

Fatou Kiné Thioune
Political Economy of Development
Professor Lakshmi Iyer
Final Research Paper
May 2, 2017

Colonial Rule and Education in Africa: Comparing French and English Legacies in Yorubaland

Introduction

Colonization has been argued to have a ripple effect on African countries and their growth. Up until now, more than 50 years after their independence, African countries still find colonization to be the main reason for their slow and latent growth. However, simply from observation, former English colonies in Africa are doing better economically than former French colonies, and historically, the French and the British had very different goals and thus implemented different colonial rules and strategies. For the French, their main goal was to assimilate the people in their colonies, and impose their own culture, while the English just went for the resources. Specifically, with regards to education, the English were more successful at making school facilities available to the indigenous, due to their liberal approach in providing free education, unlike the French, who were restricted by their control over school establishment and expansion. Asiwaju (1975) argued that the Yoruba areas of Dahomey, which were under French rule, had poor and deplorable education facilities, with very few schools, while schools in Western Yorubaland under British rule were numerous. In light of this assertion, I will investigate whether the number and quality of schools built by the colonizers in Yorubaland are still reflected in the literacy rate of the two different regions: present day Eastern Benin and Western Nigeria. This empirical study will reveal whether different colonial rules, namely French and English have differently impacted education enrollment and attainment in African countries.

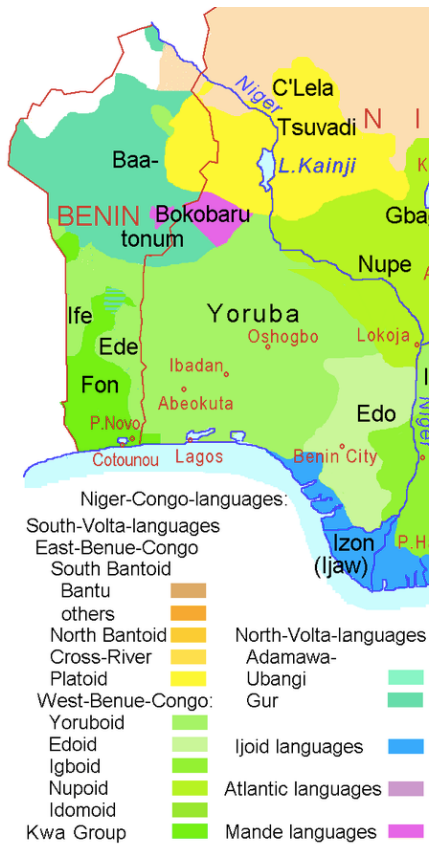
To study the disparities in the effect of colonial legacy on education in Yorubaland, I conduct a regression discontinuity, using the Nigeria-Dahomey borderline between Nigeria and Benin, that was set by the Anglo-French agreement of 1889, as the cut-off. I focus on the regions close to the border, that were originally part of Yorubaland. Since the regions in Yorubaland had the same language, culture, and historical experiences, the border defined by the colonizers is the only difference that could significantly influence literacy rate. I use data from the Demographic and Health Survey (DHS) for Nigeria and Benin, using Nigeria as the treatment for British rule, and regress Nigeria country dummy on different levels of education. I control for other possible characteristics that are likely to affect literacy, such as year of birth, religion, household size, and type of area.

Overall, the results of my project reveal that Western Nigeria, that was under British rule, has a higher level of school enrollment and attainment than Eastern Benin. The effect of colonial rule on education attainment is smaller in rural areas, which suggests that urbanization is a main source of the disparities between the literacy attainment in the two regions. I also test for robustness of the results by excluding Lagos, which is the capital city of Nigeria. However, I find no significant difference in the results.

Historical Framework

Yorubaland is the land occupied by the Yoruba speaking people, who were originally settled in the region defined today as the “southwestern Nigeria stretching through the southern and central parts of the Republic of Benin and terminating at the Ufe and Atakpame areas of central Togo” (Akinyele, 2006). More specifically, Yorubaland is the “rectangular territory situated roughly between the Weme and the Ogun rivers, to the west and east respectively, and Latitude 9degree N to the north and the Lagos-Cotonou Lagoon to the South” (Asiwaju, 1975).

Simply put, Yorubaland occupied present day Western Nigerian and Eastern Benin, as well as some part of Togo. People in Yorubaland shared the same culture, traditions and language before colonization. As Akinyele (2006) puts it, “before the western kingdoms were broken into British



and French dependencies, the Yorùbá subgroups occupied a geographically contiguous territory, spoke dialects of the same language, and developed similar sociopolitical institutions.” In fact, prior to the Anglo-French agreement in 1889, Yorubaland was one region occupied by the same people, who had the same socio-economic characteristics. However, the French and British had an agreement to divide the same region into half, drawing a vertical line through the middle of the territory, with roughly the same amount of land and people on both side. This proves that the border drawn was totally random, without any particular selectivity. It is therefore rational to believe that the systems and institutions implemented in the different parts of

Yorubaland by the French and British colonizers are the main factors that differentiate the two parts of Yorubaland.

Contextual Framework

Existing research has compared the long-term impact of British and French colonial rules, and many scholars have concluded that British colonial rule is less harmful to growth than French rule. Specifically, Lee and Schultz (2012) studied the effects of colonial legacy in Cameroon by comparing the French side to the English one, and found that areas colonized by the British are better off than those colonized by the French, and the results are more significant

in rural areas. They used a within-country analysis in order to control for country effects, and ran a regression discontinuity using the borderline between the French side and the British one as the cut-off. Overall, they found that people living in the rural areas colonized by the British were wealthier and had a wider coverage of drinkable water than those in French rural areas, although there was no significant difference between urban areas. These results show impartially that French colonial legacy hinders growth more than British legacy. Lee and Schultz (2012) also discussed the differences in the ruling of the French and the British that influence post-colonial outcomes. The most influential one is the legal system implemented by the colonizers. The British had a common-law system, while the French adopted a civil law. Common law is more beneficial than the civil one because it is derived from judicial and custom precedent and thus protects property rights, while the civil law has the potential to exploit people because it is based on legal text and gives a greater power to prosecutors. Another possible reason for the differences is the administration system, with the British ruling indirectly, by giving legal power to the local chiefs and preserving the native culture, while the French attempted to assimilate the indigenous people through direct rule. Other differences include the literacy rate, higher under British colonial rule, labor rights, more respected under British rule, and the good cultural legacies (hard work, liberty, team sports) that the British left.

Similar studies have been done in different contexts. For instance, Iyer (2010) investigated the long-term effects of direct and indirect colonial rules in India. Areas in India under indirect colonial rule were characterized by an involvement of Indian kings controlling the administration. Iyer (2010) finds that areas indirectly ruled by the British have better access to public goods, mainly schools, health centers and roads. The main reason for these results is the incentives of the administrators, that were more long-term oriented under indirect rule, which led

to more accountability of the local rulers. In the same way, Botswana has good institutions and policies in place, because colonization was light and local chiefs were ruling the provinces (Acemoglu, 2003). This explains its high growth rate over the past decades. These papers used statistical analysis to determine the effect of colonization on public good provision, but there was little focus on education.

A paper by Asiwaju (1975) looks at the education systems imposed by the French and the British in a specific region in Africa: Yorubaland. In general, the French had a restricted rule of educating the locals ‘the French way’ by imposing their own education system and language, while the British had a more liberated education system, preserving local languages and producing different modes of thought and attitudes. As a result of a wider expansion of facilities, the British more successfully produced elites than the French. Similarly, White (1996) examines the educational legacies in Africa, and argues that the French had a more conservative and monopolistic approach to education. Indeed, the schools were all controlled by the government, with very little power given to missionaries. Moreover, schools in French colonies were exclusively taught in French, and there was a high selectivity on school enrollment with a major focus on educating the talented few or the *élites*. On the other hand, the British gave full administrative power to the missionaries. These two papers focus specifically on education through a historical perspective but did not provide empirical evidence to their claims of the differences in colonial rule legacies. This paper combines theoretical and quantitative methodologies to determine the extent to which colonial rules affect differently education outcomes in Yorubaland.

Data

I use data from the Demographic and Health Survey (DHS) for all the years available for Nigeria and Benin. For Nigeria, I used datasets from the 1990, 2003, 2008, and 2013 surveys, and for Benin I used datasets from 1996, 2001, 2006, and 2012 surveys. I focus on the states that were originally in Yorubaland, which are mainly the regions in Eastern Benin and Western Nigeria. In Nigeria, the said states are Oyo, Osun, Ogun, Kwara, Ondo, Ekiti, Lagos, and Kogi, and for Benin, they are Oueme, Plateau, Collines, Borgou, Donga, Zou, and Alibori. Although not all the states were included in all the datasets, each state was included in at least two years. For the regression discontinuity, I need to calculate the distance between each district and the border. Unfortunately, I was not able to obtain location data from the DHS dataset, so could not accurately calculate the distance to the border for each cluster. The next best, though less accurate, alternative was to calculate the distance between each state's center point and the border between Nigeria and Benin.

The dependent variable is education, classified in the DHS datasets as the level of educational attainment. These levels of education are as follow: no education, incomplete primary school, primary school completion, incomplete secondary school, secondary school completion, and higher education. I run separate regressions for each of these dependent variables, in order to estimate the likelihood of an individual in Yorubaland in Nigeria to complete a specific level of education, compared to one in Benin. The main explanatory variable of interest is the colonial rules Benin and Nigeria were under, taking Nigeria, which was under British rule, as the treatment. I control for other variables namely year of birth, area type (whether the person lives in a rural or urban area), religions, head of the household sex, and the size of the household because they can affect socioeconomic outcomes. Table 1 and Table 2

summarize the main variables for Eastern Benin and Western Nigeria respectively. The means of the levels of education are the probabilities of an individual in a specific region having that level of education, on average. For instance, 69.5% of people in Eastern Benin do not have an education, and 0.4% have attained a higher level (Table 1). While in Western Nigeria, only 15.6% of the population have no education and 13.8% have a higher education level (Table 2).

Table 1: Summary Statistics Eastern Benin

<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
<i>No Education</i>	24,340	.6953574	.4602653	0	1
<i>Incomplete Primary</i>	24,340	.1456039	.352716	0	1
<i>Complete Primary</i>	24,340	.0241988	.1536692	0	1
<i>Incomplete Secondary</i>	24,340	.1238702	.3294401	0	1
<i>Complete Secondary</i>	24,340	.0069844	.083282	0	1
<i>Higher</i>	24,340	.0039852	.0630039	0	1
<i>Household Size</i>	24,340	7.253574	4.201589	1	39
<i>Rural</i>	24,340	.6470419	.4778996	0	1
<i>Female Head</i>	24,340	.1707067	.3762602	0	1
<i>Birth Year</i>	19,067	2002.884	6.277296	1967	2012
<i>Traditional</i>	5,557	.104013	.3053048	0	1
<i>Islam</i>	24,340	.3298274	.47016	0	1
<i>Catholic</i>	24,340	.2695563	.4437384	0	1
<i>Other Christian</i>	24,340	.1124076	.3158737	0	1
<i>Other</i>	24,340	.012613	.1115993	0	1
<i>None</i>	24,340	.0598192	.2371565	0	1
<i>Distance to Border</i>	24,340	49592.29	30026.84	9317.102	113038.9

Table 2: Summary Statistics Nigeria

<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
<i>No Education</i>	18,410	.1555133	.3624032	0	1
<i>Incomplete Primary</i>	18,410	.0438349	.2047331	0	1
<i>Complete Primary</i>	18,410	.1746334	.3796635	0	1
<i>Incomplete Secondary</i>	18,410	.2234655	.416579	0	1
<i>Complete Secondary</i>	18,410	.2647474	.4412106	0	1
<i>Higher</i>	18,410	.1378055	.3447051	0	1
<i>Household Size</i>	18,410	5.622379	3.244695	1	38
<i>Rural</i>	18,410	.3562738	.4789105	0	1
<i>Female Head</i>	18,410	.2351439	.4241003	0	1
<i>Birth Year</i>	12,097	1731.531	671.4165	1957	2013
<i>Traditional</i>	18,410	.0387833	.1930833	0	1
<i>Islam</i>	18,410	.3881043	.4873318	0	1
<i>Catholic</i>	18,410	.053069	.2241772	0	1
<i>Other Christian</i>	15,800	.5228481	.4994935	0	1
<i>Other</i>	18,410	.000163	.0127647	0	1
<i>None</i>	2,610	.0045977	.0676633	0	1
<i>Distance to Border</i>	18,410	171333.6	133711.2	38207.04	485144.7

Empirical strategy

I use a regression discontinuity to do a comparative study of the effect of colonial rule on school enrollment in Eastern Benin and Western Nigeria. These two regions, initially belonging to the same historical region Yorubaland, were separated by the British and the French, who drew a random vertical border in the middle. Since they had the same pre-colonial conditions, the border is an exogenous factor that I use as the cutoff for the regression discontinuity. The equation estimated is the following:

$$Y_i = a + bX_i + D$$

where the Y variable is the educational attainment, defined as the level of education completed by individuals, the X variable is a dummy for English rule, taking Yorubaland in Western Nigeria as the treatment variable, and D is the distance between each state's middle point and the border between Nigeria and Benin, measured in meters.

Results

Table 3 shows the estimated effect of being under British rule in Western Nigeria as opposed to French rule in Eastern Benin on the likelihood of attaining the different levels of education, without controlling for other variables. All the coefficients are statistically significant at 1% level. Overall, individuals in Nigerian Yorubaland are 52.7 and 10.5 percentage points less likely to not have an education and to not complete primary school respectively, while they are 13.5 and 26.6 percentage points more likely to complete secondary school and have a higher education respectively. These differences are significantly large, given that the average higher level attainment in Benin is 0.4%, and 0.7% for secondary school completion.

Table 3: Regression Without Controls

Dependent Variables	No Education	Incomplete Primary	Complete Primary	Incomplete Secondary	Complete Secondary	Higher
Nigeria British Rule	-0.527*** (0.00494)	-0.105*** (0.00350)	0.148*** (0.0032)	0.0828*** (0.00433)	0.266*** (0.00347)	0.135*** (0.0027)
Distance to Border	-0.000000104** (2.25e-08)	2.37e-08 (1.59e-08)	1.72e-08 (1.47e-08)	0.000000138*** (1.97e-08)	-6.67e-08*** (1.58e-08)	-7.48e-09 (1.23e-08)
Constant	0.701*** (0.00292)	0.144*** (0.00207)	0.0233*** (0.00191)	0.117*** (0.00256)	0.0103*** (0.00205)	0.00436** (0.00160)
Observations	42750	42750	42750	42750	42750	42750

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Even after controlling for relevant variables, the effect of British rule on education remains statistically significant at 1% level, but slightly decreases. For instance, people in Western Nigeria become only 35.9 percentage points less like to have no education as opposed to 52.7 percentage points, and 7.74 percentage points more likely to have a higher education (Table 4). These results present more accurate estimates of the differences in educational attainment between the two regions, because by including the control variables that seem to be relevant, I

avoid omitted variable bias. Table 5 shows the results after I interact distance and Nigeria country dummy, to see whether the effect of colonization on education is significantly higher for states closer to or further away from the border. This is to allow the slope of the fitted line of education outcomes in Western Nigeria to differ from the one in Eastern Benin. The results are significant for only incomplete primary, complete secondary and higher education. This means that for secondary education for example, the effect of British rule decreases by 0.0000498 percentage points when we move (every 1 meter) to Nigerian states that are further away from the border. However, this is a very miniscule change, so we can expect to see little to no difference in the slopes. To illustrate the distance effect, figure 1 plots the average secondary school completion for the states in Western Nigeria and Eastern Benin according to their distance to the border, represented virtually by the vertical line. There is a visible discontinuity between Eastern Benin and Western Nigeria, just as the results in table 4 suggest, but no apparent difference in slope, as the results in Table 5 suggest.

Table 4: Regression with Controls

	No Education	Incomplete Primary	Complete Primary	Incomplete Secondary	Complete Secondary	Higher
Nigeria	-0.359 ^{***}	-0.127 ^{***}	0.213 ^{***}	0.0586 ^{***}	0.137 ^{***}	0.0774 ^{***}
British Rule	(0.0110)	(0.00768)	(0.0104)	(0.00932)	(0.0106)	(0.00830)
Distance to Border	-0.000000238 ^{***}	8.52e-08 ^{***}	0.000000124 ^{***}	3.27e-08	-1.81e-08	1.48e-08
	(2.71e-08)	(1.90e-08)	(2.57e-08)	(2.31e-08)	(2.63e-08)	(2.05e-08)
Household Size	0.00811 ^{***}	-0.000684	0.00138	-0.000462	-0.00540 ^{***}	-0.00295 ^{***}
	(0.000911)	(0.000638)	(0.000864)	(0.000774)	(0.000882)	(0.000689)
Year of Birth	-0.00761 ^{***}	0.000801 [*]	-0.000164	0.000541	0.00603 ^{***}	0.000403
	(0.000577)	(0.000404)	(0.000547)	(0.000490)	(0.000558)	(0.000436)
Traditional	0.0583 ^{**}	0.00191	0.0133	0.0122	-0.0498 ^{**}	-0.0359 ^{**}
	(0.0181)	(0.0127)	(0.0172)	(0.0154)	(0.0175)	(0.0137)
Islam	-0.00290	0.0178	0.0390 ^{**}	0.0126	-0.0222	-0.0444 ^{***}
	(0.0152)	(0.0106)	(0.0144)	(0.0129)	(0.0147)	(0.0115)
Catholic	-0.148 ^{***}	0.0848 ^{***}	0.0165	0.0445 ^{**}	-0.00884	0.0114
	(0.0163)	(0.0114)	(0.0154)	(0.0138)	(0.0157)	(0.0123)
Other Christian	-0.132 ^{***}	0.0222 [*]	-0.0108	0.0374 ^{**}	0.0321 [*]	0.0507 ^{***}
	(0.0155)	(0.0109)	(0.0147)	(0.0132)	(0.0150)	(0.0117)
Other	-0.134	0.159 ^{**}	-0.0290	0.0118	-0.0358	0.0280
	(0.0866)	(0.0606)	(0.0821)	(0.0736)	(0.0838)	(0.0655)
Rural	0.235 ^{***}	-0.0114 [*]	0.0308 ^{***}	-0.0481 ^{***}	-0.108 ^{***}	-0.0976 ^{***}
	(0.00654)	(0.00458)	(0.00620)	(0.00556)	(0.00633)	(0.00495)
Female Head	-0.0456 ^{***}	0.0212 ^{***}	0.0142	0.0224 ^{**}	0.000685	-0.0129 [*]
	(0.00819)	(0.00574)	(0.00776)	(0.00696)	(0.00792)	(0.00619)
Constant	15.80 ^{***}	-1.467	0.283	-1.015	-11.90 ^{***}	-0.700
	(1.152)	(0.806)	(1.091)	(0.978)	(1.114)	(0.871)
Observations	14668	14668	14668	14668	14668	14668

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

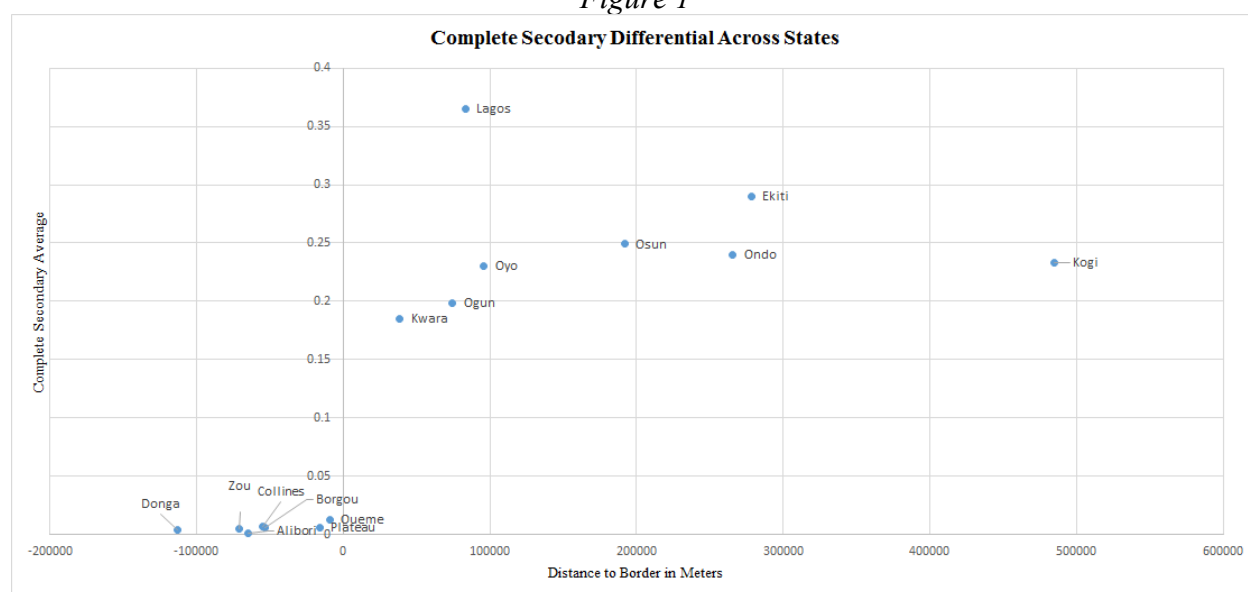
Table 5: Regression with Controls and Interaction between Distance and Country Dummy

	No Education	Incomplete Primary	Complete Primary	Incomplete Secondary	Complete Secondary	Higher
Nigeria	-0.348***	-0.150***	0.199***	0.0461***	0.160***	0.0933***
British Rule	(0.0153)	(0.0107)	(0.0145)	(0.0130)	(0.0148)	(0.0115)
Distance to Border	6.08e-09	-0.000000407*	-0.000000192	-0.000000235	0.000000473*	0.000000355*
	(0.000000228)	(0.000000160)	(0.00000021)	(0.00000019)	(0.00000022)	(0.000000173)
Distance to border*British Rule	-0.000000248	0.000000499**	0.000000320	0.000000271	-0.000000498*	-0.000000345
	(0.000000230)	(0.000000161)	(0.000000218)	(0.000000195)	(0.000000222)	(0.000000174)
Constant	15.82***	-1.496	0.264	-1.031	-11.87***	-0.680
	(1.152)	(0.806)	(1.091)	(0.978)	(1.114)	(0.871)
Observations	14668	14668	14668	14668	14668	14668

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1



To test for robustness, I run the same regression with controls on rural areas only. Surprisingly, the difference in education is slightly smaller when we consider rural areas only, but is still significant. For instance, the coefficient on higher education decreases from 0.08 to 0.05 (Table 6). This suggests that urban areas in Western Nigeria are significantly more educated

than those in Eastern Benin, and this difference accounts for much of the effect I found initially in Table 4. This is contrary to what Lee and Schultz (2012) found in Cameroon, that there was not much difference between urban areas. The significant difference between urban areas in Western Nigeria and Eastern Benin are probably due to the different governments' spending on education and a faster urbanization in Western Nigeria. I also exclude Lagos which is thought to impair our finding, because just as any other capital city, Lagos probably has a lot of factors that make it more likely to have better education facilities. After excluding Lagos, the results summarized in Table 7 are not significantly different from our initial results, but are slightly bigger in magnitude. This suggests that Lagos does not cause an overestimate of the disparities between education enrollment and attainment in the two regions.

Table 6: Regression on Rural Areas Only and with Controls

Dependent Variables	No Education	Incomplete Primary	Complete Primary	Incomplete Secondary	Complete Secondary	Higher
Nigeria	-0.302***	-0.0779***	0.199***	0.0556***	0.0793***	0.0462***
British Rule	(0.0163)	(0.0110)	(0.0134)	(0.0108)	(0.0113)	(0.00716)
Distance to Border	-0.000000435***	6.80e-08*	0.000000196***	4.79e-08	0.000000116***	7.49e-09
	(4.08e-08)	(2.76e-08)	(3.35e-08)	(2.69e-08)	(2.83e-08)	(1.79e-08)

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Regression without Lagos and with Controls

Dependent Variables	No Education	Incomplete Primary	Complete Primary	Incomplete Secondary	Complete Secondary	Higher
Nigeria	-0.367***	-0.120***	0.222***	0.0628***	0.119***	0.0845***
British Rule	(0.0125)	(0.00852)	(0.0110)	(0.00968)	(0.0106)	(0.00829)
Distance to Border	-0.000000234***	6.16e-08**	8.26e-08**	5.57e-09	6.78e-08**	1.69e-08
	(3.06e-08)	(2.08e-08)	(2.68e-08)	(2.36e-08)	(2.58e-08)	(2.03e-08)

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Conclusions

All in all, we learn that British rule has indeed a positive effect on educational attainment and completion relative to the French. In Nigerian Yorubaland, people are more likely to reach and complete high levels of education, and less likely to not go to school or drop out early. These differences are due to the practices and systems the different colonial rules implemented in their colonies. The French had a restricted education system, imposing its language and power, and limiting its resources to educate the talented few. Meanwhile, the English gave power to the missionaries who expanded school facilities. The differential effect of British colonial rule on education is smaller in rural areas, revealing that urbanization accounts for the difference in literacy between the two regions. This is probably due to the different development policies that the two countries have implemented differently, and my model did not control for such policies or government spending. Another caveat on my study is the fact that I did not get an exact location data to calculate the distance of each cluster to the border, which is crucial for a regression discontinuity. I tried to mitigate this challenge by getting the distance each of the states I considered in my study is from the border.

A similar study could be done between Senegal and the Gambia, which also used to belong to the same region before colonization. A challenge to that study would be the fact that Gambia was formed around a river, which makes it seem like it was not a random share. While shedding light on a number of things, my findings also raise a lot of questions. The main one is how the former French colonies, such as Benin, can erase the legacy that colonization has left and catch up to their English colony counterparts.

Works Cited

- Acemoglu, Daron, Simon Johnson, and James A. Robinson, "An African Success Story: Botswana," Princeton University Press (2003), 20-119.
- Akinyele, R. T., "Historiography Of Western Yorùbá Borderlands," University of Rochester Press, Boydell & Brewer. (2006).
- Asiwaju, A. I., "Formal Education in Western Yorubaland, 1889-1960: A Comparison of the French and the British Colonial Systems," *Comparative Education Review*, Vol. 19, No. 3 (1975), pp. 434-450.
- Cohen, William B., "The Colonized as Child: British and French Colonial Rule," *African Historical Studies*, Vol. 3, No. 2 (1970), pp. 427-431.
- Iyer, Lakshmi, "Direct Versus Indirect Colonial Rule in India: Long-Term Consequences," *The Review of Economics and Statistics*, Vol. 92, No. 4 (2010), pp. 693-713.
- Lee, Alexander and Kenneth Schultz, "Comparing British and French Colonial Legacies: A Discontinuity Analysis of Cameroon," *British Journal of Political Science* (2012).
- Njoh, Ambe J., "The Impact of Colonial Heritage on Development in Sub-Saharan Africa", *Social Indicators Research*, Vol. 52, No. 2 (Nov., 2000), pp. 161-178.
- White, Bob W., "Talk about School: Education and the colonial project in French and British Africa (1860-1960)," *Comparative Education* (1996), 32:1, 9-26.