French and British Colonial Legacies in Education: Evidence from the Partition of Cameroon

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Abstract. Cameroon was partitioned between France and the UK after World War I and then reunited after independence. I use this natural experiment to investigate colonial legacies in education, using a border discontinuity analysis of historical census microdata from 1976. I find that men born in the decades following partition had, all else equal, one more year of schooling if they were born in the British part. This positive British effect disappeared after 1950, as the French increased education expenditure, and because of favoritism in school supply towards the Francophone side after reunification. Using 2005 census microdata, I find that the British advantage resurfaced more recently: Cameroonians born after 1970 are more likely to finish high school, go to university and have a high-skilled occupation if they were born in the former British part. I explain this result by the legacy of high grade repetition rates in the French-speaking education system and their detrimental effect on dropout.

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Despite the mounting evidence of the importance of history for economic development, the precise mechanisms linking colonial history to contemporary outcomes need to be better understood. Particularly widespread is the idea that former British colonies are more prosperous because of the institutions and culture they inherited from Britain (Landes, 1998; North, 1989; La Porta et al., 1998, 1999), or because of better education (Grier, 1999; Woodberry, 2004; Cogneau and Moradi, 2014). Cameroon was divided between the British and the French after World War I and reunited in 1961. This has created a unique natural experiment to study the legacies of different colonizers holding present-day national institutions constant, thus focusing on local level mechanisms behind colonial legacies. Using a border discontinuity analysis of geolocated population census microdata, I study the variation over time of colonial legacies in Cameroon.

This paper focuses on education, which historians and economists have identified as a key aspect of the relatively more favorable nature of British colonial rule in Africa. British colonial education relied on Christian missions which sought to convert as many people as possible, taught in local languages and employed many African teachers. The French, by contrast, regulated teachers' qualifications and schools' curricula, and imposed French as the only language of instruction. In the French colonies of Africa, the government became the main provider of education, but it targeted only a small segment of the population (Gifford and Weiskel, 1971; Woodberry, 2004; Garnier and Schafer, 2006; Cogneau and Moradi, 2014). Primary enrollment rates were higher in British Africa (Benavot and Riddle, 1988). Differences in education could still be observed around 2000 (Brown, 2000; Cogneau, 2003; Garnier and Schafer, 2006), and Grier (1999) argued that they could account for differences in economic growth between former French and British colonies.

Two problems arise when trying to understand whether and how the identity of the colonizer shaped the development path of African countries. First, British and French former colonies are not directly comparable: Britain colonized regions that were richer, and where missionary presence was more important (Cogneau, 2003; Frankema, 2012). Second, it is a challenge to identify the mechanisms of causality from colonial institutions or policies to present-day outcomes (Nunn, 2009).

Researchers working on the persistence of human capital shocks propose several mechanisms. Glaeser et al. (2004) and Brown (2000) propose a national level mechanism where colonial education shapes national political institutions, which in turn affect economic development and education. Others put forward persistence in education demand, because of inter-generational transmission of preferences (Wantchekon et al., 2015; Cagé and Rueda, 2016), often through religious conversion (Woodberry, 2004; Nunn, 2010). Huillery (2009) proposes a local mechanism of persistence in supply where fixed costs create a path dependency in the location of schools. The last mechanism is persistence in pedagogical culture and practices — Garnier and Schafer (2006) talk of "educational model", Woodberry (2004) of "teaching style". In particular, the practice of having students repeat a grade if they are deemed insufficiently proficient (a practice much more prevalent in former French colonies than in former British colonies) is described as raising dropout rates and preventing countries from increasing primary and secondary completion rates (Bernard et al., 2005; Ndaruhutse et al., 2008; Majgaard and Mingat, 2012).

The unique history of Cameroon allows me to tackle the problem of causal identification and restrict the number of potential mechanisms of persistence. After World War I, German Cameroon was divided between France and the United Kingdom under a mandate of the League of Nations. The two parts were ruled as colonies (British Cameroon became part of colonial

Nigeria) until independence in 1960. In 1961, after a plebiscite, the southern part of British Cameroon was reunited with French-speaking Cameroon.

I take advantage of this history to identify the causal effects of colonizer identity on education. I use a spatial discontinuity analysis, relying on the local arbitrariness of the border between French and British Cameroon. Near the border, the fact that a given village fell on the French or British side at the time of partition was quasi-random. This follows a recent literature using African borders as natural experiments. As noted by McCauley and Posner (2015), in these experiments, the treatment and control groups, once separated, continue following different paths, and have different post-colonial experiences, making it hard to identify mechanisms of persistence. Cameroon offers the unique example of two regions ruled by different colonizers but then reunited after independence. In this setting I can test for the importance of local level mechanisms of persistence.

Using 1976 census microdata, I show that men of school age after partition had, all else being equal, one more year of schooling if they were born on the British side of the border. This positive British effect completely disappeared for those of school age in the last decade of colonization and beginning of independence. Using 2005 census microdata, I find that the discontinuity in education, if anything, favored the Francophone side for cohorts of school age in the 1960s and 1970s, but that the Anglophone advantage re-emerged more recently: people born in the former British part after 1970 are about 8 percentage points more likely to complete high school, and more likely to have a high-skilled occupation.

To explore the demand and supply mechanisms that might explain these results, I start by estimating a border discontinuity in a housing-quality based wealth index in 1976. Household heads born on the British side of the border had, all else being equal, better quality housing. Decomposing the index into various components, I estimate a strong discontinuity in public goods provided locally, like piped water, suggesting better local institutions in former British Cameroon,

but no discontinuity in a private wealth index excluding public utilities. I then present new data on colonial public finances in British and French Cameroon and use recent administrative data on the universe of schools in Cameroon with their date of construction to estimate border discontinuities in the supply of schools over the 20th century. This evidence suggests that colonial education policies played a role in the emergence of a discontinuity in education after partition, and that the convergence in education after 1945 was explained by a surge in education expenditure on the French side in the last decade of colonization, followed by a school supply policy favoring the Francophone side after independence.

In 2005, I estimate no difference at the border in a housing-quality based wealth index, in night-time light per capita or in industrialization, but I find that the Francophone side is more urbanized. To explain the re-emergence of a positive Anglophone effect in education, I propose and test for the mechanism of legacies in pedagogical culture, more specifically the widespread use of grade repetition in former French Cameroon and its detrimental effect on school dropout rates. Students born in Francophone Cameroon are 20 percentage points more likely to have repeated at least a grade, and the border discontinuity in secondary school completion falls to zero when controlling for district-level repetition rates.

This paper contributes to the literature on the historical determinants of economic development and the impact of colonizer identity (North, 1989; Landes, 1998; La Porta et al., 1998, 1999). The "history matters" literature has sometimes been accused of "compressing history" (Austin, 2008), relating an event in the past to an event in the present, but leaving unexplained the complex causal chain running from then to now. I can track the variation in colonial legacies over time using cohort analysis and focus on local level mechanisms of persistence, holding national-level institutions constant, thanks to Cameroon's unique history.

This paper also adds to the literature that uses African borders as natural experiments (McCauley and Posner, 2015, for a review). Cogneau and Moradi (2014) study the partition of

German Togo between the British and the French. They find that the two parts started diverging after partition and that the divergence persisted, but in contrast with Cameroon, the two parts of Togo belonged to different countries after independence. Lee and Schultz (2012) also study the border between former French and British Cameroon, using present-day survey data, and find that households located in the former British part have higher wealth and better access to piped water, which they attribute to the legacy of indirect rule and better local institutions. Ali et al. (forthcoming) also use survey data to confirm the greater importance of chiefs in Anglophone countries in general and in Cameroon in particular. The data used in these studies do not allow the authors to study the time variation in historical legacies, nor to take selective migration into account. Knowing the place of birth of respondents as well as their place of residence, I show that taking selective migration into account by comparing people born close to the border rather than living close to the border can seriously reduce estimated discontinuities in education or wealth.

Finally, this paper contributes to the debate on the merits of grade repetition (Jacob and Lefgren, 2009; Manacorda, 2012), particularly relevant in Africa, where the percentage of students repeating a grade is high (Bernard et al., 2005; Ndaruhutse et al., 2008). This paper is the first to provide evidence of the causal link between French colonization and high repetition rates. It also provides some evidence that high repetition rates can decrease high-school completion rates and, as a result, the percentage of high-skilled workers.

Historical background

Before the 19th century, European presence in Cameroon remained coastal and devoted to slave trade. Despite the presence of British missions from the mid-19th century on, the region fell under German influence and became the colony of Kamerun in 1884. During World War I, it was invaded by the British and the French and divided into two administrative regions in 1916. The border between the two zones was decided hastily. Negotiations over the division of

Cameroon were part of broader negotiations over the future of German colonies in Africa. Because the British had their eyes on other German colonies[1], they allowed the French to get "most of the spoils" in Cameroon (Louis, 1967). The division was confirmed in 1919 (with a few modifications) and, in 1922, the two zones became mandates of the League of Nations: the British part was attached to Nigeria, while the French part became the protectorate of Cameroun (Louis, 1967; Brownlie, 1979; Ngoh, 1987) — see figure 1.

[FIGURE 1 ABOUT HERE]

In Cameroon, as in other regions of Africa, British and French colonization differed in education and institutions. Christian missions, both Protestant and Catholic, were active in German Cameroon and remained the main provider of education in both parts after partition. The two colonizers differed, however, in the incentives they set up for missions to provide formal education.

The British colonial government inspected mission schools and subsidized them on the basis of efficiency (Fonkeng, 2007; Fafunwa, 1974), while the French colonial government turned a blind eye to the large private, missionary sector, leaving it mostly unsupervized and unsubsidized (Fonkeng, 2007; France, Ministère des Colonies, 1921–1938).[2]

In British Cameroon, all mission schools were inspected by supervisors under government control, and the most efficient ones, representing 7.5% of all mission schools in 1938, were subsidized (Fafunwa, 1974; Fajana, 1978; Great Britain, Colonial Office, 1938).[3] Government

[1] German East Africa, German Southwest Africa, and Togoland.

[2] This is an important difference with Togo, where private schools had to close down if they did not respect the colonial government's requirements (Cogneau and Moradi, 2014).

[3] There were two types of private schools: *assisted schools*, which received subsidies, and *unassisted schools*, which did not. From 1926 on, both were registered and inspected by supervisors under government control (Fafunwa, 1974).

control was more extensive, but less stringent than in French Cameroon. There, very few mission schools were recognized by the government and could receive subsidies (3% of the total number of mission schools in 1938), but the ones that were had to meet a demanding list of requirements in terms of teachers' qualifications, curriculum, and the language of instruction — teaching in French was mandatory (France, Ministère des Colonies, 1921,1938). Subsidies were more generous in British Cameroon: in 1937, subsidies to private schools represented 68% of the subsidized schools' wage bill in British Cameroon versus 19% in French Cameroon.[4]

Both colonizers invested in a small public education sector. It was more decentralized in British Cameroon, where public schools were often run by native administrations (local governments empowered by indirect rule).[5]

In Cameroon, like elsewhere in Africa, the French and the British set up a dual legal system where "traditional" rules coexisted with a formal legal system copied from the colonizing country: a common-law system in British Cameroon and a civil-law system in French Cameroon. Early studies underlined another institutional difference between the two colonizers: while the French favored centralized colonial administration — direct rule, the British relied on local "traditional" authorities — indirect rule (Mair, 1936; Perham, 1967). However, historians have stressed that, within each empire, colonial administration differed by geography and by time period. In Cameroon, according to Geschiere (1993), the British and the French wavered about

[4] My calculations, from Great Britain, Colonial Office (1937), France, Ministère des Colonies (1937), and Cameroun (1937). In French Cameroon, I assume mission school teachers were paid the same wage as African teachers in the public sector.

[5] In both French and British mandated territories, education policies completely neglected the predominantly Muslim North, which is not studied in this paper because the northern part of English-speaking Cameroon was not reunited with French-speaking Cameroon after independence.

their policies towards traditional authorities but, on balance, chiefs seem to have gained more legitimacy under British rule than under French rule.

Finally, the two colonizers differed in their attitude towards forced labor. The German labor tax of 30 days a year was abolished by the new colonizers, but the French rapidly reintroduced a labor tax of 10 days a year, and used conscripted paid labor to build railways, subjecting laborers to harsh working conditions (Le Vine, 1964; Buell, 1928). There was no evidence of forced labor in British Cameroon. Plantations in British Cameroon were sold back to their former German owners soon after World War I and attracted many wage workers from Nigeria and French Cameroon (Le Vine, 1964).

In Africa, colonial policies changed markedly in the last fifteen years of colonization, a period characterized as the era of "developmental colonialism" by Cooper (2002). As colonization was increasingly questioned from within and without, Britain stressed the need for self-government, while France sought ways to assimilate its colonial empire into a large French polity. In Cameroon, the French abolished forced labor and established some representative institutions. In Nigeria, of which British Cameroon was a part, the British gradually introduced self-government and federalism (Ngoh, 2001). Both colonizers started transferring funds to their African colonies for large infrastructure projects. Internal revenue also increased, and public expenditure per capita, including education expenditure, boomed (Cogneau et al., 2018).

In French Cameroon, the transition to independence was far from peaceful: in 1955, the French government disbanded the UPC (*Union des Populations du Cameroun*), an independence party created in 1948, which also sought reunification of Cameroon within its German borders. An armed struggle began, taking place mostly in French Cameroon in regions close to the border with British Cameroon. The deadliest operations hit the Bamiléké region between 1959 and 1961 (Deltombe et al., 2011). In 1960, France granted independence to the pro-French Ahmadou

Ahidjo, Cameroon's first president, who continued fighting the rebels with help from the French army until 1971.

Nigeria also became independent in 1960. Since the 1940s, political parties in French Cameroon and in Nigeria had been demanding reunification of the two territories (Ngoh, 1987; Deltombe et al., 2011). In 1961, a referendum was organized in British Cameroon: while the North voted to remain part of Nigeria, the Southern part voted to be reunited with former French Cameroon, as shown in figure 1. In this paper, I consider only the part of the border between French and British Cameroon that is today an internal border in Cameroon.

At first, the former British part retained some autonomy within the Federal Republic of Cameroon, but in 1972, the federation was replaced with a unitary state. However, present-day Cameroon stands out for the duality of its judicial and education systems. In primary and secondary education, two separate school systems coexist: Francophone and Anglophone students prepare for different end-of-cycle examinations. Yet, there is a single higher education system (World Bank, 2003). Cameroon has two official languages, French and English, but Anglophones are a minority (a fifth of total population) in a predominantly Francophone country. Both presidents Cameroon has had since independence (Paul Biya succeeded Ahmadou Ahidjo in 1982) were born in the former French part, and inhabitants of the former British part have long felt disadvantaged by the Francophone center.[6]

Data

The paper's main results are estimated using Cameroonian population censuses, which provide enough statistical power to focus on geographic units located within a very short distance of the border. The data also allow me to consider heterogeneous effects across cohorts to provide a

[6] Protests to defend the Anglophone specificity, notably in the education and judicial systems, began in October 2016 and have since turned into a violent conflict.

time-varying view of French and British comparative legacies in education. I use the full 1976 Cameroonian census (more than 7 million individuals in total) and a 10% nationally representative extract of the most recent census (2005).

I geolocated the 1976 census down to the village level. Figure 2 shows the very dense spatial distribution of villages in the border region. However, in a big part of the Francophone Ouest region, geolocation of 1976 data at the village level is impossible (dashed area on figure 2). The 2005 census data cannot be geolocated more precisely than the district level, which still gives a reasonable degree of geographic variation (121 districts within 100 km of the border with an average surface area of 740 km^2, see online appendix figure B.2).

[FIGURE 2 ABOUT HERE]

Because individuals rarely go back to primary school in adulthood, education variables give information about the education system during the time an individual was of schooling age.[7] This allows me to identify the effect of colonizer identity on education in different periods by looking at different age groups within a census, provided I show that results are not explained by differences in mortality rates by education levels across the border (selective mortality). To mitigate the problem of age heaping, I focus on 10-year cohorts around ages ending in 0.[8] The online data

7 There was variability in school entry age and cycle length in colonial period, especially in mission schools. In 1976, official school entry age was 6, and the primary cycle lasted 7 years in Anglophone Cameroon and 6 years in Francophone Cameroon. However, intermittent schooling and late school entry were widespread: in the 1976 population census, 40% of children in the last year of primary school were over 15.

8 Age heaping is the tendency for people who do not know their exact date of birth to report attractive age figures such as ones ending in 5 and 0 (A'Hearn et al., 2009). It is important in the 1976 and 2005 population censuses of Cameroon, as can be seen on online appendix figures B.1. People who misreport their age are likely to be less educated, so that age heaping effectively sorts people, concentrating the less educated at round ages. Because age heaping is more pronounced in Anglophone Cameroon (systematic registering of birth was more widespread in the

appendix describes in more detail the variables contained in the census data and used in the analysis.

To undertake balance tests at the border, I use a variety of geographic datasets, as well as data on the location of German schools in 1911. I collected historical public finance data and recent administrative school data to help understand mechanisms underlying the results. All these sources are described in more detail in the online data appendix.

Identification strategy

Local randomness of the border

I use a border discontinuity analysis to identify the causal impact of colonizer identity on education outcomes over the 20th century. My identifying assumption is that, when it was drawn, the border between the two parts of Cameroon was locally random. That is, it did not coincide with an existing political, linguistic, or ecological division. According to Alfred Milner, representing the United Kingdom at the Paris Peace conference in 1919, the boundaries between the two spheres of occupations "cut across tribal and administrative divisions, [took] no account of economic conditions and [were], in every way, objectionable" (Louis, 1967; Lee and Schultz, 2012).[9]

French part), the difference in education outcomes between former British and former French Cameroon is biased downwards at round ages (and upwards at other ages).

[9] Some changes were made to the 1916 border in 1919, but they were minor. For instance, the area forming the present-day Bamboutos departement was administered by the British between 1916 and 1919, but it was given to the French in 1919 (Tsoata, 1999). This reorganization did not change the fact that the border cut across the Bamileke ethnic group. In any case, this part of the border is not used in the main specification because of missing data problems — see figure 2.

The border was not drawn as a straight line. It mainly followed small rivers and watersheds (Brownlie, 1979), displayed on figure 3. Geographic or ethnic considerations were not taken into account, with one exception: the declaration refers to "the tribal boundary between Bansso and Bamum" (Brownlie, 1979, p. 567).

[FIGURE 3 ABOUT HERE]

Figure 3 superimposes the border on Murdock's (1959) tribal map. Online appendix figure B.3 replicates this exercise using postcolonial ethnographic data. These maps confirm that the border cuts across ethnolinguistic groups in the south. In the north, however it seems to respect ethnolinguistic boundaries, in particular the boundaries of the Bamun (or Mum) ethnic group. King Njoya, king of the Bamun (or Bamum) from 1883 to 1931, converted to Islam together with his court, invented a system of writing, the Shumom script, and had a school built to teach it (Tardits, 1980). Because this history might have influenced the supply and demand of education, I never use the section of the border corresponding to the Bamun kingdom in the analysis (section 4 on figure 2). Additionally, the border analysis controls for ethnic homeland fixed effects.

[TABLE 1 ABOUT HERE]

Table 1 presents balance tests on geographic variables, using 10×10 pixel-level data (columns 1 to 3), the 1976 data geolocated at the village level (columns 4 to 6), and the 2005 data geolocated at the district level (columns 7 to 9). Discontinuities are obtained using the same specification and samples as for the main results of the paper.[10]

[FIGURE 4 ABOUT HERE]

I also run balance tests on the number of German schools prior to partition, using data on German mission schools from Schlunk (1914), which are described in the online data appendix. Figure 4 displays the spatial location of schools in German Cameroon in 1911, five years before

[10] In column 3, the unit of observation is the pixel. Columns 6 and 9 run the same regression as in the rest of the paper, but replacing the outcome of interest by geographic variables at the village and district level.

partition. The density of schools is very comparable on both sides of the future border. Table C.1 in the online appendix shows that there is no border discontinuity in the density of German schools in 1911.

Migration

Migration is one of the major concerns threatening the validity of a border discontinuity analysis. Cross-border migration can be thought of as a problem of non-compliance, as individuals assigned to one treatment (one colonizer) change treatment by moving to the other part. Migration away from the border region can be thought of as a problem of attrition, as individuals leave the sample (McCauley and Posner, 2015). In most border discontinuity designs, the researcher observes the place of residence of individuals at the time of enumeration, not the place of residence at the time of treatment.

Cameroonian population censuses give the district of birth of individuals, so that the problems created by migration are largely tempered under the reasonable assumption that most people are schooled in their district of birth. In 2005, I use variation at the district level. The 1976 population census gives the village of residence and the district of birth, but not the village of birth. To use variation at the village level, I assume that individuals still living in their district of birth never moved and were born in their 1976 village of residence. To avoid the problem of selective attrition created by migration, I randomly repatriate each migrant in a village of their district of birth, weighting the probability to be from a given village by its (non-migrant) population — which means I assume constant migration rates across villages of the same

district.[11] To check the sensitivity of my results to this way of reallocating migrants, I also present discontinuities estimated on the sample of non-migrants only.

Even when the place of birth of individuals is known, potential selective migration of the parents is a concern. It might be that individuals with a particular preference for educating their children moved to one side of the border or the other after partition. If these population movements were important, we should observe a jump at the border in the density of individuals born after partition. Figure C.1 in the online appendix displays McCrary tests for the absence of border discontinuity in the density of villages and individuals (McCrary, 2008). The top panel plots the number of villages in bins of 500 meters on either side of the border along with a local linear polynomial fit and displays the associated discontinuity estimate. The bottom panel does the same for the density of men born between 1922 and 1931, in the decade following partition.[12]There is no border discontinuity in the density of either villages or individuals.

Though the absence of density discontinuity is reassuring, migration could still bias the results on education if different types of selective migration compensated each other. Section D.5 in the online appendix tries to assess the biases introduced by various types of cross-border and internal migration, as well as migration from Cameroon to Nigeria after reunification, and concludes that they are unlikely to affect results very much.

[11] There are enough observations in the dataset for the law of large numbers to apply: results are remarkably robust to different iterations of the repatriation procedure. Repatriated migrants represent 14% of total population in the cohort born between 1882 and 1891, and up to 42% in the cohort born between 1942 and 1951.

[12] Similar results are obtained for the other cohorts.

Econometric specification

To obtain border discontinuities, which I interpret as the causal effect of having been colonized by the British rather than the French, I estimate the following equation

$$s_{ij} = \tau BR_j + f\left(\text{geographic location}_j\right) + x_j'\beta + u_{ij} \quad (1)$$

where s_{ij} is the variable of interest for individual i born in village j; BR_j is a binary equal to 1 if village j lies on the British side of the border; $f(\text{geographic location}_j)$ is a function of geographic location of village j; x_j is a vector of ethnic homeland fixed effects. Cameroonian censuses do not give ethnicity, so that ethnic fixed effects are not at the individual level, but at the village level — a village j is attributed ethnicity e if it falls in the ethnic homeland of ethnicity e on Murdock's (1959) map. In 2005, geolocation at the village level is impossible: j indexes districts, and I use the geographic location of the district's centroid. Because districts can cut across several homelands, I do not control for ethnic homeland fixed effects, but I ensure that I do not compare districts close to the border but very far away from each other by controlling for border section dummies.[13] The coefficient of interest is τ: it measures the discontinuity at the border, and is positive when it favors the British side. To study time variations in colonial legacies, I estimate equation (1) separately for different 10-year cohorts.

I control for the smooth effects of geographic location using a local linear non-parametric function of distance to the border, with a triangular kernel and mean squared error (MSE)

[13] A dummy for districts close to section 3 on figure 2, and a dummy for districts close to section 4 for discontinuities estimated on the whole border. Results are robust to other definitions of the border section dummies, for example dividing the border into 5 segments of equal length.

bandwidth (Cattaneo et al., 2018).[14] I also show the robustness of my results to specifications controlling for geographic location with a polynomial in longitude x_j and latitude y_j, similar to Dell (2010). Standard errors are clustered by the unit of geolocation (village or district), and I also present the robust non-parametric confidence interval proposed by Calonico et al. (2014).

I exclude from the sample villages close to Douala, the main port and economic capital of Cameroon, lying very close to the border on the French-speaking side (border section 1 on figure 2). I also exclude villages on either side of the northern border section (section 4 on figure 2), which is not plausibly exogenous as it respected the boundaries of the Bamun kingdom. In the end, because villages cannot be geolocated in part of the Ouest region, I estimate village-level discontinuities on border section 2 on figure 2. District-level results are obtained on a sample excluding the northernmost border section and Douala (online appendix figure B.2). Section D.6 in the online appendix assesses the comparability of results obtained on different border sections and using a different type of geographical variation (villages versus districts).

[14] This amounts to restricting the sample to observations within h km of the border and controlling for a linear function of distance to the border d_j whose slope is allowed to vary on either side, and weighting each observation by $(1 - |d_j/h|)$. h is determined in a data driven way by seeking to minimize the mean squared error of the estimator. The algorithm to determine the optimal bandwidth is performed on the sample of all individuals born within 100 km of the border in order not to over-represent the much larger French side. The British side is about 100 km wide. Similarly, when working on district centroids, the provinces of North and Extreme-North, very far away from the border region and which have no British counterpart, are excluded.

Results

Colonial period results: cohort analysis of 1976 census data

I start by presenting discontinuities in male education estimated cohort by cohort on 1976 census data geolocated at the village level.[15] Men born between 1912 and 1941 and who were of school age in the 30 years following partition had, all else being equal, about one more year of schooling if they were born on the British side of the border (figure 5). The positive British effect vanishes in the late colonial period: it is close to zero and not statistically significant for cohorts born after 1942. One might be surprised that the estimated discontinuity is positive and significant for the cohort born 1902–1911, but the youngest members of this cohort were 5 in 1916, when Cameroon was divided into two zones of occupation, and 8 in 1919 when it was officially partitioned. Because of errors in reporting age (see online appendix figure B.1), many of them were likely younger. Because of late school entry and intermittent schooling, the majority of this cohort was actually young enough to be in primary school in 1919.[16]

[FIGURE 5 ABOUT HERE]

Table 2 decomposes the British effect on years of schooling into the different margins of school participation, and primary and secondary cycle completion. Men born between 1922 and 1931 were 12.9 percentage points more likely to enroll in school if they were born on the British side of the border and 10.2 percentage points more likely to complete a primary cycle. They were 1.3 percentage points more likely to complete a secondary cycle (first panel of table 2). Men

[15] Because very few girls attended school before the 1950s on both sides of the border, estimated discontinuities for female education are small and no statistically significant, and are not presented here.

[16] Late school entry and intermittent schooling were very widespread, as evidenced by the attempts of colonial administrators at curtailing the phenomenon — both the 1926 Education Ordinance in Nigeria and the 1920 decree regulating private schools in French Cameroon contained regulation regarding the age of students in primary school. In the 1976 population census, 40% of children in the last year of primary school were over 15.

born between 1942 and 1951 were not more likely to have been to school or to have completed primary, but they were 5.9 percentage points more likely to have completed secondary school if they were born on the British side of the border (second panel of table 2).[17]

[TABLE 2 ABOUT HERE]

Two types of selection problems might bias the estimation of the British effect: selection by mortality and selective migration. The problem of selection by mortality would occur if there were differences in mortality rates by education level across the border — colonial period results are obtained on individuals observed in 1976, when they were in their 40s and 60s. Online appendix D.4 estimates discontinuities in the share of each cohort in total population and shows that selection by mortality is unlikely to explain the results. Selective cross-border and internal migration might also bias the results, for example if parents with a preference for educating their children migrated from French to British Cameroon after partition, or migrated within French Cameroon away from the border region.[18] Online appendix D.5 uses the 1976 census to document patterns of migration in the border region and estimate upper bounds for the biases they could create. Migrants from French to British Cameroon born before 1912 were not more educated than locals; those who migrated away from the border region in French Cameroon were indeed more educated than those who stayed, but this would account for a difference of at most 0.25 years of schooling at the border in the cohorts born just after partition. Online appendix

[17] In the online appendix, figure D.1 shows visual representations of the discontinuities in education, table D.1 shows that results are robust to parametric latitude-longitude specifications, and figure D.2 displays the distribution of discontinuities obtained on placebo borders running parallel to the actual border but shifted East or West.

[18] McCrary tests already show the absence of jump in density across the border, but migration flows in opposite directions might compensate each other.

D.5 also shows results obtained without repatriating migrants in their village of birth and simply considering those who never migrated: the only significant difference is that the British effect does not fall to zero for the cohorts of school age in the late colonial period, because migration selected away the most educated in these cohorts. Finally, online appendix D.5 discusses the potential biases introduced by the migration of Nigerians to British Cameroon during the colonial period and their departure after reunification.

Because observations cannot be geolocated below the district level in the 2005 census, results for more recent cohorts use geographical variation at the district rather than the village level. To ensure the comparability of 1976 and 2005 results, online appendix D.6 replicates the village-level results using district level variation.

Present-day legacies: analysis of 2005 census data

I now present discontinuities in education estimated on 2005 census data geolocated at the district level.[19] Figure 6 displays cohort by cohort discontinuities in years of schooling, school participation, primary and secondary school completion. Like with 1976 census data, I estimate a positive and statistically significant British effect on years of schooling and school participation for the cohort born between 1921 and 1931.[20] The effect disappears for cohorts of school age in the 1940s and 1950s. Perhaps a sign of discrimination in school supply in a Francophone majority country, individuals born after 1961 are more likely to have been in school and have completed a primary cycle if they were born on the Francophone side of the border. Estimated discontinuities

[19] Because enrollment of women started increasing after World War II, I now consider both men and women. Focusing only on men, as in 1976, yields qualitatively similar results.

[20] The effect is smaller for primary and secondary school completion, but the 95% confidence interval includes the 1976 results and it is worth noting that the cohort born 1921–1930, whose members are older than 75 in 2005, is very small.

in school participation and primary completion are large (more than 10 percentage points in the 1950s and 1960s), but not statistically significant at conventional levels, and become smaller over time. What is remarkable is the resurgence of an Anglophone advantage in recent cohorts, driven by higher rates of secondary school completion on the Anglophone side of the border. Individuals born in the 1970s and in the 1980s are about 10 percentage points more likely to have completed a secondary cycle if they were born on the Anglophone side of the border.

[FIGURE 6 ABOUT HERE]

For the sake of space, more detailed results are presented only for the 1971–1980 and 1981–1990 cohorts in table 3. For these cohorts, the advantage of the Anglophone system lies in its capacity to retain students in school longer. The discontinuity in school participation and primary school completion is actually negative, favoring the Francophone side, for the cohort born 1971–1980, though it is (barely) statistically significant for school participation only. The two sides of the border appear to have converged in school participation and primary completion for the cohort born 1981–1990 (table 3, columns 1 and 2). However, individuals of both cohorts born in Anglophone Cameroon are more likely to have completed secondary school and have some years of higher education. The estimated discontinuity in secondary school completion is 9.5 percentage points for the cohort born 1971–1980 and 7.6 percentage points for the cohort born 1981–1990 (column 3). The estimated discontinuity in the probability to have at least 3 years of higher education is 10.5 percentage points for the cohort born 1971–1980 and 2.5 percentage points for the cohort born 1981–1990 (column 4).[21]

The Anglophone advantage is not only manifest in attainment levels, but also in actual years spent in school (taking into account repetition and differences in the length of the primary cycle, see online data appendix). Individuals born in Anglophone Cameroon are about 10 percentage points more likely to have spent 15 years in school or more (table 3, column 5).

[21] The majority of individuals in this cohort are still too young to be in university.

Students in Anglophone Cameroon do not attain higher levels of schooling because passing from one grade to the next is easier (something we might suspect because of differences in repetition rates): they actually spend more years in school. Furthermore, those who work are more likely to have a high-skilled occupation: the discontinuity of 1.3 percentage points is statistically significant at the 10% level for the cohort born 1981–1990 (column 6). This indicates that these education differences have labor market effects.[22]

[TABLE 3 ABOUT HERE]

Discussion of mechanisms

I will now examine the mechanisms that can explain the main results of the paper. The multiplicity of treatments coming with the assignment to French or British Cameroon (policy, institutional, and cultural) means that there is no perfect tool to pin down mechanisms exactly; instead, one has to rely on carefully weighing competing explanations (McCauley and Posner, 2015). I first consider the mechanisms behind the divergence and convergence in education during the colonial period, broadly distinguishing between demand and supply channels. I estimate border discontinuities in a wealth index in 1976, present newly collected data on the financing of education in British and French Cameroon, and use recent administrative data on the universe of schools in Cameroon to estimate discontinuities in school supply over the 20th century. I conclude that supply policies played an important role in the evolution of differences in education at the border. I then turn to the mechanisms explaining the resurgence of an Anglophone advantage in education. I estimate border discontinuities in various measures of economic

[22] In the online appendix, figure E.1 shows a visual representation of the discontinuity in secondary school completion and higher education; figure E.2 displays the spatial variation in education variables in the border region; table E.1 shows that results are robust to parametric latitude-longitude specifications; table E.2 shows the robustness of results to considering the whole border, including the northern section where the Bamun kingdom lies (the only difference is that the Anglophone effect is now also positive for school participation and primary school completion for the cohort born 1981–1990; figure E.3 displays the distribution of discontinuities in secondary school completion estimated on placebo borders.

development in 2005, as well as discontinuities in secondary school supply and in the share of students repeating a grade. I propose that Anglophone Cameroonians are, in 2005, more likely to finish high school and go to university because the practice of grade repetition in the Francophone system fosters dropout and limits secondary school completion. Lastly, I undertake mediation analysis to provide evidence for this mechanism.

Explaining divergence and convergence at the border

How did colonizer identity affect education levels? Mechanisms explaining the divergence and convergence in education at the border can be broadly grouped into demand and supply channels. Comparatively better economic conditions under British rule could have increased the demand for education through an income effect or higher returns to education. There is no precisely geolocated data on economic development during the colonial period, but a wealth index can be built from data on housing quality in the 1976 population census to assess differences in economic development at the border. Of course, these differences could have emerged in the postcolonial period, and they could be the consequence of better education in British Cameroon, but the exercise is still informative.[23] I estimate a large discontinuity in household wealth of 0.83 standard deviations favoring the former British side in 1976 (table 4, top panel, column 1). However, part of this effect might be explained by selective migration away from the border region. One concern is that, on the French side of the border, richer and more educated individuals migrated to the administrative capital Yaounde or the economic capital Douala. In the

[23] Contrary to human capital, which is measured at the individual level and accumulated primarily in childhood, housing-quality based wealth is measured at the household level and accumulated throughout the life cycle. It is therefore not suited for a cohort analysis. In any case, I attempted the exercise (by cohort of the household head), but results (not reported here) are inconclusive: there is no clear trend and the British effect appears homogenous across cohorts.

bottom panel of table 4, I allocate the wealth index to the household head and estimate a discontinuity controlling for the location of the place of birth of the household head rather than his place of residence. The effect is divided by more than two, which confirms that migration is a serious concern, but it remains important at 0.31 standard deviations (table 4, bottom panel, column 1).

[TABLE 4 ABOUT HERE]

To have a better idea of the mechanisms behind a higher wealth index on the British side of the border, columns (2) and (3) of table 4 decompose the wealth result into a public and a private wealth index. The public index uses housing quality variables that are strongly dependent on public utilities, like water or light source, while the private index excludes them.[24] When I control for the location of the place of birth of the household head rather than place of residence, I find that the discontinuity in the wealth index is entirely driven by public wealth. Next, I distinguish between a utility provided locally, piped water, and a public utility provided nationally, electricity (columns 4 and 5). Only access to piped water increases when one crosses the border from French to British Cameroon. One likely mechanism, proposed by Lee and Schultz (2012), is that British indirect rule resulted in better local institutions. However, from the limited measure I have, these better local institutions do not seem to have increased private wealth.[25]

[24] See online data appendix for the components of the wealth indices.

[25] One specific explanation for the divergence between the French and the British part is the higher wages offered by German-owned plantations in British Cameroon (Le Vine, 1964). In online appendix table F.1, I estimate the discontinuity in years of schooling for men born between 1922 and 1931, controlling for dummy variables indicating whether the village of birth lies within 5, 10, and 15 km of a German plantation on the British side. Though the proximity to a plantation correlates with education, the estimated discontinuity hardly changes when these controls are added.

The divergence in education could also be explained by supply mechanisms, that is by the direct effect of education policies.[26] In Cameroon, like elsewhere in Africa, the British colonial government gave incentives for religious missions to provide formal education through a system of subsidies. Though religious education played a more important role in French Cameroon than elsewhere in French Africa, Christian education did not receive as much support in French Cameroon as in British Cameroon. Built using newly collected public finance data (see online data appendix), table 5 shows that, in the 1930s, the British spent more per capita than the French on education. Education expenditure was, however, low in both parts. In 1937, the British colonial government in Cameroon was spending 1.33 1913 shillings (about 2018 $10) per school age child, while the French colonial government was spending 0.49 1913 shillings (about 2018 $3). Subsidies for private education were 6 times higher in British Cameroon than in French Cameroon (0.18 versus 0.03 1913 shillings per school age child). These differences reflect differences in education policies rather than differences in fiscal capacity. Indeed, though education expenditure per capita was higher in British Cameroon, total government expenditure per capita was lower than in French Cameroon, which means that the share of education in total government expenditure was higher (7.71% vs 2.37% in 1937).

[TABLE 5 ABOUT HERE]

It is important to stress that British colonial education policies relied heavily on local actors. Public education was, on the British side, largely delegated to native administrations, local

[26] We also need to consider the possibility that the divergence in education at the border had nothing to do with colonial policies or institutions. It would be the case if the border cut French Cameroon from important infrastructure or markets, decreasing average income and the demand for education, as well as tax revenue, public expenditure and the supply of education, or if British Cameroon became part of a much richer colony. This scenario is, however, not realistic: most of the infrastructure fell on the French side of the border, notably the port of Douala and the main railways. British Cameroon became part of Nigeria, not a particularly rich colony, and was largely neglected by the British colonial government (Ngoh, 2001).

governments empowered by indirect rule. The British government also relied extensively on Christian missions.[27] To show that different colonial policies regarding missions had an impact on religious conversion, I estimate discontinuities in religion in the 2005 census in online appendix table F.2. In 2005, Cameroonians were 18.4 percentage points more likely to be Christian and 14.6 percentage points less likely to have no religion if they were born on the Anglophone side of the border. The discontinuity in Christianity is largely driven by a discontinuity in the percentage of Protestants. We therefore need to consider another type of demand mechanism, involving non labor market returns to education: Protestantism encourages personal reading of the Bible, which can increase the demand for education (Woodberry, 2004; Becker and Woessmann, 2009).

The British advantage in education was quickly erased starting after World War II, at the same time as education policies were changing on the other side of the border. In the 1950s, public expenditure increased in both parts of Cameroon, but the surge was particularly pronounced in French Cameroon: total expenditure per capita was multiplied by 6 between 1937 and 1955, and education expenditure per capita was multiplied by 20 (table 5, columns 5 and 6). In 1955, French Cameroon was spending 3 times more than British Cameroon on education, and it had even surpassed the British side in subsidies to private schools (last column of table 5).

Though the change in education expenditure started before independence and reunification, post-colonial developments reinforced the convergence in education between both sides of the border, and even resulted in a Francophone advantage for cohorts born after 1960. Since reunification, inhabitants of the former British part have felt discriminated against by the Francophone center. I provide some evidence that school supply policies since independence have disadvantaged Anglophone Cameroon.

[27] In the predominantly Muslim North of British Cameroon (today part of Nigeria), where missionary presence was limited for religious and political reasons, enrollment rates were very low during the colonial period. They were also very low in the predominantly Muslim Northern part of French Cameroon.

[FIGURE 7 ABOUT HERE]

Figure 7 plots border discontinuities in the number of schools per 100 children every 5 years between 1900 and 2000. Because historical data on the location of schools is not available, I use 2003 administrative data giving the date of opening of every school in Cameroon. Therefore, I do not observe schools that closed between their opening and 2003. If attrition was selective with respect to colonial origins, this would introduce a bias in the estimation of border discontinuities. The 20th century was a period of high population growth and primary schooling expansion in Cameroon, so that massive closing down of public schools is unlikely.[28] Turnover of schools might be more important for private schools, and it might be more important in British Cameroon, where local actors had more autonomy in education. Lastly, the bias introduced by selective attrition should be stronger in the colonial period than in recent times, as schools had more time to close down and disappear from the sample. Overall, selective attrition might lead to an underestimation of the British effect during the colonial period.

The number of primary schools per children starts diverging in 1930, the positive British effect reaching 0.27 schools per 100 school age children in 1950 (7, panel 1). The British effect then decreases to zero between 1950 and 1965, and inverts after independence before reverting back to zero in the 1990s. The third and fourth panels of figure 7 distinguish between public and private schools: the advantage of the Francophone side after independence is entirely explained by public schools: the discontinuity in the number of public primary schools per children reaches -0.2 in the 1970s. This is consistent with discrimination of the Francophone government against the Anglophone part after independence, and might explain why primary completion rates are lower in Anglophone Cameroon for the cohorts born in the 1960s and 1970s (figure 6 and table 3).

[28] Cameroon's population was multiplied by 5 during the 20th century and gross primary enrollment rates increased from less than 1% to more than 100% (Benavot and Riddle, 1988).

Re-emergence of an Anglophone advantage: the legacy of pedagogical culture

If the initial divergence in education was erased by the boom in education spending in French Cameroon starting at the end of the colonial period and favoritism towards the Francophone part after reunification, what then explains why individuals born in the 1970s and 1980s in former British Cameroon were more likely to finish high school and go to university?

Here again, mechanisms can be broadly divided into supply and demand. With respect to demand mechanisms, individuals born in former British Cameroon might be more likely to finish high school and pursue tertiary education because the returns to tertiary education are higher. Table 6 estimates discontinuities in wealth and in various measures of economic development in the 2005 census. Whether I control for the geographic location of the household head's place of residence or place of birth (panel A), I estimate no statistically significant discontinuity in the housing-quality based wealth index.[29] In panel B, I look at three district-level measures of economic development — night-time light per capita, urbanization, and the share of workers in the industrial sector. I estimate no discontinuity in night light or industrialization, but I estimate a strong discontinuity in urbanization favoring the Francophone side (-29 percentage points).[30] These results make it unlikely that the Anglophone advantage re-emerged because of differences in economic development affecting the demand for education. At the same time, these results seem to indicate that the Anglophone advantage in higher education has no effect on

[29] These results are not in contradiction with Lee and Schultz (2012), who use 2004 survey data and find that households located on the former British side have higher wealth. I also estimate a positive discontinuity in wealth at the border, but I do not have the statistical power to reject that it is equal to zero. However, the sign of the discontinuity (still not significant) inverses when I control for the location of the place of birth of the household head, which might be an indication that selective migration plays a role in the results of Lee and Schultz (2012).

[30] Though urbanization is often used as a proxy for economic development, it need not necessarily mean that economic conditions are better in Francophone Cameroon, as it could simply reflect a stronger urban bias — policies biased towards urban areas (Lipton, 1977; Bates, 1981).

economic development, but it is important to note here that it is a recent phenomenon affecting only cohorts born after 1970 (figure 6, panel 4), who were younger than 35 in 2005. It is likely that the effects of the difference in education did not have time to materialize in such a short period.

[TABLE 6 ABOUT HERE]

Demand for higher education might also be different because of differences in preferences, explained by culture, especially religious factors and the inter-generational transmission of educational preferences. The share of Protestants was higher in Anglophone Cameroon in 2005 (appendix table F.2). However, the positive effect of Protestantism on education is generally explained by the necessity to be able to read the Bible. This is at odds with the finding that the British advantage appears only in high school completion and university participation, and not in primary school, where children typically learn to read.

Inter-generational transmission of education might be another channel. Migration from the border region was more important on the Francophone side of the border (see online appendix D.5). If migration selected away the most educated individuals on the Francophone side of the border, inter-generational transmission of education could explain the resurgence of a British advantage in education for children born close to the border in the 1970s and 1980s. This explanation, however, fails to explain why rates of primary school completion tend to be higher in Francophone Cameroon while rates of secondary education are much lower.

With respect to the education supply channel, neither the supply of primary schools nor the supply of secondary schools favored Anglophone Cameroon in the end of the 20th century (figure 7). The border discontinuity in the number of secondary schools per school-age child actually favored Francophone Cameroon in 2000 (panel 2). Pedagogical culture, though, is likely to differ between two sub-systems with very different colonial histories.

Grade repetition (or grade retention) is much more common today in France than in other OECD countries (OECD, 2012). In Africa, the average repetition rate, one of the highest in

the world, is brought up by former French colonies (Ndaruhutse et al., 2008).[31] The merits of grade repetition as a pedagogical tool are heavily debated, but recent research provides well identified evidence of its detrimental effect on school dropout in the United States and Uruguay (Jacob and Lefgren, 2009; Manacorda, 2012). Grade repetition discourages students and sends them a signal of low ability, which encourages them to leave school early. In Manacorda's (2012) study of Uruguay, grade failure is associated with a lower educational attainment of -0.8 school years.

Rates of grade repetition are today much higher in former French Cameroon and jump discontinuously at the border. From the 2005 census, I build a measure of grade repetition for students still enrolled in school (primary and secondary). A student is considered to have repeated a grade if they are older than what their normal progression through the system would predict, taking into account average school entry age in each district (see online data appendix). Students are 20 percentage points more likely to have repeated at least a grade if they were born in Francophone Cameroon (table 7, column 1).

[TABLE 7 ABOUT HERE]

Two reasons might explain why students repeat more grades in the Francophone system: either, as argued by Bernard et al. (2005) or Ndaruhutse et al. (2008) for Francophone Africa as a whole, pedagogical practices differ, or they are similar, but students in the Francophone system have lower learning outcomes, because of some other difference between the two systems, so that they do not have the required level to move to the next grade. The only measure of learning outcomes in the 2005 census is the ability to read and write (asked only for individuals older than 12). Columns (2) and (3) of table 7 show that students' performance, measured as the ability of 12-year-old students to read and write, is not lower in the French system. Column (4) estimates a border discontinuity in repetition controlling for the ability to read and write (for children still

[31] Around 2002, primary school repetition rates averaged 22.5% in former French colonies versus 9.5% in former British colonies.

in school older than 12). Though illiteracy is a very strong predictor of the probability of having repeated a grade, the estimated discontinuity in repetition remain very large, at 17 percentage points.

To disentangle the different mechanisms of persistence, I use mediation analysis, studying what happens to the treatment effect (the border discontinuity in secondary school completion) when controlling for plausible mediating variables.[32] Because my measure of grade repetition is obtained from students still in school in the 2005 census, I focus on the youngest cohort, born 1981–1990. I proxy for the district-level repetition rate to which this cohort was exposed using the repetition rate of students still in middle school in 2005, defined as above. Grade repetition is a combination of a policy variable (the extent to which schools are using grade repetition as a pedagogical tool) and an individual variable (the learning outcomes of a student). I am interested in measuring the policy variable, so I add district level literacy rates in the cohort 1981–1990 as a control. I also consider as a likely mediating variable of the Anglophone effect the number of secondary schools in 2000, the wealth and education of cohorts born 1951–1960 (the parents), religion, and urbanization rates at the district level. Table 8 shows that controlling for district-level rates of grade repetition causes the border discontinuity in secondary school completion to fall to zero (columns 8 and 9), while controlling for other mediating variables hardly affects the estimated discontinuity of 8 percentage points. Though the results of this mediation exercise are to be interpreted with caution, they provide evidence in favor of the pedagogical culture channel and the role of grade repetition.

[TABLE 8 ABOUT HERE]

How could pedagogical culture, a fixed characteristic of the Francophone education system, have different effects over time? Why were individuals born in the 1940s, for example, not more likely to complete a secondary cycle in the Anglophone system? A first explanation is that the

[32] On mediation analysis and the assumptions needed, see Imai et al. (2011) and Heckman and Pinto (2015).

favoritism towards the Francophone side in primary school supply seems to have decreased in the end of the 20th century, making apparent the positive effect of lower repetition rates in the Anglophone system. The third panel of figure 7 shows that the public supply of primary schools strongly favored the French-speaking side of the border in the 1960s and 1970s, but that there was no more discontinuity at the border in the 1990s.

Another potential explanation lies in the overall increase in average years of schooling. Within 25 km of the border, average years of schooling went from less than 4 for people born in the 1940s to 8.5 for people born in the 1970s Though in the Francophone system, repetition rates are high in both the primary and the secondary cycle[33], the effect of grade repetition on dropout is likely to be more important for older students because they have a higher opportunity cost of staying in school — they could start working. A student who repeats the first year of primary school is more likely to remain in school than a student who repeats the first year of secondary school. Though I do not have data on historical repetition rates, we have no reason to believe that they were lower in the 1950s and 1960s than they are today. However, it is likely that their discouraging effect did not matter as much because the number of children going on to secondary education was low.

The education system inherited from the British colonizer seems more efficient at retaining children in school and allow them to pursue higher education, but what are the implications in terms of welfare? If returns to one year of education are higher on the Francophone side of the border, then it might be that the Francophone system, though providing fewer years of effective education, is actually giving students a similar set of skills. Answering this question fully requires detailed work on teaching quality in the two systems, which is left for future research, but two things must be emphasized here. The first is that the Anglophone advantage is not only manifest in attainment levels, but also in numbers of years spent in school,

[33] In 2002–2003, the percentage of students repeating a grade in the Francophone system was 28% in primary school and 19% in secondary school.

taking repetition into account (table 3, column 5). The second is that the probability of having a high-skilled occupation is higher in Anglophone Cameroon (table 3 column 6 and online appendix table E.1) — it appears that differences in rates of secondary school completion have labor market effects.

Conclusion

How does the history of Cameroon help us understand the mechanisms of persistence of colonial legacies, notably the respective roles of local and national-level mechanisms? The important lessons here are that colonial legacies are not set in stone and that national-level policies play a major role. The initial divergence in education at the border was short lived, because of a boom in education expenditure on the French side in the very last decade of colonization, and because of favoritism towards the Francophone side after reunification.

This is not to say that colonial history does not matter. First, British and French colonization left very different cultural legacies: people born in former British Cameroon are today far more likely to identify as Christian, while people born in former French Cameroon are far more likely to say they have no religion. Moreover, the educational advantage of the British part resurfaced more recently. To explain it, I put forward the channel of different pedagogical practices — another cultural legacy. Though more research is needed, the French legacy of high repetition rates is not limited to Cameroon and concerns Francophone Africa as a whole. Efforts to lower grade repetition rates in Francophone education systems might help decrease the dropout rate and allow more students to finish high school and go to university.

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Table 1 – Absence of geographical discontinuities across the border

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	10x10 km pixels			1976 village-level sample			2005 district-level sample		
	Mean within 30 km			Mean within 15 km			Mean within 20 km		
	En.	Fr.	disc.	En.	Fr.	disc.	En.	Fr.	disc.
Temp. (° celsius)	22.27	23.27	-0.02	23.43	23.62	-0.55	22.90	21.44	0.68
			(0.65)			(0.95)			(1.88)
			[-1.25, 1.67]			[-3.00, 1.17]			[-5.17, 5.65]
Monthly prec. (mm)	196	193	-4	227	229	-8	214	190	13
			(9)			(9)			(11)
			[-24, 16]			[-32, 13]			[-11, 41]
Elevation (m)	968	813	28	650	637	297	756	1124	-155
			(130)			(200)			(409)
			[-314, 282]			[-121, 816]			[-1172, 1128]
Slope (degrees)	9.57	5.99	1.90	7.70	5.91	2.18*	7.85	7.44	-0.68
			(1.22)			(1.27)			(3.50)
			[-1.24, 4.43]			[-0.89, 5.06]			[-11.20, 11.48]
Agr. suitability	5.73	5.32	0.06	5.59	6.66	0.11	5.59	6.05	-0.64
			(0.30)			(0.27)			(0.68)
			[-0.70, 0.69]			[-0.41, 0.86]			[-2.53, 2.04]
Malaria index	11.10	10.85	-0.92	15.32	15.45	-2.01	10.16	10.65	-4.13
			(1.11)			(1.31)			(4.98)
			[-3.71, 1.45]			[-5.00, 0.87]			[-16.12, 6.93]
Observations	128	127	4,611	19,443	36,687	129,633	50,259	75,143	438,590

Notes: in columns (1) to (3), the unit of observation is the 10×10 pixel. Robust standard errors in parentheses. In columns (4) to (6), the sample is the same as for results using 1976 census data: men older than 15 born in villages within 100 km of the southern section of the border (section 2). Geographical variables are at the level of the village of birth. Standard errors clustered by village in parentheses. In columns (7) to (9), the sample is the same as for results using 2005 census data: all individuals older than 15 excluding those born in Douala and in districts closest to the northernmost section of the border (section 4). Geographical variables are at the level of the district of birth. Standard errors clustered by district in parentheses. $*p < 0.1$, $**p < 0.05$, $***p < 0.01$. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal mean squared error bandwidth. Robust Calonico et al. (2014) confidence interval in [ ]. The choice to present averages within 30, 15 and 20 km of the border is guided by the average optimal MSE bandwidth for estimating discontinuities: 33.9 km in column (3), 14.7 km in column (6), and 17.51 km in column (9). *Sources*: temperature and monthly precipitation from WorldClim (`http://www.worldclim.org`). Temperature is average temperature over 1950–2000, precipitation is average monthly precipitation over 1950–2000. Elevation data from NASA Shuttle Radar Topography Mission, available on the CIAT-CSI SRTM website (`http://srtm.csi.cgiar.org`). Slope computed from the elevation data using the slope tool in ArcGIS. Agricultural suitability is suitability for rainfed crops excluding forest ecosystems, from Global Agro-Ecological Zones (`http://webarchive.iiasa.ac.at/Research/LUC/GAEZ/index.htm`). Malaria stability index from Kiszweski et al. (2004), downloaded on `https://sites.google.com/site/gordoncmccord//datasets`.

Table 2 — Decomposition of the discontinuity in education into different margins

	(1) Years of schooling	(2) Ever been to school	(3) Completed primary	(4) Completed secondary
		Men born 1922–1931		
Discontinuity	1.184***	0.129**	0.102***	0.013**
	(0.377)	(0.059)	(0.038)	(0.006)
	[0.48, 2.20]	[0.03, 0.28]	[0.03, 0.20]	[0.00, 0.03]
Mean dep. var.	2.430	0.467	0.178	0.013
Observations (effective)	4,981	4,084	5,173	7,516
Observations (total)	15,368	15,404	15,368	15,368
		Men born 1942–1951		
Discontinuity	0.140	-0.025	-0.042	0.059***
	(0.372)	(0.034)	(0.056)	(0.02)
	[-0.62, 1.03]	[-0.09, 0.06]	[-0.15, 0.09]	[0.02, 0.10]
Mean dep. var.	6.249	0.853	0.628	0.052
Observations (effective)	5,822	7,213	6,106	5,938
Observations (total)	26,913	27,048	26,913	26,913

Notes: sample of men born in villages within 100 km of the southern section of the border. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal mean squared error bandwidth. Added covariates: ethnic homeland fixed effects. Standard errors clustered at the village level in parentheses. $*p < 0.1$, $**p < 0.05$, $***p < 0.01$. Calonico et al. (2014) confidence interval in [ ]. The effective number of observations is the number of observations within the optimal bandwidth.

Table 3 — Discontinuities in education in the 2005 census

	(1)	(2)	(3)	(4)	(5)	(6)
	Ever been to school	Completed primary	Completed secondary	≥3 years of higher ed.	≥ 15 years in school	High-skilled occupation
			Born 1971–1980			
Discontinuity	-0.104*	-0.078	0.095**	0.105***	0.102**	0.019
	(0.056)	(0.080)	(0.043)	(0.029)	(0.047)	(0.022)
	[-0.26, 0.01]	[-0.29, 0.13]	[0.02, 0.22]	[0.05, 0.20]	[0.01, 0.23]	[-0.04, 0.08]
Mean dep. var.	0.904	0.834	0.213	0.129	0.218	0.086
Observations (effective)	40,054	38,636	31,808	31,808	31,808	18,786
Observations (total)	106,762	106,762	106,762	106,762	106,762	54,142
			Born 1981–1990			
Discontinuity	-0.027	0.036	0.076**	0.025***	0.107**	0.013*
	(0.027)	(0.036)	(0.033)	(0.006)	(0.044)	(0.007)
	[-0.10, 0.04]	[-0.03, 0.15]	[0.02, 0.18]	[0.01, 0.05]	[0.01, 0.23]	[-0.00, 0.03]
Mean dep. var.	0.931	0.865	0.193	0.034	0.201	0.016
Observations (effective)	48,03	39,178	39,178	34,984	39,178	12,15
Observations (total)	153,817	153,817	153,817	153,817	153,817	34,951

Notes: the sample excludes individuals born in Douala and born in districts closest to the northernmost section of the border. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal mean squared error bandwidth. Added covariates: border section dummies. Standard errors clustered at the district level in parentheses. $*p < 0.1$, $**p < 0.05$, $***p < 0.01$. Calonico et al. (2014) confidence interval in [ ]. The effective number of observations is the number of observations within the optimal bandwidth.

Table 4 — Discontinuities in wealth in the 1976 census

	(1) Wealth index	(2) Private wealth index	(3) Public wealth index	(4) Access to piped water	(5) Electricity
	Household heads residing close to the border				
Discontinuity	0.83***	0.74***	0.51***	0.41***	0.07**
	(0.14)	(0.15)	(0.13)	(0.14)	(0.03)
	[0.55, 1.17]	[0.46, 1.14]	[0.28, 0.86]	[0.07, 0.70]	[0.01, 0.13]
Mean dep. var.	0.56	0.48	0.50	0.38	0.07
Observations (effective)	22,582	38,246	37,953	41,856	32,869
Observations (total)	138,395	138,403	138,415	138,395	138,395
	Household heads born close to the border				
Discontinuity	0.31***	0.09	0.39***	0.22***	0.01
	(0.10)	(0.10)	(0.08)	(0.07)	(0.02)
	[0.14, 0.58]	[-0.06, 0.36]	[0.25, 0.62]	[0.07, 0.42]	[-0.03, 0.06]
Mean dep. var.	0.58	0.49	0.46	0.42	0.10
Observations (effective)	16,477	16,656	24,421	24,706	16,656
Observations (total)	81,682	81,689	81,696	81,682	81,682

Notes: sample of household heads (all cohorts) residing in or born in villages within 100 km of the southern section of the border. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal mean squared error bandwidth. Added covariates: ethnic homeland fixed effects. Standard errors clustered at the village level in parentheses. $*p < 0.1$, $**p < 0.05$, $***p < 0.01$. Calonico et al. (2014) confidence interval in [ ]. The effective number of observations is the number of observations within the optimal bandwidth. The mean of the standardized wealth index is not zero because the sample is in the South, which is closer to the coast and richer.

Table 5 – Public financing of education, French and British Cameroon

	1924	1930	1935	1937	1950	1955
	Colonial government's education expenditure per school-age child (1913 s.)[1][2]					
French Cameroon	0.25	0.50	0.63	0.49	7.18	15.36
British Cameroon	0.60	1.10	0.87	1.33	4.97	5.75
	Public subsidies for private education per school-age child (1913 s.)[1][2]					
French Cameroon	0.02	0.03	0.03	0.03	1.65	4.77
British Cameroon	0.01	0.03	0.11	0.18	1.85	3.61
	Total expenditure per capita (1913 £)[2]					
French Cameroon	0.17	0.30	0.25	0.21	0.93	2.05[a]
British Cameroon	0.14	0.16	0.14	0.17	0.43	0.47[a]
	Share of education in total expenditure					
French Cameroon	1.49%	1.67%	2.56%	2.37%	7.74%	6.51%[a]
British Cameroon	4.41%	6.83%	6.27%	7.71%	11.68%	8.36%[a]

Sources: France, Ministère des Colonies (1921–1938, 1947–1957); Great Britain Colonial Office (1922–1938, 1949–1959). Colonial budgets were used as an additional source for French Cameroon (Cameroun, various dates). (1) School-age population is assumed to be 20% of total population. (2) British Cameroon figures were deflated to 1913 pounds using a UK retail price index (London and Cambridge Economic Service and Alford, 1973). French Cameroon figures were first deflated to 1913 francs using the French consumer price index of Villa (1997), and then converted to pounds using the 1913 official exchange rate (London and Cambridge Economic Service and Alford, 1973). 1913 was chosen because both countries were then in the gold standard and the exchange rate had been stable for decades. There are 20 shillings (s.) in a pound (£). (a) 1953 figures.

Table 6 — Discontinuities in various measures of economic development in 2005

	(1)	(2)	(3)	(4)	(5)
	A. Household-level measures of wealth				
	Wealth index	Private wealth index	Public wealth index	Access to piped water	Electricity
	Household heads residing close to the border				
Discontinuity	0.21	0.18	0.17	0.21**	-0.03
	(0.26)	(0.24)	(0.24)	(0.10)	(0.12)
	[-0.47, 0.97]	[-0.42, 0.82]	[-0.48, 0.91]	[-0.07, 0.44]	[-0.34, 0.34]
Mean dep. var.	0.36	0.42	0.27	0.29	0.61
Observations (effective)	32,582	33,168	27,450	33,200	27,450
Observations (total)	123,534	123,534	123,566	123,566	123,566
	Household heads born close to the border				
Discontinuity	-0.25	-0.19	-0.24	0.12	-0.23
	(0.36)	(0.25)	(0.38)	(0.11)	(0.18)
	[-1.08, 0.80]	[-0.79, 0.56]	[-1.11, 0.88]	[-0.11, 0.44]	[-0.65, 0.30]
Mean dep. var.	0.46	0.50	0.38	0.30	0.65
Observations (effective)	58,672	58,672	57,478	57,478	57,478
Observations (total)	156,399	156,399	156,433	156,433	156,433
	B. District-level measures				
	Night light per capita	Urbanisation	Share working in industry		
Discontinuity	-0.18	-0.29**	0.01		
	(0.13)	(0.13)	(0.03)		
	[-0.43, 0.10]	[-0.79, 0.03]	[-0.08, 0.08]		
Mean dep. var.	0.22	0.31	0.07		
Observations (effective)	90	40	48		
Observations (total)	145	145	145		

Notes: the sample excludes Douala and the districts closest to the northernmost section of the border. Discontinuities obtained employing a local linear estimation with triangular kernel and optimal mean squared error bandwidth. Added covariates: border section dummies. Standard errors clustered at the district level in parentheses. $*p < 0.1$, $**p < 0.05$, $***p < 0.01$. Calonico et al. (2014) confidence interval in [ ]. The effective number of observations is the number of observations within the optimal bandwidth. Urbanization is the share of the district population living in an urban area. The industrial sector includes mining.

Table 7 — Discontinuities in repetition and learning outcomes in the 2005 census

	(1)	(2)	(3)	(4)
	Has repeated ≥ 1 grade	Can read	Can write	Has repeated ≥ 1 grade
Discontinuity	-0.20***	0.00	0.01	-0.17***
	(0.04)	(0.03)	(0.03)	(0.04)
	[-0.30, -0.11]	[-0.06, 0.07]	[-0.05, 0.08]	[-0.28,-0.06]
Can read				-0.11***
				(0.03)
Can write				-0.12***
				(0.03)
Mean dep. var.	0.55	0.96	0.96	0.55
Observations (effective)	46,970	5,314	5,314	21,427
Observations (total)	182,697	15,487	15,487	84,192
Sample	All primary and secondary school students	12-year-olds still in school		All students older than 12

Notes: the sample excludes individuals born in Douala and in districts closest to the northernmost section of the border. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal mean squared error bandwidth. Added covariates: border section dummies. Standard errors clustered at the district level in parentheses. $*p < 0.1$, $**p < 0.05$, $***p < 0.01$. Calonico et al. (2014) confidence interval in [ ]. A student is deemed to have repeated a grade if they are older than what their normal progression in the system would predict, given average school-entry age in the district (computed as the average age of students in their first year of schooling).

Table 8 — Discontinuities in secondary completion with controls, cohort 1981–1990

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent variable: completed secondary								
Discontinuity	0.08**	0.07**	0.07***	0.08***	0.08**	0.08***	0.08***	-0.03	0.03
	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.04)	(0.03)
Secondary sch. in 2000[(a)]		-0.18*							
		(0.09)							
Wealth cohort 1951–60[(b)]			0.05***						
			(0.02)						
Education cohort 1951–60[(c)]				0.02***					
				(0.00)					
Protestant[(d)]					-0.00				
					(0.01)				
District urbanization rate[(e)]						0.08*			
						(0.04)			
District literacy rate[(g)]							0.44***		0.35***
							(0.10)		(0.12)
District share of repeaters[(f)]								-0.43***	-0.17
								(0.14)	(0.16)
Observations (effective)	38,179	38,179	38,179	38,179	37,516	38,179	38,179	38,179	38,179
Observations (total)	153,817	153,817	153,817	153,817	150,9	153,817	153,817	153,817	153,817

Notes: the sample excludes individuals born in Douala and born in districts closest to the northernmost section of the border. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal mean squared error bandwidth. Added covariates: border section dummies. Standard errors clustered at the district level in parentheses. $*p < 0.1$, $**p < 0.05$, $***p < 0.01$.. The effective number of observations is the number of observations within the optimal bandwidth. (a) Number of secondary schools per 100 secondary school age children in the district in 2000. (b) District average wealth index of household whose head was born between 1951 and 1960. (c) District average years of schooling of the cohort born between 1951 and 1960. (d) Protestants comprise other Christians, who are neither Protestant, nor Catholics, nor Orthodox. (e) District urbanization rate in 2005. (f) Share of middle school students who are older than what their normal progression through the system would predict (in 2005). (g) Share of the cohort born 1981–90 who can write in the 2005 census.

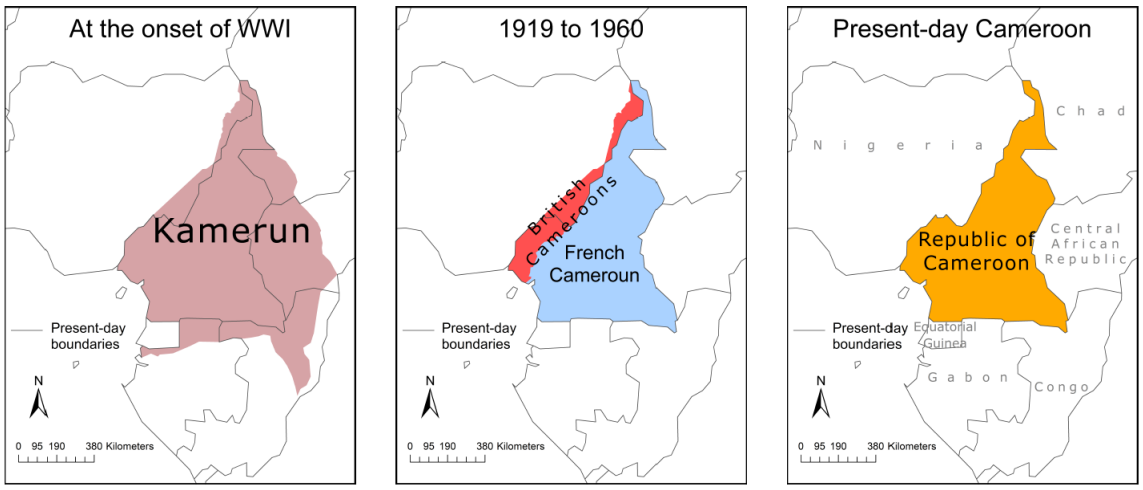


Figure 1 — The Evolution of Cameroon's boundaries

Sources: author's map from Gifford and Louis (1967, 1971).

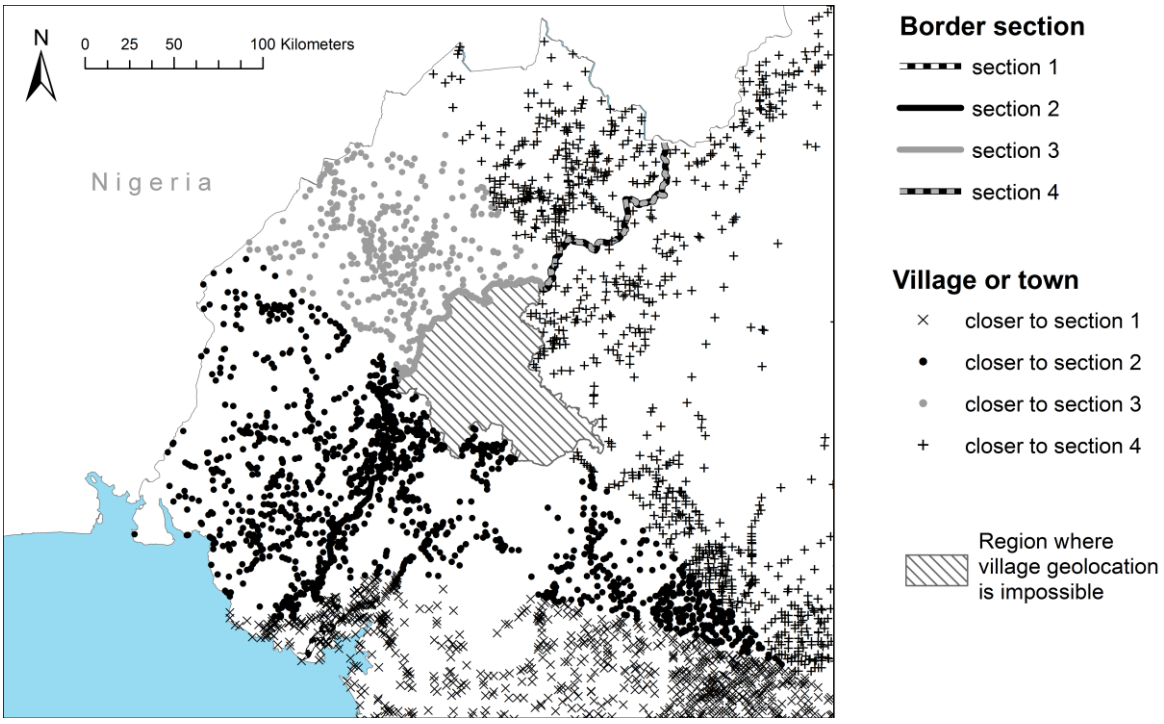


Figure 2 — Localization of villages in the 1976 population census

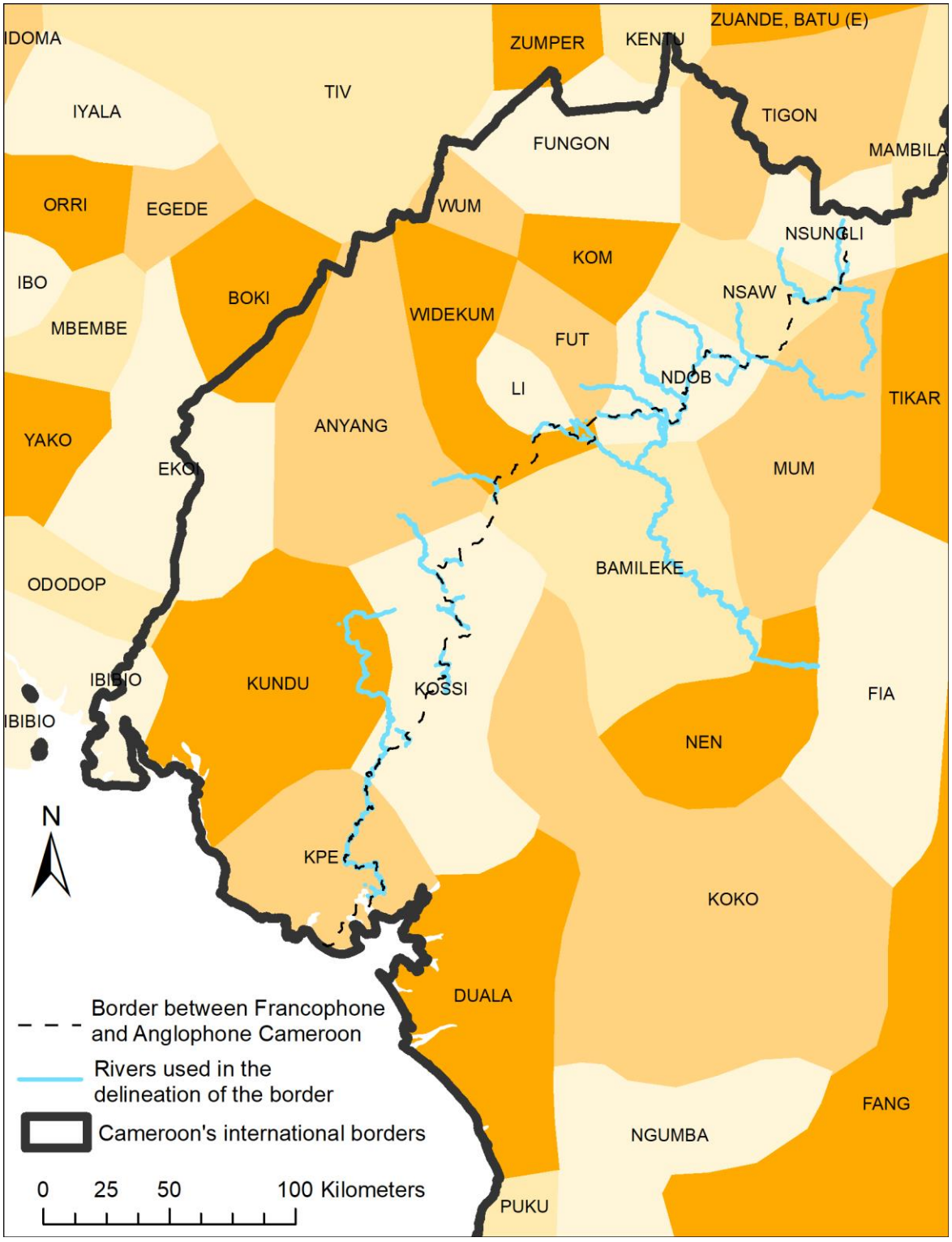


Figure 3 — Ethnic groups in West Cameroon according to Murdock's map

Sources: Murdock (1959), map digitized by Nathan Nunn: `http://scholar.harvard.edu/nunn/pages/data-0`. Location of rivers from the Forest Atlas of Cameroon: `https://cmr.forest-atlas.org/`

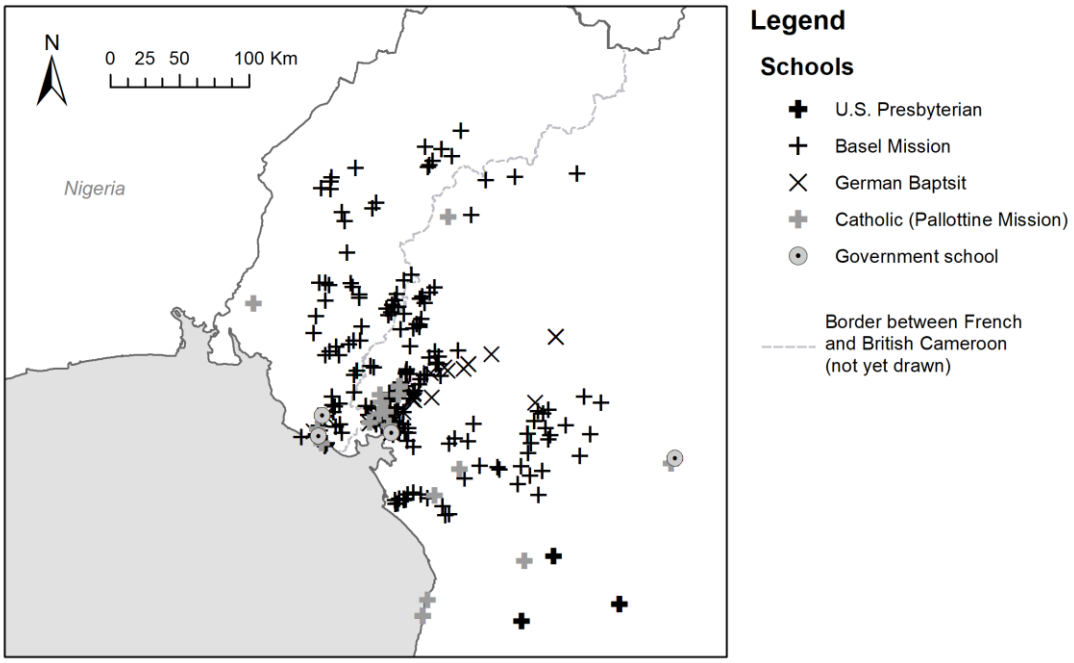


Figure 4 — Schools in German Cameroon in 1911

Source: Schlunk (1914), geolocated by the author.

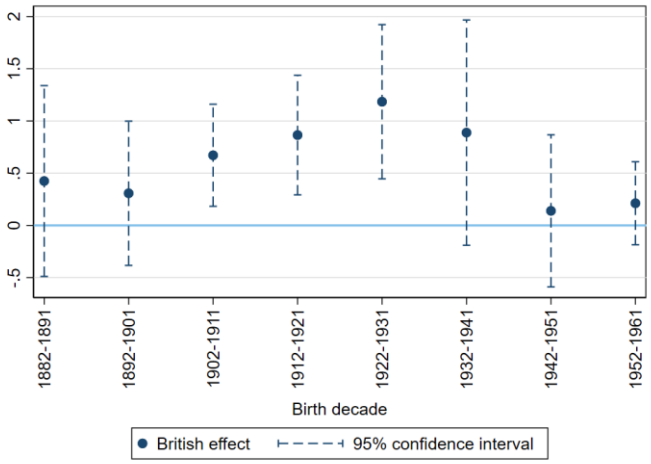


Figure 5 — Discontinuities in male years of schooling in 1976 (southern section)

Notes: Sample of men born in villages within 100 km of the southern section of the border. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal MSE bandwidth. Added covariates: ethnic homeland fixed effects. Standard errors clustered at the village level.

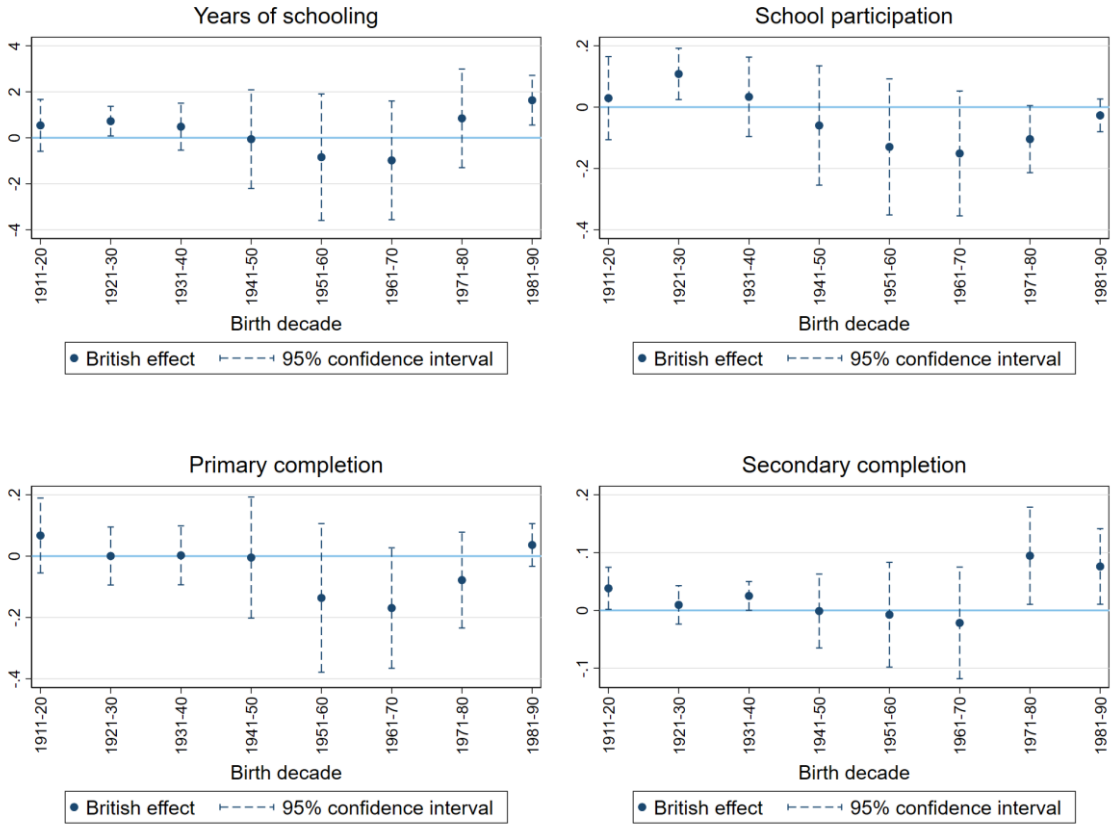


Figure 6 — Discontinuities in education in 2005

Notes: the sample excludes individuals born in Douala and in districts closest to the northernmost section of the border. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal MSE bandwidth. Added covariates: border section dummies. Standard errors clustered at the district level.

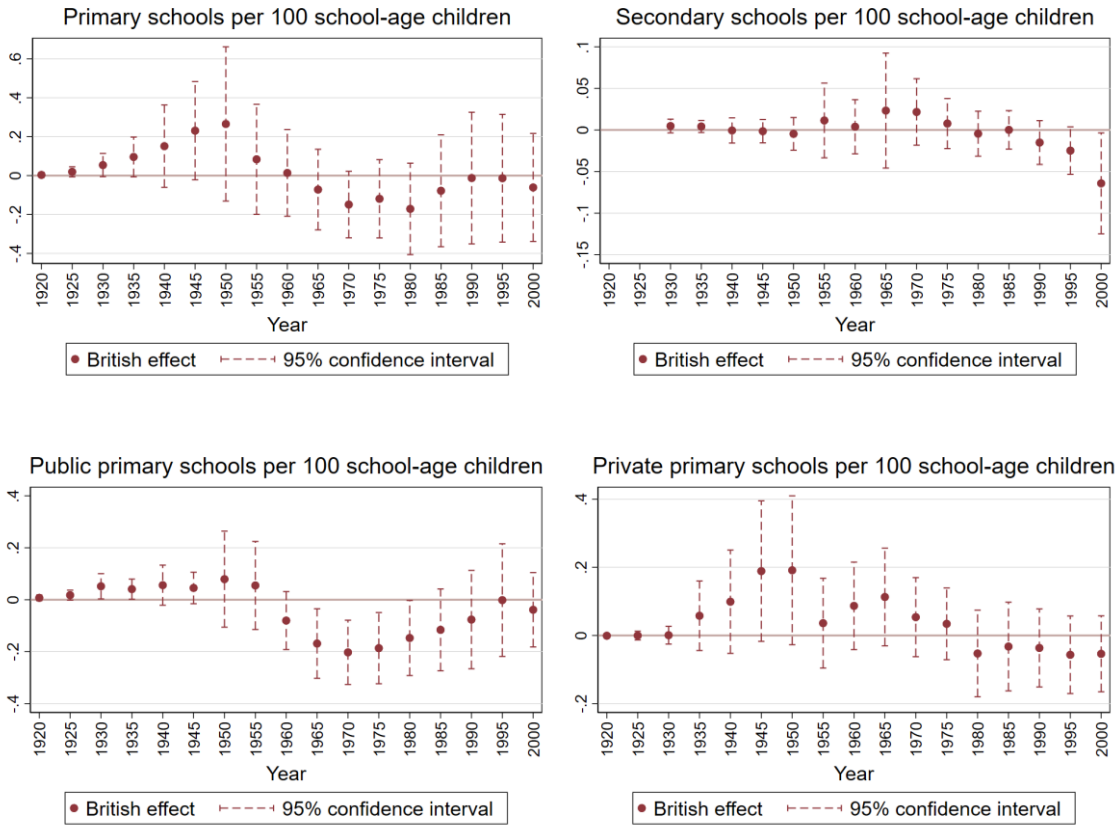


Figure 7 — Border discontinuities in school supply over the 20th century

Notes: The dependent variable is the number of primary/secondary, public/private schools per 100 school-age children (6-11 for primary, 12-18 for secondary). The unit of observation is the district (2005 boundaries). Douala is excluded. Discontinuities are obtained employing a local linear non-parametric estimation with triangular kernel and optimal MSE bandwidth. Added covariates: border section dummies.

French and British Colonial Legacies in Education: Evidence from the Partition of Cameroon

Online Appendix

Yannick Dupraz

A Data appendix

A.1 Population census data

Source and data quality. I obtained the full 1976 population census from the Cameroonian National Statistical Institute via the MIMADEM project.[34] For 2005, I use a representative 10% extract made available by IPUMS International.[35] For the 1976 census, I had to identify and eliminate a lot of duplicate observations, all located in the Anglophone part. I do not know whether these duplicates were the result of an error during the coding process or an attempt to inflate population figures in certain districts.

Geolocation. I recovered the geographic coordinates of each village from its name using the website of the Cameroonian Ministry of Energy and Water (`http://www.mng-cameroon.org/SIG/`). When I could not locate a village, I inferred its coordinates by taking the mean of villages in the same canton (a group of about 10 villages). In the 1976 census, in part of

[34] Migrations, Marché du Travail et Dynamiques Démographiques en Afrique Subsaharienne, financed by the Hewlett Foundation, the AIRD (Agence Inter-établissement de la Recherche pour le Développement) and the AFD (Agence Française pour le Développement)

[35] Integrated Public Use Microdata Series: `https://international.ipums.org/international/`

the Francophone Ouest region, I could not geolocate villages.[36] 2005 census data cannot be geolocated more precisely than the district level.

School attainment variables. Census data give information on the last grade attended, from which I construct a measure of effective years of schooling (the theoretical number of years needed to attain the last grade attended and a standard measure of human capital). This measure takes into account the fact that, in 2005 as in 1976, the length of the primary cycle was 7 years in the Anglophone system versus 6 years in the Francophone system.[37] However, primary-cycle length varied through time within French and British Cameroon, something the population census does not reflect.[38] For that reason, I also consider the intensive margins on school participation (whether an individual has ever been to school) and school attainment variables (completion of the primary and secondary cycles).[39] Because of differences in repetition rates (higher in the Francophone system), effective years of schooling need not translate into the same number of years actually spent in school. Using 2002–2003 data on the percentage of repeaters in each grade by region, gender, system (Francophone versus Anglophone) and order of schooling (general

[36] Codes given in the raw census data and in the village file do not match (census village codes very likely correspond to the chiefdom rather than the village).

[37] The census asks whether the last grade attended was in the Francophone or Anglophone system, and I assume that individuals did their entire education within the same system. For instance, an individual who stopped school in the second grade of secondary school will be assigned 8 (6+2) years of schooling in the Francophone system and 9 (7+2) years of schooling in the Anglophone system.

[38] The census gives a choice between only 6 grades in the Francophone system and 7 in the Anglophone one, however, in the Anglophone system, the primary cycle was 9 years long up to 1931, 8 years long from 1931 to 1967 and 7 years long from 1967 onwards. In the Francophone system, the primary cycle has always been 6 years long, but a lot of mission schools used to lengthen the cycle by offering beginners' classes.

[39] School participation includes Koranic schools, but omitting them does not affect results, especially because they were well developed only across the northernmost part of the border.

versus vocational), I construct a measure of years spent in school by adding to each effective year of schooling the region-grade specific repetition rate. If the repetition rate in grade 1 is 25%, pupils will spend on average 1.25 years in grade 1. Since I consider this measure when studying the cohort born between 1971 and 1980, I assume that repetition rates did not vary much between the 1980s and 2002, and that they were similar across districts of the same region (there were 10 regions in Cameroon in 2005).

Skill content of occupation. In 2005, I build a binary for having a high-skilled occupation (given one is working). High-skilled occupations are executive, manager, scientist/researcher, teacher/professor, engineer, physician, senior nurse or midwife, legal professional, writer/artist, or a member of the clergy. These are occupations having codes between 100 and 299 in the IPUMS dataset.

Grade repetition. In 2005, I construct a measure of grade repetition for students still in school (primary and secondary). A student is deemed to have repeated a grade if they are older than what their normal progression in the system would predict, taking into account across-district differences in school entry age. For each individual i in district d, I observe age a_{id} and effective years of education y_{id}. I compute, for each district d, the average primary school starting age s_d as the average age of individuals who are still in their first year of primary school. An individual is then considered to have repeated a grade if $a_{id} - s_d > y_{id}$.

Wealth index and public utilities. I use information on house quality to build a wealth index for each household using the first component of a principal component analysis. The variables used are wall, roof and floor material, number of rooms per resident, type of toilet, light and drinking water sources, and, in 2005 only, type of lodging, cooking energy source, waste and waste water disposal systems, and accessibility. The wealth index is normalized to have zero mean and unit variance. I also decompose the index into a public and a private wealth index. The public wealth index uses housing quality variables which are strongly dependent on public

utilities (drinking water, light and cooking energy sources, type of toilet, waste water disposal system, and accessibility), while the private wealth index uses all other variables. I also build two public utilities binary variables: a binary equal to one if the household's source of drinking water is piped water (in the dwelling or via a public fountain), and a binary equal to one if the household's source of light is electricity.

A.2 Geographic data

Temperature and precipitation. I use gridded temperature and precipitation data from WorldClim (http://www.worldclim.org). Temperature is average temperature over 1950–2000, precipitation is average monthly precipitation over 1950–2000.

Elevation and slope. I use gridded elevation data from NASA Shuttle Radar Topography Mission, available on the CIAT-CSI SRTM website (http://srtm.csi.cgiar.org). I compute slope from the elevation data using the slope tool in ArcGIS.

Malaria stability index. I use the malaria stability index of Kiszweski et al. (2004) to proxy for the prevalence of malaria. The gridded data was downloaded from https://sites.google.com/site/gordoncmccord//datasets.

Agricultural suitability. I use gridded data on suitability for rainfed crops excluding forest ecosystems from Gobal Agro-Ecological Zones (http://webarchive.iiasa.ac.at/Research/LUC/GAEZ/index.htm). It is an index going from 0 (low suitability) to 11(high suitability).

Night-time light. I use gridded data on light intensity at night in 2005 from Version 4 DMSP-OLS Nighttime Lights Time Series: https://ngdc.noaa.gov/eog/dmsp/downloadV4composites.html. I use ArcGIS to compute average pixel night-time light per district, and then multiply by the number of pixels in the district and divide by 2005 population to obtain night-time light per capita.

A.3 Historical data

German schools. Schlunk (1914) gives the full list of missionary and government primary and secondary schools in Cameroon in 1911 (p. 85-113). From the name of the locality (Schulort), I recovered the latitude and longitude of each school using historical maps available on the Basel Mission Archives website (`http://www.bmarchives.org`) and the map available on the website of the Cameroonian Ministry of Energy and Water (`http://www.mng-cameroon.org/SIG/`). I was able to geolocate 84% of schools in Schlunk (1914) (92% if we exclude the district or Bezirk of Edea, far from the border). Non-located schools were given the geographic coordinates of their mission stations (all government schools were located).

Public finance data. I built series on colonial public expenditure (total expenditure and expenditure on education, discerning subsidies to the private sector) from the annual reports sent by both colonial powers to the League of Nations — the United Nations after World War II (France, Ministère des Colonies, 1921–1938, 1947–1957; Great Britain, Colonial Office, 1922–1938, 1949–1959), as well as French Cameroon's budget estimates (Cameroun, various dates).

A.4 Measures of historical school supply per district

To build measures of primary and secondary school supply per district at various dates, I use recent administrative school databases (from 2003 for primary schools, 2015 for secondary schools) giving the date of opening and status of every school in Cameroon. Assuming that few schools closed between their opening and today, I compute the number of schools per district at each date before using census data to divide by the corresponding school age population (6–11 for primary, 12–18 for secondary).

B Additional maps and figures

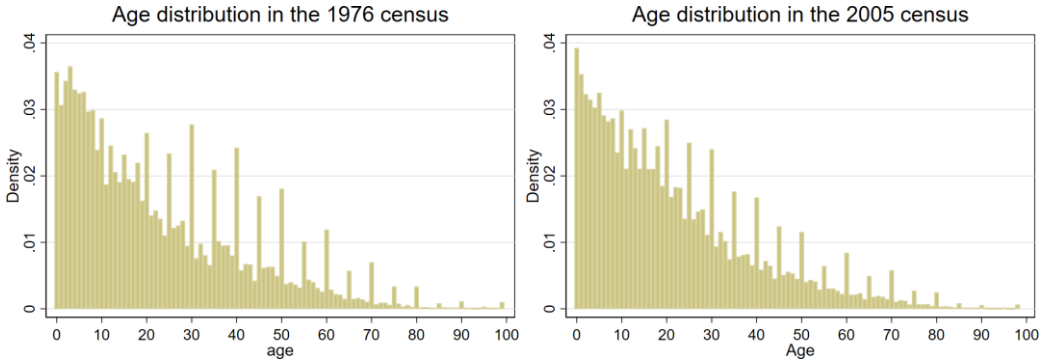


Figure B.1 — Evidence of age heaping in the 1976 and 2005 censuses

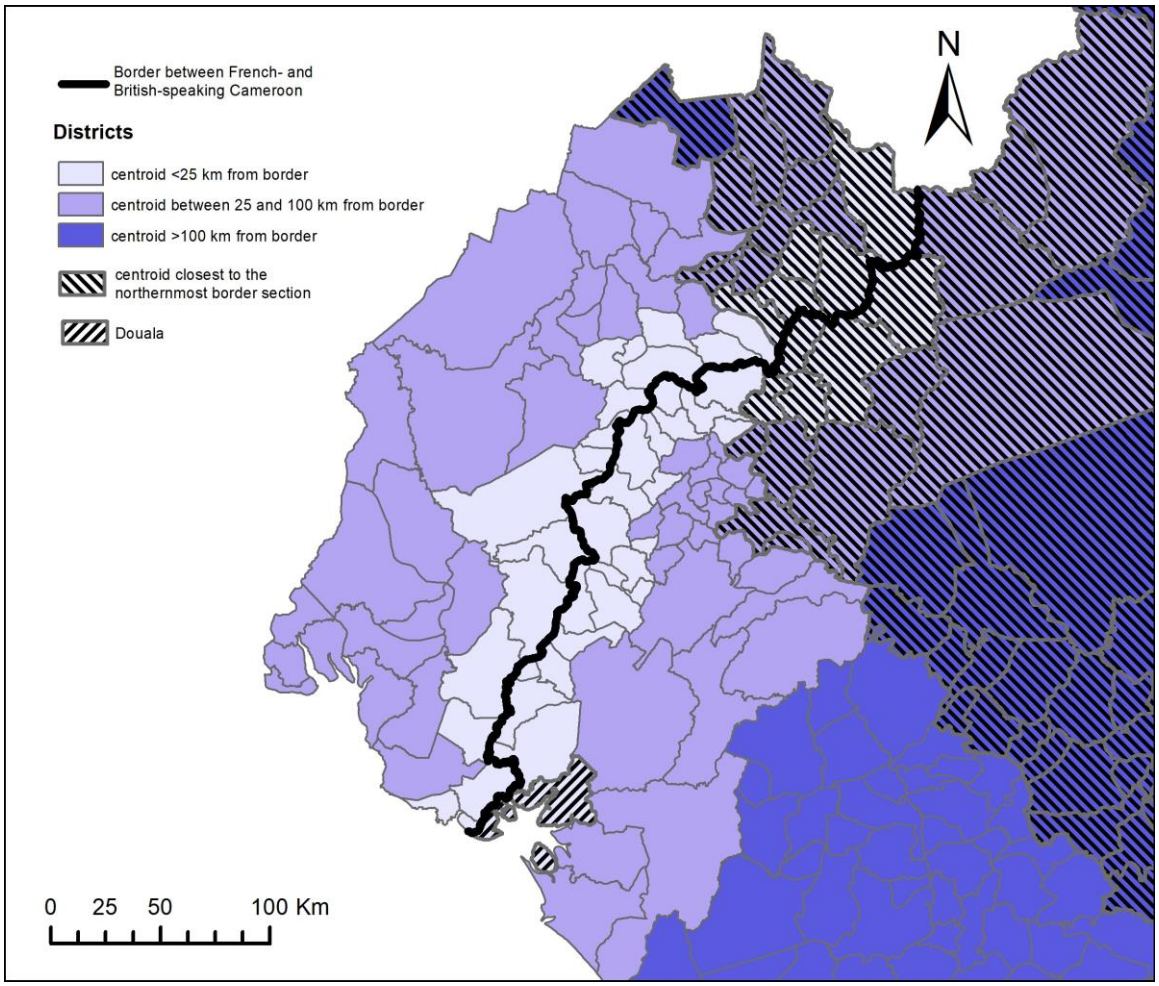


Figure B.2 — Districts in the 2005 population census

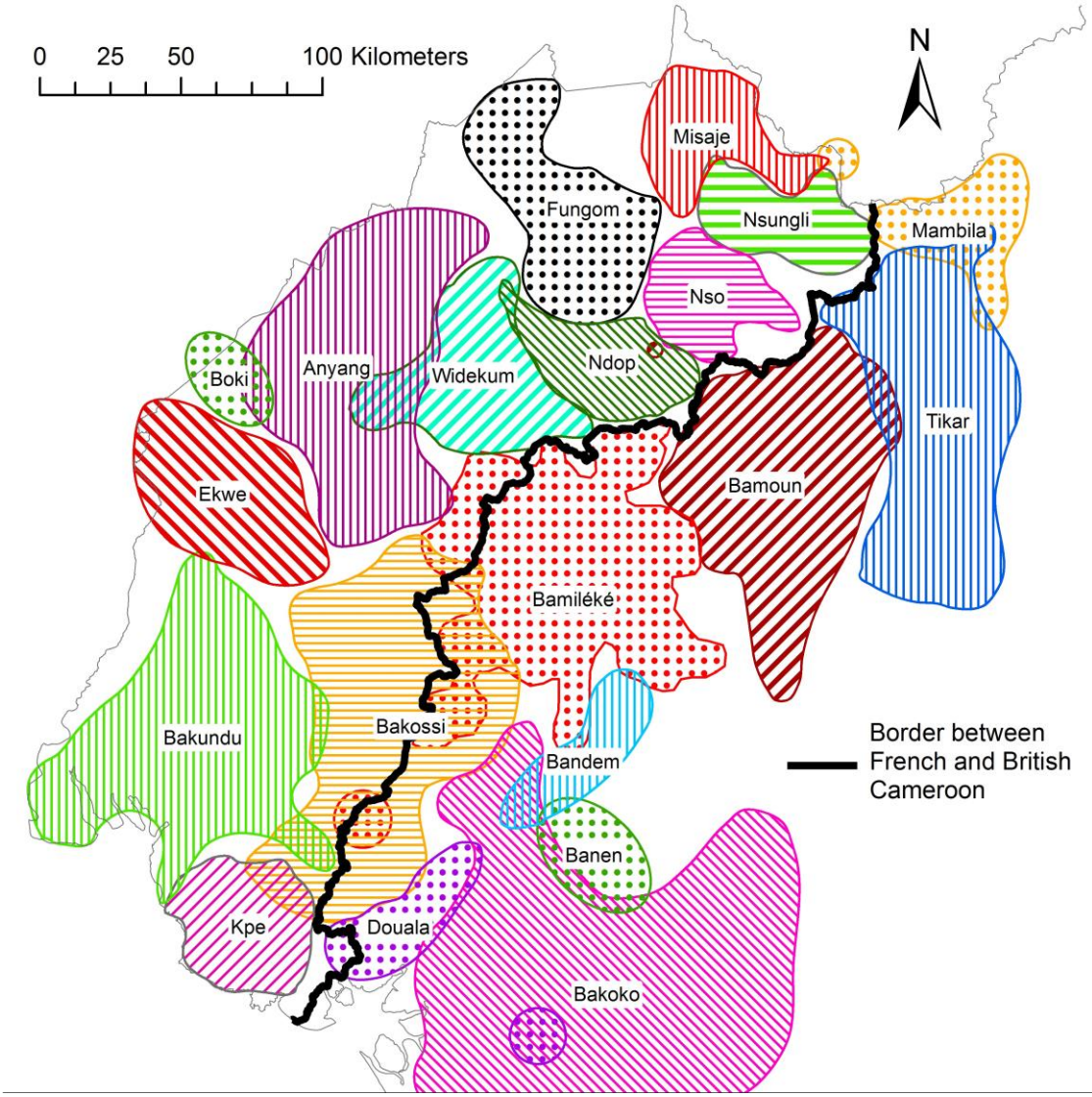


Figure B.3 — Ethnic groups in West Cameroon

Sources: Location of groups from population maps established by the Office de la recherche scientifique et technique outre-mer (ORSTOM) in the 1970s (ORSTOM, Atlas Régional du Cameroun). Definition of ethnic groups ("groups of essentially identical languages and culture") from Murdock (1959). The "tribes'' represented on the ORSTOM maps are alternatively tribes, chiefdoms, or ethnolinguistic groups — for example, the Bamilékés are represented as a single tribe, when this group is composed of several chiefdoms; the chiefdoms of Bangwa and Mundani, which are part of the Bamiléké group according to Murdock (1959) and Ngoh (1987), are represented as separate "tribes."

C Additional balance tests

Table C.1 — Absence of discontinuity in the density of 1911 German schools

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	10x10 km pixels			1976 village-level sample			2005 district-level sample		
	Mean within 30 km			Mean within 15 km			Mean within 20 km		
	En.	Fr.	disc.	En.	Fr.	disc.	En.	Fr.	disc.
# German schools	0,44	0.98	-0.11	1.46	1.81	0.43	5.81	2.88	0.75
			(0.39)			(0.51)			(5.31)
			[-0.86, 1.00]			[-0.63, 1.68]			[-12.40, 14.82]
Observations	128	127	4,611	19,443	36,687	129,633	50,259	75,143	438,59

Notes: in columns (1) to (3), the unit of observation is the 10×10 pixel. Robust standard errors in parentheses. The dependent variable is the number of 1911 German schools per pixel. In columns (4) to (6), the sample is the same as for results using 1976 census data: men older than 15 born in villages within 100 km of the southern section of the border (section 2). The dependent variable is the number of 1911 German schools within 5 km of the village. Standard errors clustered by village in parentheses. In columns (7) to (9), the sample is the same as for results using 2005 census data: all individuals older than 15 excluding those born in Douala and in districts closest to the northernmost section of the border (section 4). The dependent variable is the number of 1911 German schools per 2005 district. Standard errors clustered by district in parentheses. *p $<$ 0.1, **p $<$ 0.05, ***$<$ 0.01. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal mean squared error bandwidth. Robust Calonico et al. (2014) confidence interval in [ ]. Sources: Schlunk (1914).

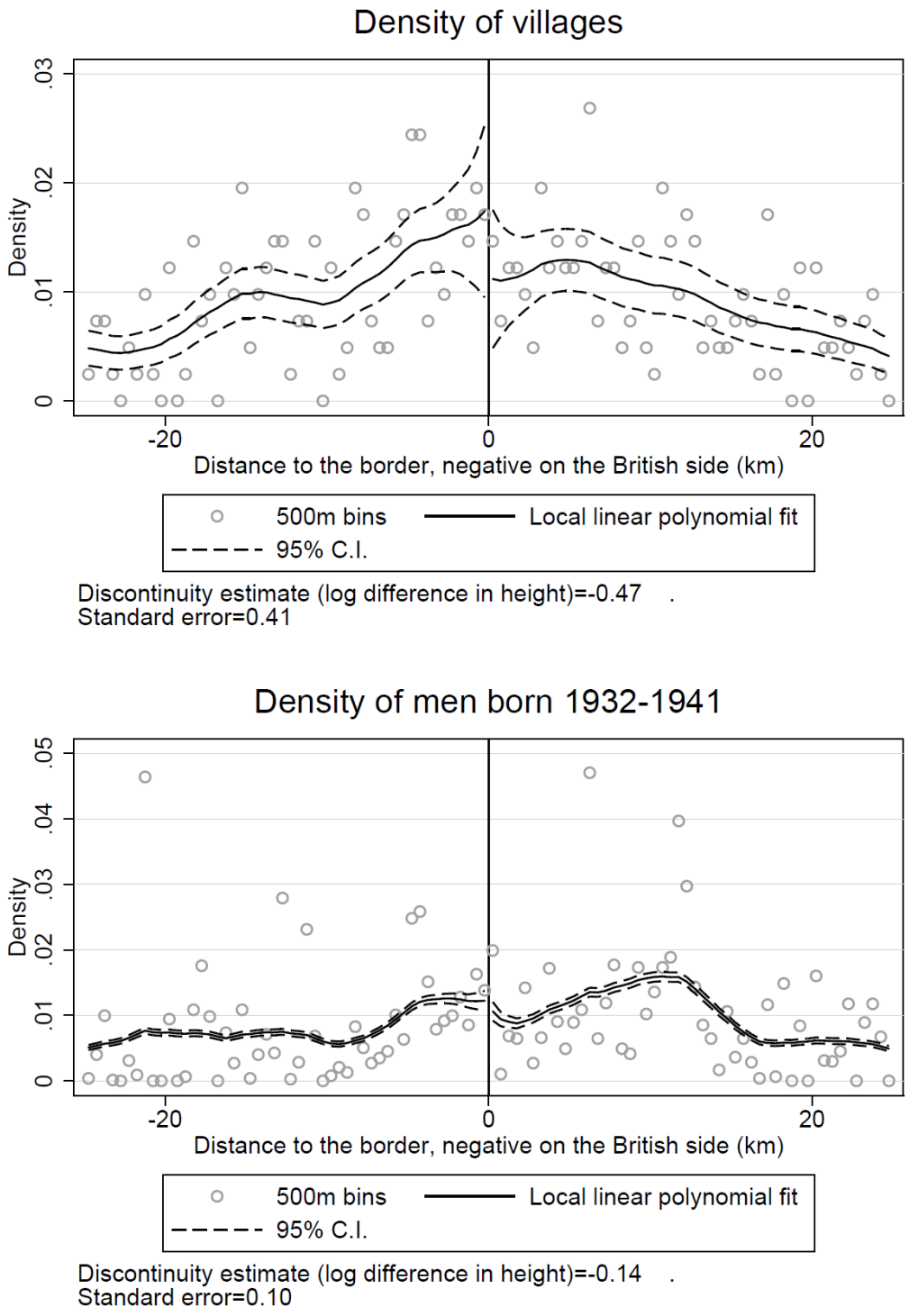


Figure C.1 — McCrary tests for absence of discontinuity in density

Notes: The sample is the same as for the main results of the paper (figure 5 and table 2), which means discontinuities are estimated on border section 2 on figure 2. Bin size: 500 meters. Local linear fit with a triangular kernel and a 5 km bandwidth.

D 1976 results: graphical representation and robustness

D.1 1976 results: graphical representation

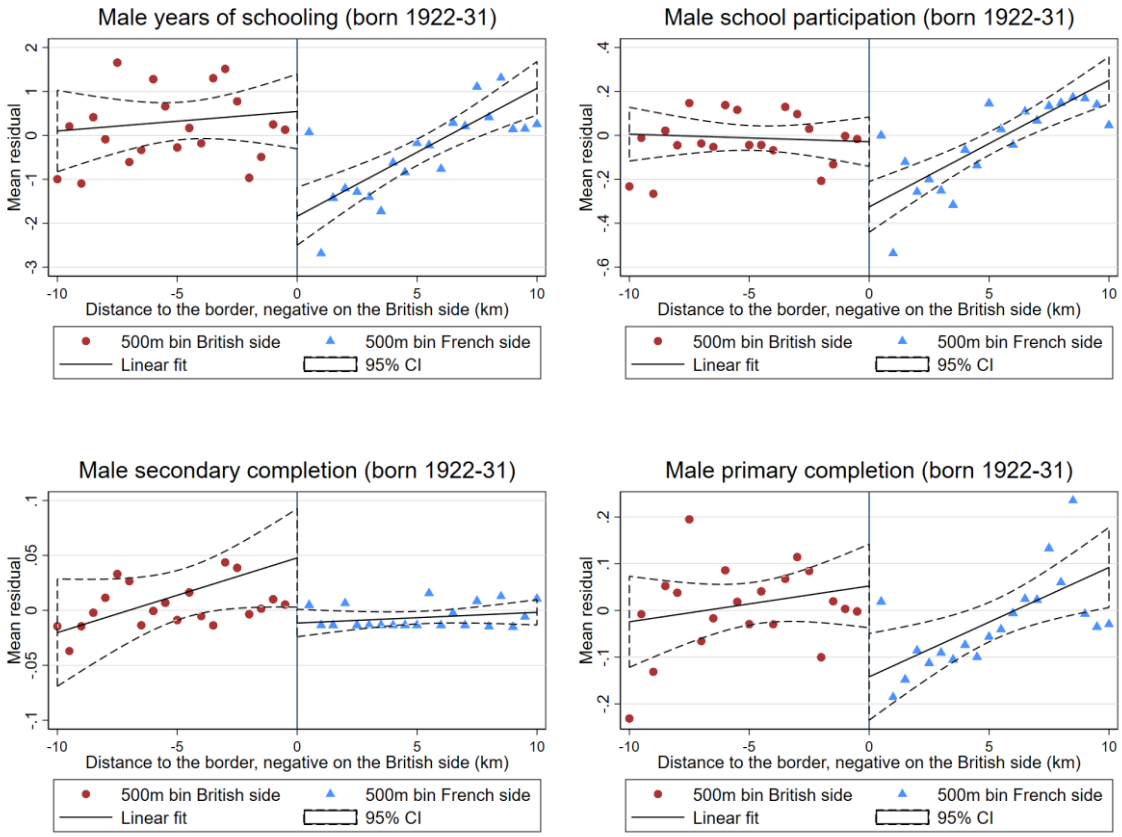


Figure D.1 — Graphical representation of 1976 discontinuities

Notes: The outcome variable is first regressed on the covariates (ethnic homeland fixed effects). Then each panel graphs the average value of the residuals for each 0.5 km bin on both sides of the border. The line on either side is fitted on observations collapsed by village (to take clustering into account). Distances are negative on the British side and positive on the French side and the border corresponds to a distance of zero. These graphs do not correspond directly to the nonparametric RD results, which use an optimal bandwidth and a triangular kernel.

D.2 1976 results: robustness to other specifications

Table D.1 — Discontinuities in education in 1976: robustness to latitude-longitude specifications

	(1)	(2)	(3)	(4)	(5)	(6)
	means on sample		estimated discontinuities			
	within <5 km of border		<5 km from border		<10 km from border	
	British side	French side	(x,y) poly of degree 1	(x,y) poly of degree 2	(x,y) poly of degree 1	(x,y) poly of degree 2
			Men born 1922–1931			
Years of education	2.89	1.98	1.13***	1.19***	1.24***	1.25***
			(0.22)	(0.19)	(0.20)	(0.20)
			[0.23]	[0.19]	[0.24]	[0.23]
Observations	1,110	686	1,796	1,796	3,205	3,205
			Men born 1942–1951			
Years of education	6.50	6.89	0.35**	0.21	0.26*	0.20
			(0.17)	(0.16)	(0.14)	(0.15)
			[0.17]	[0.14]	[0.18]	[0.17]
Observations	1,780	1,216	2,996	2,996	6,400	6,400
# of villages	65	45	110	110	195	195

Notes: sample of men born close to the southern section of the border. All regressions control for ethnic homeland fixed effects. Standard errors clustered by village in parentheses. *p < 0.1, **p < 0.05, ***< 0.01. Conley standard errors in [ ] (cut-off window of 20 kms).

D.3 1976 results: placebo borders

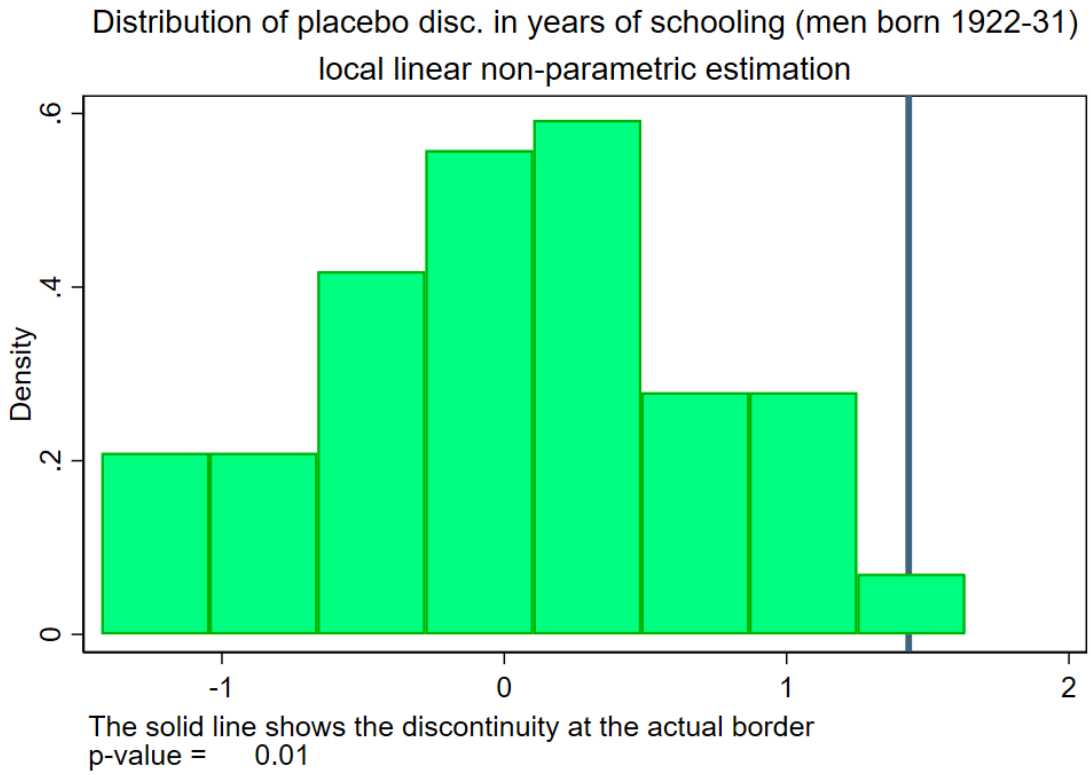


Figure D.2. — Placebo borders for 1976 results

Notes: this graph displays the distribution of discontinuities estimated on placebo borders running parallel to the actual border, but shifted East or West by up to 50 km in steps of 1 km. The solid line shows the discontinuity estimated at the actual border. The p-value for a two-sided test is simply the percentage of placebo discontinuities whose absolute value is larger than the absolute value of the actual discontinuity.

D.4 Selection by mortality

Estimating results on different age groups observed at the same point in time creates the concern of potential selection by mortality, a problem similar to selective attrition. This is mostly a concern for the emergence of a British advantage in education after the partition of Cameroon, a result obtained on cohorts born between 1912 and 1931. In the census, I only observe the members of this cohort who survived up to 1976, when they were between 45 and 65 years old. We have to consider two types of mortality: peacetime mortality and mortality during the independence war. Peacetime mortality likely selects the poorest and least educated: it could

explain the positive British effect for older cohorts if mortality was higher in British Cameroon than in French Cameroon. However, the only study comparing health systems in colonial Cameroon concludes it was better in the British part (Nzima Nzima, 2014).[40] Moreover, if life expectancy was lower in British Cameroon, we would expect the age pyramid to be thinner at the top on the British side. To check that it is not the case, I estimate discontinuities in the share of each cohort in total population. Figure D.3 shows that, though age pyramids are roughly similar on either side of the border, the share of men aged 45–54 (born 1922–1931) is about 6 percentage points larger on the British side, while the share of men aged 35–44 (born 1932–1941) about 8 percentage points smaller on the British side. However, I estimate a large and positive discontinuity in years of schooling for both of these cohorts, as well as for the cohort born 1912–1921, which is the same size on each side. It is therefore unlikely that my results are explained by higher mortality in British Cameroon.

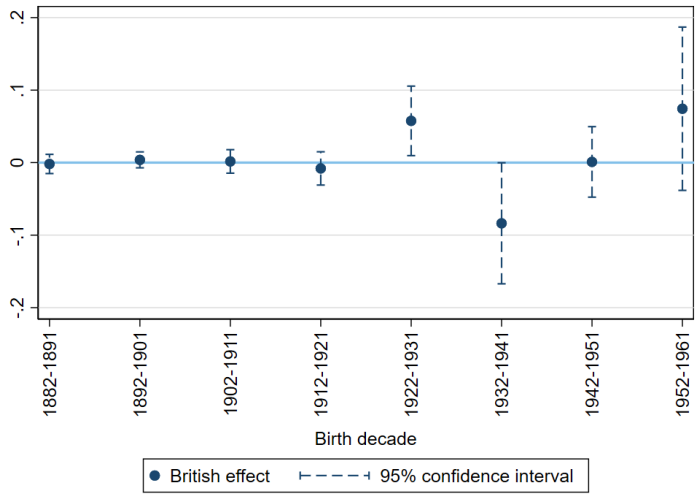


Figure D.3 — Border discontinuities in cohort share of total population

Notes: The dependent variable is the share of each cohort in the total male population of a village. Sample of villages within 100 km of the southern section of the border. Discontinuities obtained using a local linear non-parametric estimation with triangular kernel and optimal MSE bandwidth. Added covariates: ethnic homeland fixed effects.

[40] Nzima Nzima (2014) writes that infant mortality rates were higher in French Cameroon than in British Cameroon in the 1920s.

What about wartime mortality? An estimated 100,000 to 200,000 people died during the independence war (Deltombe et al., 2011), which took place mostly in the French part. The conflict was most violent in the Bamiléké region, which is not part of my sample.[41] For wartime mortality, the direction of selection is not obvious a priori. If wartime mortality selected the most educated, it could explain the positive British effect for older cohorts. It would be a concern mostly for the cohort born between 1932 and 1941, whose members were of fighting age during the most violent part of the conflict around 1960, but for this cohort, in my sample, the age pyramid is actually thicker on the French side (figure D.3). If wartime mortality selected the least educated, it could explain the convergence in education, but this convergence is also estimated for cohorts born after 1950, who did not take part in the conflict.

D.5 Migration

Within Cameroon migration. Using 1976 census data, figure D.4 gives a better idea of migration patterns in the border region (defined as districts within 25 km of the border). The first panel displays, on both sides of the border and in each cohort, the percentage of internal out-migrants from the border region: people who were born close to the border region and moved away, but did not cross the border between French and British Cameroon. The second panel displays the percentage of internal in-migrants to the border region: people who were born away from the border but moved to the border region, without crossing the border. The third panel displays the percentage of cross-border out-migrants from the border region, and the fourth panel the percentage of cross-border in-migrants to the border region.[42]

[41] I could not geolocate villages there, see figure 2.

[42] The census does not give an individual's full migration history: a migrant is someone who lives in 1976 in a different district than the one they were born in.

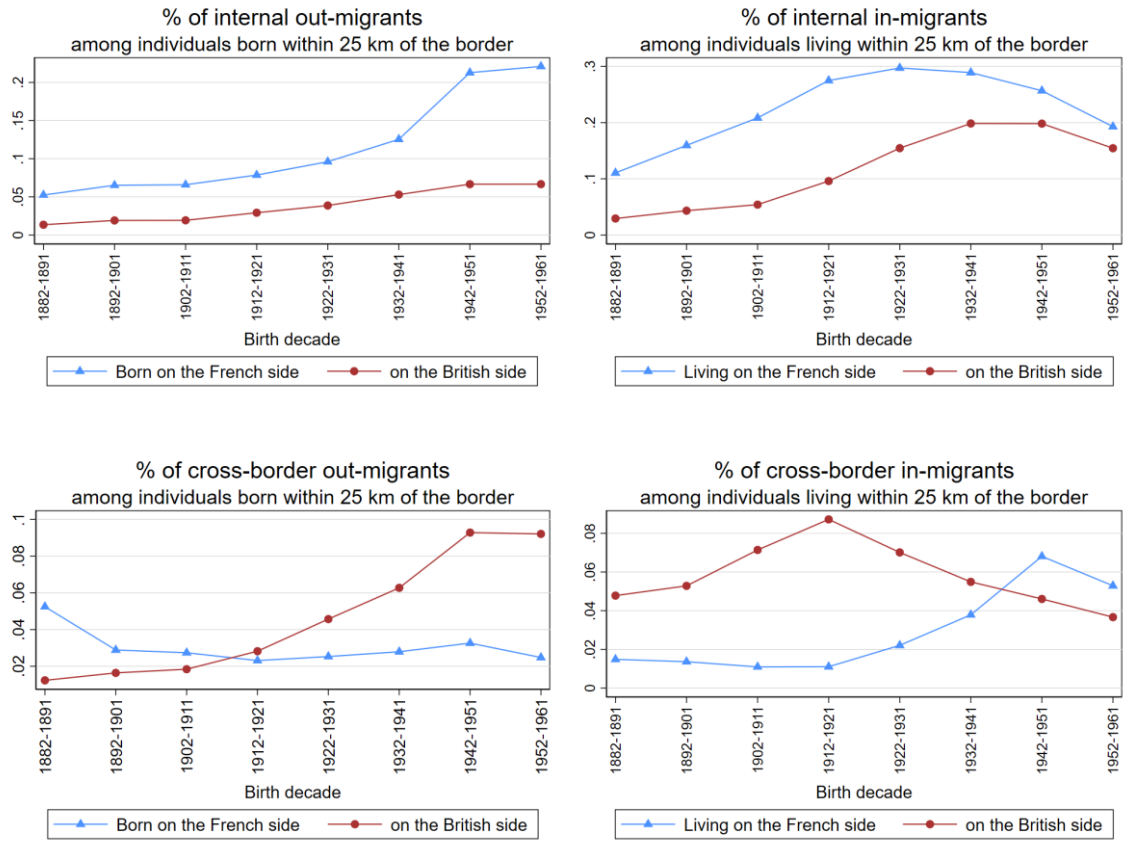


Figure D.4 – Internal and cross-border migration in the 1976 population census

Notes: migrants are people whose district of residence in 1976 is different from their district of birth. Internal migrants still live on the side of the border they were born in. Internal out-migrants were born within 25 km of the border (Douala excluded) and live more than 25 km away from it in 1976. Internal in-migrants live within 25 km of the border in 1976 (Douala excluded) and were born more than 25 km away from it.

Internal migration was overall more widespread than cross-border migration, which offers evidence that the border put in place by the colonizers had some reality for Cameroonians. Internal migration away from and to the border region was more widespread in French Cameroon, reflecting the fact that the French part was much larger than the British part, and offered more opportunity for migration.

Cross-border migration was overall more limited, but there was migration from French Cameroon to British Cameroon, peaking for the cohort 1912–1921 in which about 9% of individuals living close to the border in British Cameroon had migrated from French Cameroon (last panel of figure D.4). Such migration perhaps reflects the higher wages offered by German-owned plantations in British Cameroon (Le Vine, 1964). Migration from the British side of the

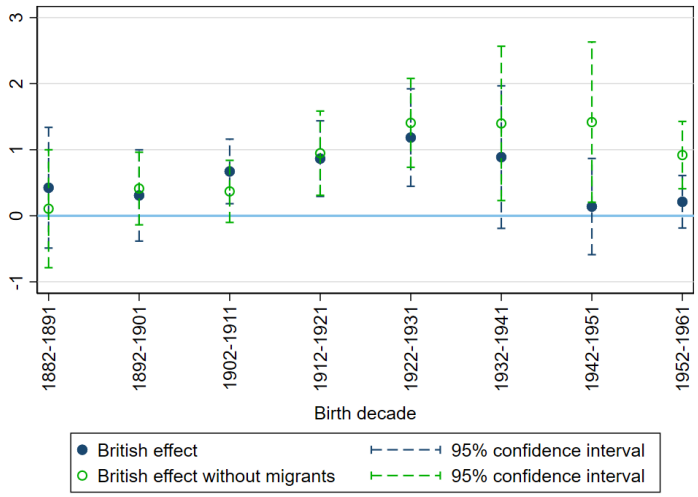
border to the French side was particularly important for people who became adults after reunification: almost 10% of individuals born close to the border in British Cameroon between 1942 and 1961 lived in the former French part in 1976 (third panel of figure D.4).

Because I conduct a border discontinuity on the place of birth of individuals, these migration patterns matter only insofar as they affect the parents' generation. Higher internal migration in French Cameroon could explain the emergence of a positive British effect if, among the parents of those for whom I estimate a discontinuity, the ones with a high preference for education migrated away from the border region before their child was born, or the ones with a low preference for education migrated to the border regions. Internal migrants were on average more educated than those who stayed, making the second scenario unrealistic.[43] As for the first one, differences in education preferences would need to be very large to explain the divergence in education. Even if out-migrants were giving their children 6 more years of education than those who stayed (an extreme assumption) the 4% difference in internal out-migration rates between French and British Cameroon for older cohorts (first panel of figure 6) would account for a difference of $6 \times 0.04 = 0.24$ years of education only.

Migration from French to British Cameroon could explain the emergence of a positive British effect if migrants from French Cameroon had a higher preference for education than locals, but this does not seem to have been the case: in the sample of men living in British Cameroon within 25 km of the border and born before 1912, regressing years of schooling on district of residence fixed effects and a dummy equal to one if an individual was born in French Cameroon yields a coefficient of -0.05 (standard error clustered at the district level of 0.08).

[43] In the sample of men living in French Cameroon within 25 km of the border and born before 1912, regressing years of schooling on district of residence fixed effects and a dummy equal to one if an individual was born away from the border region yields a coefficient of 1.75 (standard error clustered at the district level of 0.80).

When using 1976 census data, I repatriate migrants to their village of origin assuming constant migration rates across villages of the same district. Figure D.5 shows what happens to the discontinuities in years of schooling when we exclude out-of-district migrants completely rather than repatriating them: for the first 5 cohorts, results are virtually unchanged, but for the cohorts born after 1932, rather than falling to zero, the British effect remains positive and significant, which confirms that the higher migration rates in French Cameroon in these cohorts



(first panel of figure D.4) selected away the more educated individuals.

Figure D.5 — Discontinuities in 1976 with and without migrants

Notes: this graph compares discontinuities obtained on the sample of all individuals (including out-of-district migrants reallocated in their village of birth), with border discontinuities estimated on the sample of those who remained in their district of birth. Sample of men born in villages within 100 km of the southern section of the border. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal MSE bandwidth. Added covariates: ethnic homeland fixed effects. Standard errors clustered at the village level.

Migration from/to Nigeria. During the mandate period, a number of Nigerians moved to British Cameroon, which was administered as part of Southeast Nigeria, to work in road construction, on plantations, and in the civil service. In the 1952/1953 census of Nigeria, Nigerian "tribes" represent 11% of the population of Southern British Cameroon (Great Britain,

Colonial Office, 1953).[44] In the 1976 census, individuals born in Nigeria represent 6.5% of the population of the former British part. Again, individuals born in Nigeria are not actually the problem here as I conduct a border discontinuity on the place of birth of individuals, but the concern is that Nigerian migrants had a specific preference for educating their children born in Cameroon. In the 1976 census, I find that Nigerian migrants of the generation of the parents (born before 1912) were more educated that locals.[45] To have an idea of the potential bias, we need to assume the percentage of Cameroon-born Nigerian-origins individuals in the relevant cohorts of the 1976 census. Assuming a figure of 5%, and assuming that Nigerian-born parents were giving their children 6 more years of education than locals (again, an extreme assumption), Nigerian migration would account for a British effect of $6 \times 0.05 = 0.3$ years of education.[46]

Another problem arises because a sizable number of Nigerians left Cameroon around reunification, as British Cameroonians pushed for an indigenization of the civil service and threatened to deport the Igbo migrants from southeastern Nigeria (Amaazee, 1990; Chem-Langhee, 1976). Individuals born in Cameroon who went back to Nigeria after 1960 would not be observed in the 1976 census. In 1953, Nigerian "tribes" represented 84,200 individuals in Southern British Cameroon. In the 1976 census, in the same area, individuals born in Nigeria before 1953 represented 45,265 individuals. It does not mean that 40,000 Nigerians left Cameroon,

[44] Nigerian "tribes" comprise both people born in Nigeria and their children. They are 84,200 for a total population of 752,700 in the 1953 census of the Southern British Cameroon (the part of British Cameroon that was then reunited with Francophone Cameroon).

[45] In the sample of men living in British Cameroon within 25 km of the border and born before 1912, regressing years of education on district of residence fixed effects and a dummy equal to one if an individual was born in Nigeria yields a coefficient of 0.58 (standard error clustered at the district level of 0.22).

[46] In the 1976 census, the percentage born in Nigeria in the generation of the parents (born before 1912) is about 2%. Assuming birth rates are roughly homogenous, the percentage of their Cameroon- born children in total population should not be too different. 5% seems like a reasonable upper-bound.

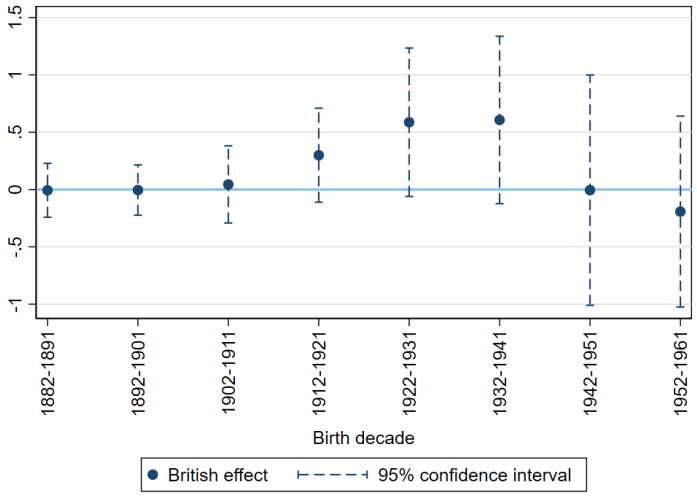
as the 1953 census counts people of Nigerian origins born in Cameroon while the 1976 does not, and as we need to take mortality into account. To construct an upper bound estimate of the bias, we can assume that the Nigerian-origins Cameroon-born individuals who left represented 5% of their cohort and that they had 6 more years of schooling than locals. The British effect would be underestimated by $0.05 \times 6 = 0.3$ years of education.

D.6 Replication of 1976 results at the district level

A concern is that 2005 district-level results are not directly comparable to 1976 village-level results. One first problem is that they are not obtained on exactly the same border section (because some data cannot be geolocated at the village level in 1976, see figure 2). A second problem is that the geographical variation is not the same (village-level versus district-level variation). On figure D.6, I replicate 1976 results at the 1976 district of birth level. Because of district splitting between 1976 and 2005, the number of districts within 100 km of the border is much lower in 1976 than in 2005 (56 versus 115). To retain enough statistical power, I consider all districts within 100 km of the border (excluding Douala), and control for geographic location using a linear function of distance to the border whose slope is allowed to vary on either side. Figure D.6 replicates the village-level results of figure 5, though the positive British effect for cohorts born between 1912 and 1941 is smaller and imprecisely estimated. On figure D.7, to increase the number of districts, I assign each 1976 village to its 2005 district and run the RD analysis as if I only had geographical data at the level of the 2005 district. This allows me to estimate 1976 discontinuities using the same specification and sample (of districts) as for 2005 results, excluding Douala and the northernmost border section.[47] Figure D.7 replicates the village-level results of figure 5: men born between 1922 and 1941 have one more year of education

[47] The number of districts is still smaller though because in the Ouest region I cannot geolocate villages beyond the 1976 district level (see figure 2).

if they were born on the British side of the border. The only difference is that I also estimate a positive border discontinuity of about 1 year for the cohort born 1942–1951, whereas I estimate



no discontinuity when focusing on the southern border segment and using village-level variation.

Figure D.6 — Discontinuities in male years of schooling in 1976, 1976-district-level specification

Notes: Sample of men born in districts located within 100 km of the border. Discontinuities estimated by controlling for a linear function of distance to the border with a different slope on each side. Added covariates: border section dummies. Standard errors clustered at the district level.

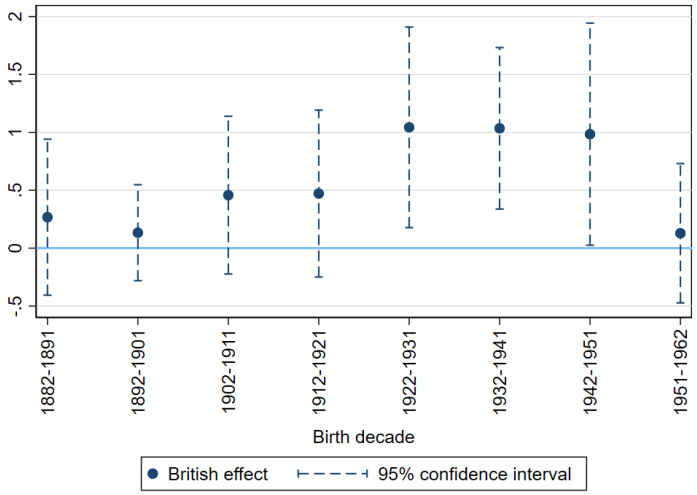


Figure D.7 — Discontinuities in male years of schooling in 1976, 2005-district-level specification

Notes: the sample excludes individuals born in Douala and in districts closest to the northernmost section of the border. Discontinuities obtained employing a local linear non parametric estimation with triangular kernel and a 20 km bandwidth (the

bandwidth used to obtain the results of table 3 varies between 14 and 27 km). Added covariates: border section dummies. Standard errors clustered at the district level.

E 2005 results: robustness and graphical representation of results

E.1 2005 results: graphical representation

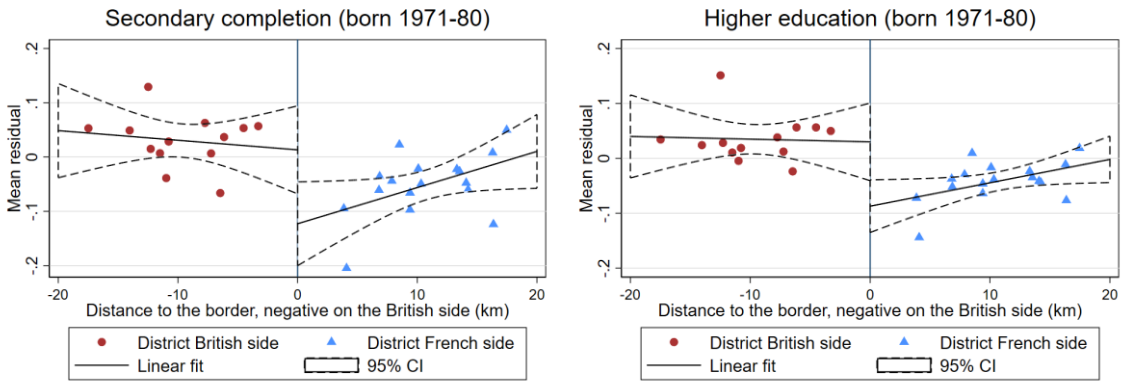


Figure E.1 — 2D visual representation of discontinuities in 2005

Notes: The outcome variable is first regressed on the covariates (a border section dummy). Then each panel graphs the average value of the residuals for each 0.5 km bin on both sides of the border. The line on either side is fitted on observations collapsed by village (to take clustering into account). Distances are negative on the English-speaking side and positive on the French-speaking side and the border corresponds to a distance of zero. These graphs do not correspond directly to the nonparametric RD results, which use an optimal bandwidth and a triangular kernel.

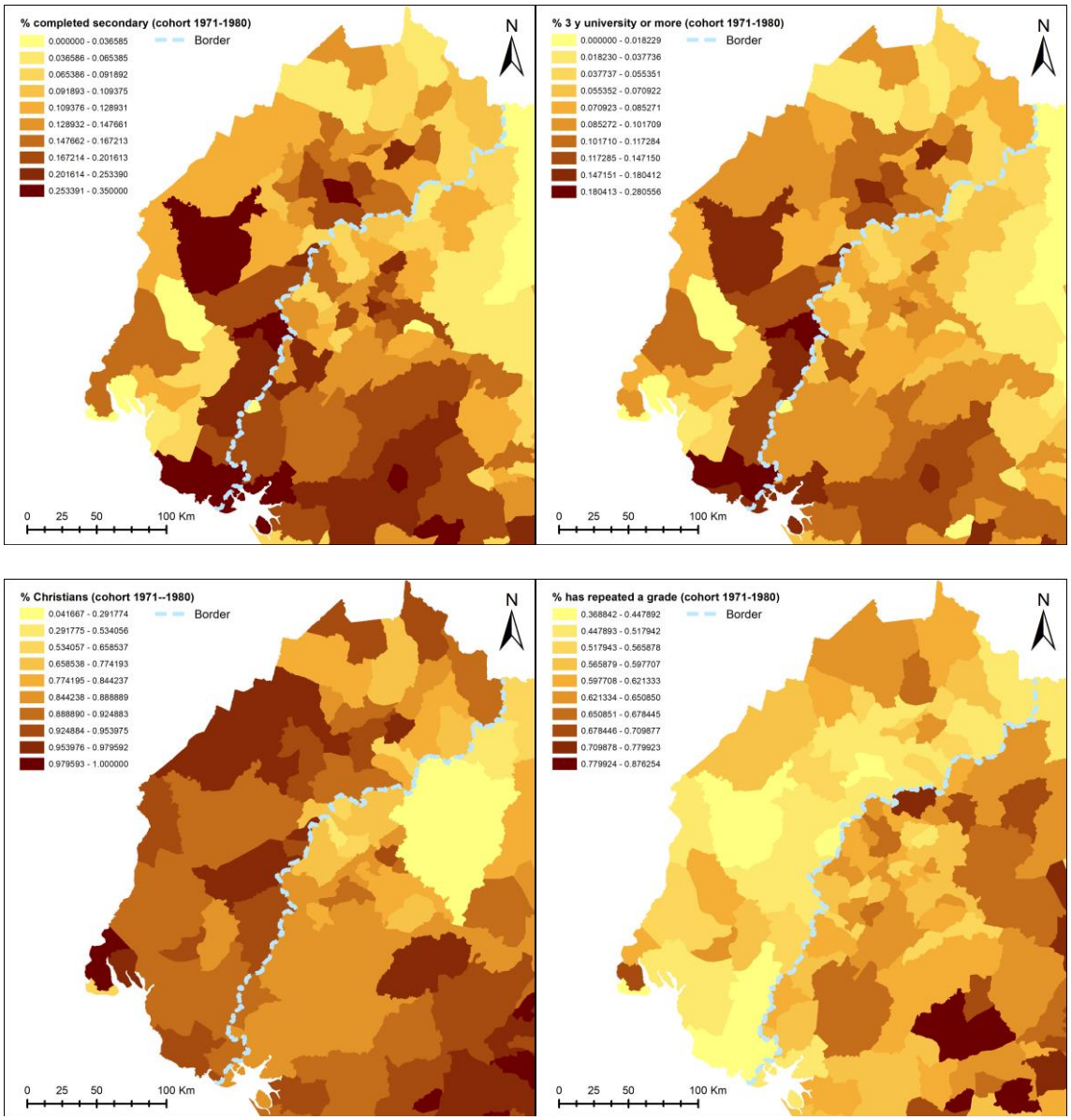


Figure E.2 — Maps of variables in the 2005 census

Notes: the first three maps display the average of the variable of interest among individuals born in the district between 1971 and 1980. The last map displays the percentage of students who have repeated at least a grade among students in primary and secondary school in the district. A student is deemed to have repeated a grade if they are older than what their normal progression in the system would predict, taking into account across-district differences in school entry age.

E.2 2005 results: robustness to other specifications and samples

Table E.1 — Discontinuities in education in 2005: robustness to latitude-longitude specifications

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	means on sample within <25 km of border		estimated discontinuities <25 km of border		<50 km of border		<100 km of border	
	English-sp. side	French-sp. side	(x,y) poly of degree 1	(x,y) poly of degree 2	(x,y) poly of degree 1	(x,y) poly of degree 2	(x,y) poly of degree 1	(x,y) poly of degree 2
Born 1971–1980								
Ever been to school	0.88	0.93	-0.07***	-0.13***	-0.06**	-0.08***	-0.04	-0.04
			(0.02)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)
			[0.02]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Completed primary	0.82	0.85	-0.08***	-0.12***	-0.05	-0.06*	-0.03	-0.03
			(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)
			[0.03]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]
Completed secondary	0.24	0.17	0.07***	0.08**	0.09***	0.09***	0.09***	0.09***
			(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
			[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
≥3 years of higher ed.	0.16	0.09	0.06***	0.08***	0.08***	0.08***	0.07***	0.07***
			(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
			[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
≥15 years spent in school	0.25	0.17	0.08***	0.10***	0.10***	0.11***	0.09***	0.09***
			(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
			[0.02]	[0.03]	[0.03]	[0.03]	[0.02]	[0.02]
High-skilled	0.10	0.06	0.03**	0.04**	0.04***	0.06***	0.04***	0.04***
			(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
			[0.01]	[0.02]	[0.01]	[0.01]	[0.01]	[0.01]
Born 1981–1990								
Ever been to school	0.92	0.94	-0.04***	-0.06***	-0.03*	-0.04***	-0.01	-0.01
			(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
			[0.01]	[0.02]	[0.02]	[0.01]	[0.02]	[0.02]
Completed primary	0.86	0.87	-0.04**	-0.04	-0.02	-0.02	-0.01	-0.01
			(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
			[0.02]	[0.02]	[0.02]	[0.02]	[0.03]	[0.03]
Completed secondary	0.21	0.15	0.05***	0.06***	0.07***	0.06***	0.06***	0.06***
			(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
			[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
≥3 years of higher ed.	0.04	0.03	0.01***	0.01***	0.02***	0.01**	0.01***	0.01***
			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
			[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
≥15 years spent in school	0.24	0.15	0.07***	0.09***	0.09***	0.10***	0.08***	0.08***
			(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
			[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
High-skilled	0.02	0.01	0.01***	0.01	0.01***	0.01**	0.01***	0.01***
			(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
			[0.00]	[0.01]	[0.00]	[0.00]	[0.00]	[0.00]
# of districts	16	20	36	36	60	60	86	86

Notes: the sample excludes individuals born in Douala and born in districts closest to the northernmost section of the border. Added covariates: border section dummies. Standard errors clustered at the district level in parentheses. *p < 0.1, **p < 0.05, ***< 0.01. Conley standard errors in [ ] (cut-off window of 20 kms).

Table E.2 — Discontinuities in education in the 2005 census estimated on the whole border

	(1)	(2)	(3)	(4)	(5)	(6)
	Ever been to school	Completed primary	Completed secondary	≥3 years of higher ed.	≥15 years in school	High-skilled occupation
			Born 1971–1980			
Discontinuity	-0.006	-0.018	0.100**	0.087***	0.116***	0.026
	(0.068)	(0.079)	(0.040)	(0.031)	(0.042)	(0.020)
	[-0.18, 0.19]	[-0.24, 0.18]	[0.04, 0.21]	[0.01, 0.17]	[0.06, 0.23]	[-0.03, 0.08]
Mean dep. var.	0.850	0.758	0.182	0.111	0.186	0.074
Observations (effective)	33,104	39,594	33,104	39,594	33,104	20,310
Observations (total)	161,323	161,323	161,323	161,323	161,323	83,047
			Born 1981–1990			
Discontinuity	0.069**	0.098**	0.081***	0.015**	0.100**	0.017**
	(0.032)	(0.050)	(0.031)	(0.007)	(0.044)	(0.008)
	[0.01, 0.17]	[0.02, 0.25]	[0.01, 0.17]	[-0.00, 0.03]	[-0.02, 0.21]	[0.00, 0.04]
Mean dep. var.	0.886	0.797	0.165	0.029	0.172	0.013
Observations (effective)	32,044	32,044	41,542	53,696	41,542	14,880
Observations (total)	234,767	234,767	234,767	234,767	234,767	59,048

Notes: the sample excludes individuals born in Douala and born in districts closest to the northernmost section of the border. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal mean squared error bandwidth. Added covariates: border section dummies. Standard errors clustered at the district level in parentheses. *p < 0.1, **p < 0.05, ***< 0.01. Calonico et al. (2014) confidence interval in [ ]. The effective number of observations is the number of observations within the optimal bandwidth.

E.3 Placebo borders

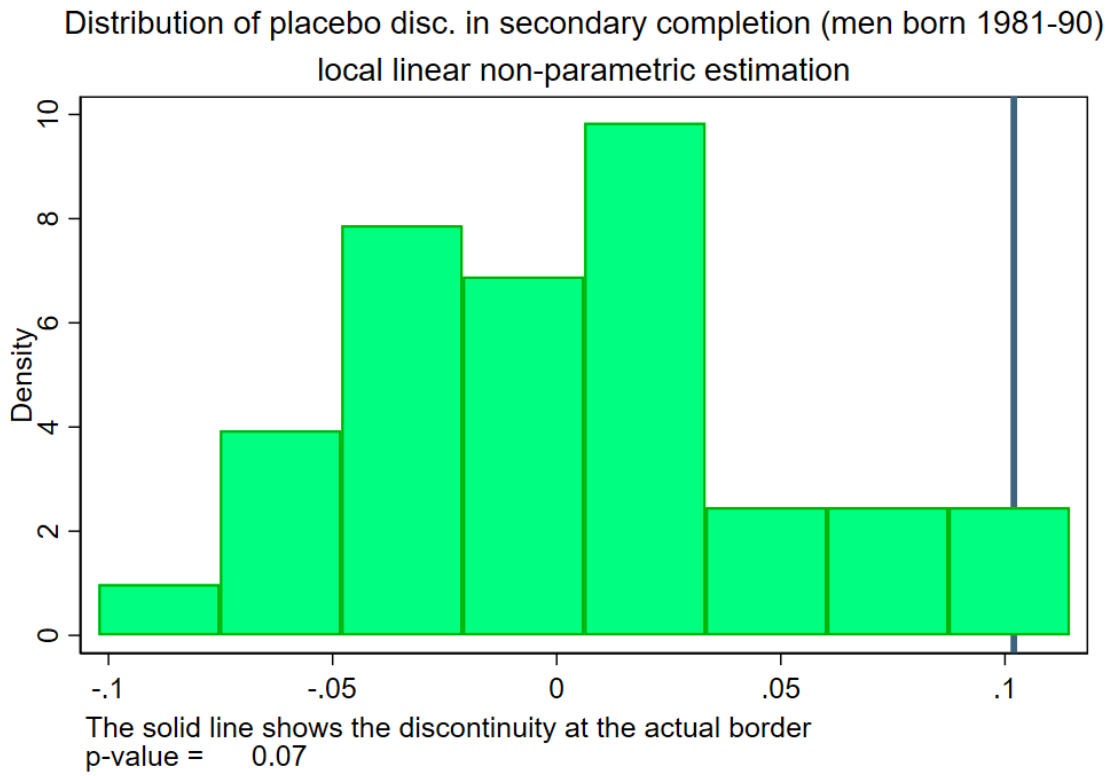


Figure E.3 — Placebo borders for 2005 results

Notes: This graph displays the distribution of discontinuities estimated on placebo borders running parallel to the actual border, but shifted East by up to 50 km and West by up to 25 km by steps of 1 km (the number of clusters quickly becomes small when the border is shifted West towards Anglophone Cameroon, which is why I limit the shift to 25 km). The solid line shows the discontinuity estimated at the actual border. The p-value for a two-sided test is simply the percentage of placebo discontinuities whose absolute value is larger than the absolute value of the actual discontinuity.

F Additional results on mechanisms

Table F.1 — Discontinuities in male years of schooling with controls, cohort born 1922–1931

	(1) Years of schooling	(2) Years of schooling	(3) Years of schooling	(4) Years of schooling
Discontinuity	1.18***	1.17***	1.15***	1.14***
	(0.38)	(0.37)	(0.35)	(0.35)
	[0.48, 2.20]	[0.51, 2.19]	[0.55, 2.15]	[0.55,2.14]
Within 5 km of a plantation		1.52***	-0.15	-0.16
		(0.57)	(0.67)	(0.65)
Within 10 km of a plantation			1.92***	0.84
			(0.53)	(0.53)
Within 15 km of a plantation				1.17***
				(0.33)
Observations (effective)	4,981	4,981	4,981	4,981
Observations (total)	15,368	15,368	15,368	15,368

Notes: discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal mean squared error bandwidth. Added covariates: ethnic homeland fixed effects. Standard errors clustered at the village level in parentheses. *p < 0.1, **p < 0.05, ***< 0.01. Calonico et al. (2014) confidence interval in [ ]. The effective number of observations is the number of observations within the optimal band- width. The controls are dummies equal to one if an individual was born in a village within x km of a German-owned plantation on the British side (the dummy is equal to zero on the French side). The list of German-owned plantations comes from Le Vine (1964).

Table F.2 — Discontinuities in religion in the 2005 census

	(1) Christian	(2) Protestant[a]	(3) Catholic	(4) Muslim	(5) Animist	(6) No religion
Discontinuity	0.184***	0.281	-0.115	-0.044*	-0.044	-0.146***
	(0.052)	(0.200)	(0.193)	(0.026)	(0.051)	(0.055)
	[-0.01, 0.43]	[-0.13, 0.89]	[-0.65, 0.29]	[-0.12, 0.01]	[-0.14, 0.08]	[-0.28, -0.03]
Mean dep. var.	0.893	0.316	0.515	0.027	0.022	0.047
Observations (effective)	142,700	193,922	225,072	170,888	250,302	289,980
Observations (total)	713,814	713,814	713,814	713,814	713,814	713,814

Notes: the sample excludes individuals born in Douala and born in districts closest to the northernmost section of the border. Discontinuities obtained employing a local linear non-parametric estimation with triangular kernel and optimal mean squared error bandwidth. Added covariates: border section dummies. Standard errors clustered at the district level in parentheses. *p < 0.1, **p < 0.05, ***< 0.01. Calonico et al. (2014) confidence interval in [ ]. (a) Protestants comprise other Christians, who are neither Protestant, nor Catholics, nor Orthodox.