This represents 128% of mean conflicts. As for the British colonial background, we find a differential effect of 142 additional conflicts and for mixed colonial background, a negative differential effect of 417 conflicts.

4 Discussion

Our results indicate that conflict incident rates for country-ethnicity regions with a French colonial background are in average three times that of the country-ethnicity regions in our reference group. Conversely, conflict incident rates in country-ethnicity regions with a British colonial background are 1.08 times that of the country-ethnicity regions in our reference group. Moreover, our estimates point at a consistent "mitigating effect" of a mixed colonial influence, whereby observations with mixed colonial background are likely to experience 417 less conflict events over the 20 year period. Variations in the colonial experience indeed appear to infer significant and consistent deviations from the reference group in terms of conflict levels. Furthermore, when it comes to the difference between French and British colonial backgrounds in their effect on conflict levels, our findings are consistent with the literature on colonial legacy and contemporary development given that many scholars have suggested that "British institutional and cultural legacies are more conducive to growth than those of France or other colonizers"[13]. However, this study has various limitations.

As mentioned earlier, the choice of replication of authors Michalopoulos's and papaioannou' work is motivated by novelty of their approach, exploiting variations in conflict levels across ethnic homelands rather than across countries, hence accounting for some endogeneity-related shortcomings of cross-country studies. However, by adding to this setup a colonizer identity variable our study effectively performs a cross-country comparison given that colonizer identity does not vary within country. Our aproach in this study nonetheless adds a layer of nuance by acknowledging the differences within each country at the ethnicity level and their unique interactions with the colonizer identity.

Secondly, it is hardly possible to argue for the exogeneity of the colonizer variable, and hence answering the question "was it random where the French colonized?", or "were the regions colonized by the french more prone to

conflict, to start with?". Therefore, this study limits itself to claiming correlation rather than causation.

Lastly, the Armed Conflict Location and Event Data (ACLED) used in this study has been subject to criticism over the recent years with scholars claiming, for example, that researchers "interested in subnational analyses of conflict should be wary of ACLED's data because of uneven quality-control issues"[9].

5 Conclusion

The key take-away of our analysis is that variations in the colonial experience indeed appear to be significantly correlated with conflict levels across the African continent. While this study does not claim any causal relationship, the results point at the fact that beyond ethnic partitioning, the colonizer identity remains a helpful factor in explaining variations in conflict levels across the African continent. That being said, much more is left to be explored in order to clarify the relationship between colonial experience and contemporary conflict levels. One may, for example, attempt to answer the question: "Does the impact of ethnic partitioning on conflict depend on colonizer identity?". Future research can also improve the existing results by attending to the endogeneity issues associated with the colonizer identity variable, and using various geo-referenced conflict datasets such as Uppsala Conflict Data Program Georeferenced Events Dataset (UCDP GED) and the Global Database of Events, Language, and Tone (GDELT) project.

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6 Appendix

Appendix 1.1: Interacting French influence and relevant variables - All country-ethnicity units

	(1)	(2)	(3)	(4)	(5)
	conflict levels	conflict levels	conflict levels	conflict levels	conflict levels
Partitioning Index	0.3631***	0.2365*	0.2269*	0.2449*	0.2094
	(0.1327)	(0.1346)	(0.1330)	(0.1337)	(0.1370)
	2.74	1.76	1.71	1.83	1.53
Spillover effect	0.6342**	0.5240**	0.4984*	0.4822*	0.5315**
	(0.2554)	(0.2370)	(0.2631)	(0.2641)	(0.2677)
	2.48	2.21	1.89	1.83	1.99
French colonial	2.2096***	2.6137***	1.0121**	1.1859***	1.1645***
	(0.4778)	(0.4310)	(0.5023)	(0.4090)	(0.4043)
	4.62	6.06	2.01	2.90	2.88
frenchXspillover	-0.0448	0.0462	0.0946	0.0783	0.0835
	(0.2681)	(0.2246)	(0.2207)	(0.2200)	(0.2315)
	-0.17	0.21	0.43	0.36	0.36
frenchXspillover	0.3610	0.1383	0.1460	0.1909	0.1130
	(0.5693)	(0.5394)	(0.5307)	(0.5309)	(0.5441)
	0.63	0.26	0.28	0.36	0.21
Log_Likelihood	-5442.143	-5382.570	-5148.070	-5050.853	-4812.732
N	1292	1292	1239	1229	1194
area_demographic	Yes	Yes	Yes	Yes	Yes
Geographic	No	No	Yes	Yes	Yes
location	No	Yes	Yes	Yes	Yes
bottom_99	No	No	No	Yes	No
non_capital	No	No	No	No	Yes

Appendix 1.2: Interacting French influence and relevant variables - Country-ethnicity homelands close to the national border

	(1)	(2)	(3)	(4)	(5)
	conflict levels	conflict levels	conflict levels	conflict levels	conflict levels
Partitioning Index	0.7158***	0.6684***	0.6870***	0.6870***	0.6816***
	(0.1540)	(0.1706)	(0.1766)	(0.1766)	(0.1806)
	4.65	3.92	3.89	3.89	3.77
Spillover effect	-0.2531	0.1253	0.1389	0.1389	0.1405
	(0.3691)	(0.3824)	(0.3976)	(0.3976)	(0.4017)
	-0.69	0.33	0.35	0.35	0.35
French colonial	2.3396***	3.4625***	0.3395	0.3395	0.3011
	(0.8154)	(0.6932)	(0.6953)	(0.6953)	(0.7070)
	2.87	5.00	0.49	0.49	0.43
frenchXspillover	-0.5662*	-0.6015**	-0.5170*	-0.5170*	-0.5145*
	(0.3123)	(0.2726)	(0.2730)	(0.2730)	(0.2753)
	-1.81	-2.21	-1.89	-1.89	-1.87
frenchXspillover	0.2515	-0.0597	0.0430	0.0430	0.0000
	(0.6890)	(0.6457)	(0.6229)	(0.6229)	(0.6304)
	0.37	-0.09	0.07	0.07	0.00
Log_Likelihood	-2112.889	-2069.405	-2013.874	-2013.874	-1932.955
N	611	611	594	594	582
area_demographic	Yes	Yes	Yes	Yes	Yes
Geographic	No	No	Yes	Yes	Yes
location	No	Yes	Yes	Yes	Yes
bottom_99	No	No	No	Yes	No
non_capital	No	No	No	No	Yes

Appendix 2.1: Interacting British influence and relevant variables - All country-ethnicity units

	(1)	(2)	(3)	(4)	(5)
	conflict levels	conflict levels	conflict levels	conflict levels	conflict levels
Partitioning Index	0.3708**	0.3089**	0.3226**	0.3296**	0.3050*
	(0.1567)	(0.1483)	(0.1505)	(0.1522)	(0.1614)
	2.37	2.08	2.14	2.17	1.89
Spillover effect	1.3388***	1.2034***	1.1277***	1.1357***	1.1695***
	(0.3377)	(0.3048)	(0.3010)	(0.2994)	(0.3085)
	3.96	3.95	3.75	3.79	3.79
British colonial	0.8259*	1.0190***	0.8414**	0.7547*	0.7720**
	(0.4915)	(0.3814)	(0.3895)	(0.3954)	(0.3896)
	1.68	2.67	2.16	1.91	1.98
britishXspillover	-0.0709	-0.1235	-0.1305	-0.1190	-0.1298
	(0.1967)	(0.1978)	(0.1895)	(0.1888)	(0.2028)
	-0.36	-0.62	-0.69	-0.63	-0.64
britishXspillover	-1.2312***	-1.4029***	-1.3116***	-1.3181***	-1.3422***
	(0.4722)	(0.4487)	(0.4343)	(0.4325)	(0.4386)
	-2.61	-3.13	-3.02	-3.05	-3.06
Log_Likelihood	-5433.517	-5368.956	-5136.043	-5038.978	-4800.922
N	1292	1292	1239	1229	1194
area_demographic	Yes	Yes	Yes	Yes	Yes
Geographic	No	No	Yes	Yes	Yes
location	No	Yes	Yes	Yes	Yes
bottom_99	No	No	No	Yes	No
non_capital	No	No	No	No	Yes

Appendix 2.2: Interacting British influence and relevant variables - Country-ethnicity homelands close to the national border

	(1)	(2)	(3)	(4)	(5)
	conflict levels	conflict levels	conflict levels	conflict levels	conflict levels
all					
Partitioning Index	0.3178	0.1593	0.2323	0.2323	0.2148
	(0.1959)	(0.2232)	(0.2107)	(0.2107)	(0.2179)
	1.62	0.71	1.10	1.10	0.99
Spillover effect	0.3318	0.5319	0.4391	0.4391	0.4678
	(0.4285)	(0.4539)	(0.4333)	(0.4333)	(0.4549)
	0.77	1.17	1.01	1.01	1.03
British colonial	1.8636	1.7707	2.1261	2.1261	2.1494
	(1.7637)	(1.8382)	(1.9210)	(1.9210)	(1.8976)
	1.06	0.96	1.11	1.11	1.13
britishXspillover	0.3824	0.6150**	0.5574**	0.5574**	0.5768**
	(0.2429)	(0.2797)	(0.2536)	(0.2536)	(0.2583)
	1.57	2.20	2.20	2.20	2.23
britishXspillover	-0.9966	-0.9416	-0.6446	-0.6446	-0.7120
	(0.6324)	(0.6775)	(0.6424)	(0.6424)	(0.6603)
	-1.58	-1.39	-1.00	-1.00	-1.08
Log_Likelihood	-2112.851	-2069.295	-2013.674	-2013.674	-1932.596
N	611	611	594	594	582
area_demographic	Yes	Yes	Yes	Yes	Yes
Geographic	No	No	Yes	Yes	Yes
location	No	Yes	Yes	Yes	Yes
bottom_99	No	No	No	Yes	No
non_capital	No	No	No	No	Yes

Appendix 3.1: Interacting Mixed influence and relevant variables - All country-ethnicity units

	(1)	(2)	(3)	(4)	(5)
	conflict levels	conflict levels	conflict levels	conflict levels	conflict levels
all					
Partitioning Index	0.3079**	0.2006	0.1891	0.2021	0.1563
	(0.1361)	(0.1335)	(0.1368)	(0.1376)	(0.1425)
	2.26	1.50	1.38	1.47	1.10
Spillover effect	0.9043***	0.7991***	0.7135***	0.7193***	0.7395***
	(0.2775)	(0.2441)	(0.2416)	(0.2409)	(0.2483)
	3.26	3.27	2.95	2.99	2.98
mixed backgrounds	-2.6708***	-2.5057***	-2.6237***	-2.6310***	-2.6790***
	(0.4654)	(0.3457)	(0.3502)	(0.3505)	(0.3484)
	-5.74	-7.25	-7.49	-7.51	-7.69
mixedXspillover	0.1366	0.2209	0.3547	0.3559	0.4019
	(0.2811)	(0.2853)	(0.2755)	(0.2750)	(0.2848)
	0.49	0.77	1.29	1.29	1.41
mixedXspillover	-0.5277	-0.8786	-0.6989	-0.7336	-0.7163
	(0.5256)	(0.5525)	(0.5222)	(0.5241)	(0.5268)
	-1.00	-1.59	-1.34	-1.40	-1.36
Log_Likelihood	-5441.790	-5380.071	-5146.436	-5049.146	-4810.805
N	1292	1292	1239	1229	1194
area_demographic	Yes	Yes	Yes	Yes	Yes
Geographic	No	No	Yes	Yes	Yes
location	No	Yes	Yes	Yes	Yes
bottom_99	No	No	No	Yes	No
non_capital	No	No	No	No	Yes

Appendix 3.2: Interacting British influence and relevant variables - Country-ethnicity homelands close to the national border

	(1)	(2)	(3)	(4)	(5)
	conflict levels	conflict levels	conflict levels	conflict levels	conflict levels
all					
Partitioning Index	0.3425*	0.2108	0.2607	0.2607	0.2479
	(0.1779)	(0.1913)	(0.1874)	(0.1874)	(0.1911)
	1.93	1.10	1.39	1.39	1.30
Spillover effect	-0.0599	0.2165	0.1959	0.1959	0.1716
	(0.3650)	(0.3708)	(0.3518)	(0.3518)	(0.3627)
	-0.16	0.58	0.56	0.56	0.47
mixed backgrounds	-3.7850***	-3.6980***	-3.5758***	-3.5758***	-3.6716***
	(0.8447)	(0.6485)	(0.6711)	(0.6711)	(0.6775)
	-4.48	-5.70	-5.33	-5.33	-5.42
mixedXspillover	0.6278*	0.9880***	1.0497***	1.0497***	1.0991***
	(0.3574)	(0.3814)	(0.3664)	(0.3664)	(0.3827)
	1.76	2.59	2.86	2.86	2.87
mixedXspillover	-0.2733	-0.3694	-0.1076	-0.1076	-0.0622
	(0.7399)	(0.8148)	(0.8145)	(0.8145)	(0.8252)
	-0.37	-0.45	-0.13	-0.13	-0.08
Log_Likelihood	-2113.032	-2067.841	-2010.562	-2010.562	-1929.446
N	611	611	594	594	582
area_demographic	Yes	Yes	Yes	Yes	Yes
Geographic	No	No	Yes	Yes	Yes
location	No	Yes	Yes	Yes	Yes
bottom_99	No	No	No	Yes	No
non_capital	No	No	No	No	Yes