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

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Abstract. — I use the partition of Cameroon between France and the UK after WWI and its reunification after independence to investigate colonial legacies in education. Using border discontinuity analysis, I find that Cameroonians born in the 1970s are 9 percentage points more likely to have completed high school if they were born in the former British part. French and British Cameroon started diverging after partition, but the British advantage disappeared when the French increased education expenditure in the 1950s. The resurgence of a British advantage is explained by the French legacy of high repetition rates and their detrimental effect on dropout.

JEL classification: N37, I25, H52, O43.

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1. Introduction

Do colonial origins matter for economic development? Identity of the colonizer is often put forward as a key determinant of present-day economic performances. Particularly widespread is the idea that former British colonies are more prosperous than others because of the good economic and political institutions and culture they inherited from Britain (Landes, 1998; North, 1989; La Porta et al., 1998, 1999).

In Africa, historians and economists highlight education as a key aspect of the more benign nature of British colonial rule. British colonial education relied on Christian missions which tried to reach and convert as many souls as possible, teaching in local languages and employing many African teachers. French colonial governments, by contrast, regulated teachers' qualifications, schools' curricula, and the language of instruction, which had to be French. In French colonies, the state became the main provider of education, but it was targeting only a small segment of the population (Gifford and Weiskel, 1971; Woodberry, 2004; Garnier and Schafer, 2006; Cogneau and Moradi, 2014). As a result, primary enrollment rates were significantly 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. Initially designed for the training of a small administrative class, the French colonial system was particularly elitist, something that, according to some, translates today in the widespread practice of grade retention in school in former French colonies (Bernard, Simon and Vianou, 2005; Ndaruhutse et al., 2008).

Two problems arise when trying to understand if and how identity of the colonizer shaped the development path of African countries. First, former British and French colonies are not directly comparable: regions colonized by Britain were on average richer and had more Christian missions (Cogneau, 2003; Frankema, 2012). We are faced, in other words, with a problem of sample selection. Second, it is a challenge to identify the precise mechanisms of causality from colonial institutions or policies to present-day outcomes (Nunn, 2009b). It is not straightforward why colonial differences in education would persist, especially in the post-independence context of fast-growing enrollment rates — in Sub-Saharan Africa, average years of schooling increased from 1.2 to 5.3 between 1950 and 2010 (Barro and Lee, 2013).

Researchers working on the persistence of human capital shocks proposed several mechanisms, without always being able to test them. Glaeser et al. (2004) or Brown (2000) propose a national level mechanism where colonial education shapes national political institutions, which in turn affect economic development and education provision. Others put forward persistence in the demand for education, because of inter-generational transmission of preferences (Wantchekon, Klašnja and Novta, 2015; Cagé and Rueda, 2016), often through religious conversion (Woodberry, 2004; Nunn, 2009a, 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 not proficient enough (a practice much more prevalent in former French colonies that in former British colonies) is described as increasing dropout and preventing countries from increasing primary and secondary completion rates

(Bernard, Simon and Vianou, 2005; Ndaruhutse et al., 2008; Majgaard and Mingat, 2012). In 2010, according to the World Bank, lower secondary school repetition rates averaged 21.6% in former French colonies of Africa versus 7.4% in former British colonies.[1]

The unique history of Cameroon allows me to tackle the problem of selection 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 peculiar history to identify the effects of colonizer identity on education using border discontinuity analysis. This follows a recent literature using African borders as natural experiments. Cogneau and Moradi (2014) study the partition of German Togo between the British and the French and find that religion and literacy started diverging at the border after partition. But in most natural experiments built around African borders, it is particularly hard to say anything about the mechanisms of persistence because, once separated, the treatment and control group continue following different paths, and are notably subjected to different post-colonial histories (McCauley and Posner, 2015). Cameroon offers the unique example of a region colonized by the British but which has been part, since independence, of a former French colony. This setting allows me to restrict the number of potential channels of causality, and notably to test for the importance of local level mechanisms of persistence.

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[1]EdStats data: `http://data.worldbank.org/data-catalog/ed-stats`.

My identification strategy relies on the fact that the border between the French and British parts was locally arbitrary: villages close to the border were similar in terms of pre-colonial history, geography, and ethno-linguistic composition. I can therefore identify the causal effect of colonizer identity by estimating discontinuities at the border.

Using a 10% representative extract of the 2005 Cameroonian population census, I find that men and women born in the 1970s in former British Cameroon are 9 percentage points more likely to have completed high school and have some university education. In 2005, individuals born in the former British part are also more likely to be Christian. However, there is no difference in the wealth of household heads born on either sides of the border, at least as measured by an index based on house quality.

The present-day difference in education is all the more surprising because, turning to historical outcomes, I find that the initial divergence in education at the border was smoothed away in the 1950s, when the French colonial government started building schools. Estimating discontinuities by cohort on the full count of the 1976 population census, I find that men of school age in the 1920s and 1930s were, all else being equal, about 10 percentage points more likely to attend school and 7 percentage points more likely to complete primary education if they were born on the British side of the border. But men of school age in the 1950s were, all else being equal, 4 percentage points more likely to complete primary education if they were born on the French side of the border. Public expenditure data built from archival sources and border discontinuities in historical school supply are consistent with the idea that investments in education played a great role in erasing the initial divergence.

What, then, explains the resurgence of a British advantage in education? Because the initial divergence was short lived, it cannot be a simple story of persistence in demand or supply. I provide evidence that the resurgence of a British advantage at the border is explained by pedagogical culture, more specifically by the widespread use of grade repetition in the Francophone system, a direct legacy of French colonization, and its detrimental effect on school dropout. Controlling for a district-level measure of grade repetition is enough to make any discontinuity at the border disappear, while I find no evidence for other likely mechanisms, such as inter-generational transmission of education, religion, or school supply.

Understanding colonial legacies allows to break free from them: in Cameroon, and in Francophone Africa more generally, limiting the use of grade repetition as a pedagogical tool could help decrease the dropout rate and allow more students to complete a secondary cycle and go to university.

Contributions. This paper contributes to the literature on the historical determinants of economic development, reviewed in Nunn (2009*b*) and Spolaore and Wacziarg (2013). It is more specifically relevant to the literature on colonizer identity as a determinant of development (North, 1989; Landes, 1998; La Porta et al., 1998, 1999) and to the literature on the persistence of human capital shocks: besides the literature already cited for Africa, a number of papers have found human capital shocks to be persistent — for example Rocha, Ferraz and Soares (forthcoming) and Valencia Caicedo (2015) for South America. 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. Taking a dynamic approach

and estimating discontinuities for several cohorts over the 20th century, allows me to exclude straightforward channels of persistence in supply or demand and narrow down on a specific mechanism, pedagogical culture and practices.

This paper also adds to the literature using African borders as natural experiments to study both colonial policies and national integration after independence (McCauley and Posner, 2015, for a review). The two studies closest to this work are Cogneau and Moradi (2014), who study the partition of German Togo between the British and the French, and Lee and Schultz (2012), who also study the partition of Cameroon. Using recent survey data, Lee and Schultz find that households located in former British Cameroon are richer than those located in former French Cameroon. However, their data does not allow them to fully take into account the possibility that this result is driven by selective migrations. Knowing the place of birth of respondents as well as their place of residence, I show that differences in wealth indices are driven by selective migrations away from the border region — this is not the case for differences in education. Lee and Schultz (2012) do not consider education variables other that literacy, nor do their data allow them to decompress history and adopt a dynamic approach.

Finally, this paper contributes to the debate on the merits of grade repetition, a debate particularly relevant in Africa, where the percentage of students repeating a grade is high (Bernard, Simon and Vianou, 2005; Ndaruhutse et al., 2008; Majgaard and Mingat, 2012). The view that grade repetition discourages students and raises dropout has recently been confirmed by Jacob and Lefgren (2009) for the U.S. and Manacorda (2012) for Uruguay. I contribute to the debate by pointing at the cultural and historical determinants of this pedagogical practice and by confirming its detrimental effect in the case of an African middle-income country.

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The rest of the paper starts with a brief summary of the history of Cameroon in the 20th century (section 2) and a discussion of the identification strategy (section 3); I then present contemporary discontinuities in education (section 4), before turning to historical outcomes and showing that, though a British advantage emerged after partition, it quickly disappeared in the 1950s when the French started increasing education supply (section 5). Finally, I investigate mechanisms explaining the contemporary advantage of former British Cameroon and stress the importance of grade repetition (section 6).

2. Historical background

2.1. German Kamerun divided

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, which quickly came to encompass the territory of present-day Cameroon (Ngoh, 1987) — see figure 1.

During World War I, the British and the French invaded German Cameroon and, in 1916, divided it in two administrative regions. The Milner-Simon declaration of 1919 confirmed the division and, in 1922, the two zones became mandates of the League of Nations: the British part was attached to Nigeria, and administered from Lagos, while the French part became the protectorate of Cameroun (Louis, 1967; Brownlie, 1979; Ngoh, 1987) — see figure 1.

The border between French and British Cameroon was designed hastily, in

wartime, without much concern for local conditions. According to Alfred Milner, who was 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).[2]
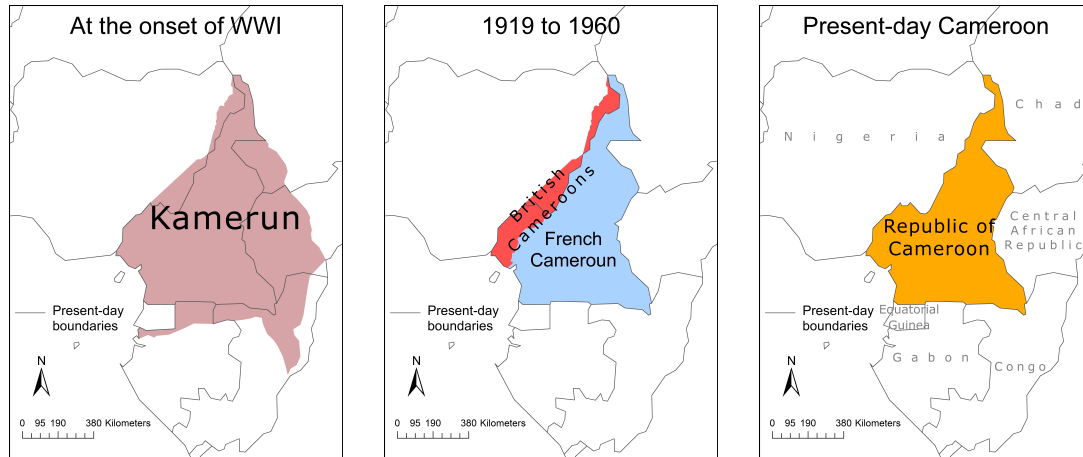
Figure 1: The evolution of Cameroon's boundaries
Sources: author's map from Gifford and Louis (1967, 1971).

2.2. British and French colonial policies

Historians of Africa have described British and French colonial policies as differing in three main areas: education, relations with traditional authorities, and forced labor. Let's examine them in turn in Cameroon.

I reconstructed the comparative history of French and British education policies in Cameroon from historical archives (mostly reports sent to the League of Nations and colonial budgets) and secondary sources (Ngoh, 2001, 1987; Fafunwa,

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[2]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).

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1974; Fajana, 1978) — this is presented in more details in the historical appendix. In the German colony, education was mostly the domain of Christian missions, Protestant and Catholic. In both parts of divided Cameroon, religious institutions remained the most important provider of education, but the two colonizers differed in the incentives they set up for missions to provide formal education. The British colonial government inspected mission schools and subsidized the efficient ones, while the French colonial government turned a blind eye to a large private, missionary sector, left mostly unsupervized and unsubsidized. Government control was more extensive in British Cameroon, but it was less stringent: in French Cameroon, the few subsidized mission schools had to respect a demanding list of requirements in terms of teachers' qualifications, curriculum, and the language of instruction, which had to be French. Both colonizers invested in a small public school sector, which was more decentralized in British Cameroon, where public schools were often run by native administrations — local governments empowered by indirect rule. In both parts of Cameroon, colonial expenditure on education remained low before World War II.

How well did Cameroon exemplify the classical dichotomy between French direct rule (centralized colonial government) and British indirect rule (reliance on traditional authorities)? The relevance of the classical view was questioned early on, and historians have stressed that, within each empire, colonial administration differed by geography and by time period. In Cameroon, according to Geschiere (1993), the French tried to reinforce the authority of chiefs during the 1930s while the British wavered about the policies to adopt. On balance, chiefs appear to have gained more legitimacy under British rule. At least formally, the administrative structure was more decentralized in British Cameroon, which was divided in na-

tive administrations able to receive and disburse funds through native treasuries. Education was one of the main items of expenditure of these local governments.

French and British colonizers, finally, differed in their attitude towards forced labor. Some form of coerced labor existed all over colonized Africa, but the British were quicker to abandon it (Cooper, 1996). In Cameroon, 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, the *prestation*, for local public works. Because Cameroon was under the auspices of a League of Nations mandate, forced labor was, in theory at least, less important there than in other French colonies: there was no military conscription and the labor tax was redeemable by money. But the system was abused. The French used conscripted paid labor to build the railway line between Douala and Yaoundé, submitting laborers to harsh working conditions (Le Vine, 1964; Buell, 1928). There was no evidence of forced labor in British Cameroon, whose plantations, sold back to their former German owners soon after World War I, attracted many wage workers from Nigeria and French Cameroon (Le Vine, 1964).

2.3. Towards independence

In Africa, colonial policies experienced a marked change 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 overall, public expenditure per capita boomed (Cogneau, Dupraz and Mesplé-Somps, 2015).

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 was also asking for reunification of Cameroon in 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. The death toll of this "hidden war" is very controversial, but the most reasonable estimates range from 100,000 to 200,000 (Deltombe, Domergue and Tatsitsa, 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, though the conflict was mostly over by 1962.

Nigeria became independent in 1960. A year later, following the results of a plebiscite, the Southern part of British Cameroon was reunited with former French Cameroon, while the North remained part of Nigeria — see figure 1. In this paper, I consider only the part of the border between French and British Cameroon that is today an internal border of 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 by 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 unique higher education system (World Bank, 2003). Cameroon has two official languages, French and English, but Anglophones are a minority in a predominantly Francophone country — in 2005, the two Anglophone regions represented a fifth of Cameroon's population of 17 millions. 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.[3]

3. Identification strategy

In a regression discontinuity design (RDD) framework, a treatment variable is determined by whether an observed forcing variable exceeds a cutoff point; if we assume that the unobserved determinants of outcome vary smoothly at the cutoff, we can identify the treatment effect by comparing individuals just under and just above the cutoff point (Lee and Lemieux, 2010). In our case, the treatment variable is whether the region was colonized by the British or by the French, and the cutoff is the border between French and British Cameroon. The first identifying assumption is that all determinants of education, except identity of the colonizer, vary smoothly at the border: it requires that the border be locally random and not coincide with an existing political, linguistic or ecological division. The second identifying assumption is that there be no treatment spillovers across the threshold:

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[3]A recent social movement in Anglophone Cameroon to contest the domination of the Francophone part resulted in the death of several protester and saw the government shut down the internet in the English speaking regions: Essomba, F. and Searcey D. (2017, February 9). "A Bilingual Cameroon Teeters After English Speakers Protest Treatment". *The New York Times*. Retrieved from http://www.nytimes.com.

it requires that there be no selective migrations across the border.

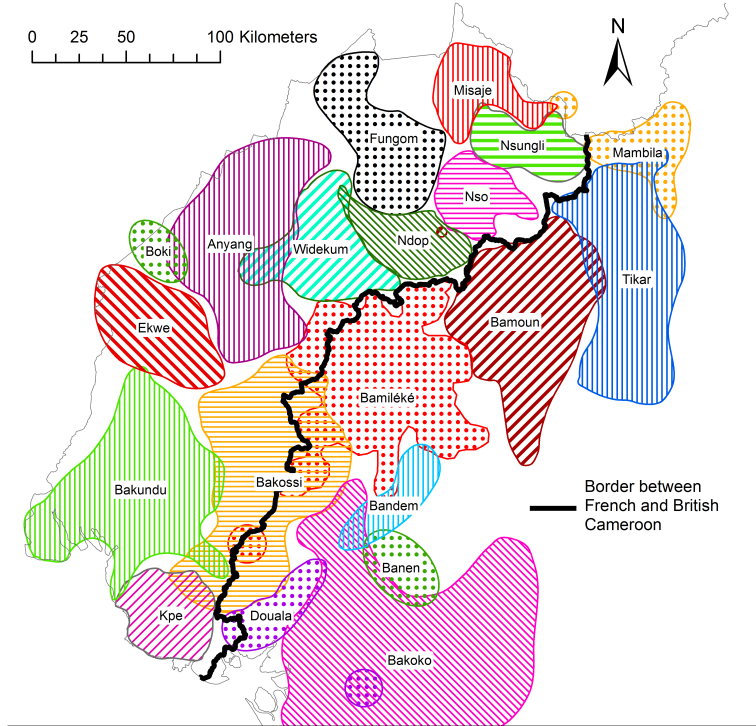## 3.1. Local randomness of the border

Figure 2: A simplified map of ethnic groups in West Cameroon

Sources: author's map. Location of groups from population maps established by the *Office de la recherche scientifique et technique outre-mer* (ORSTOM) in the 1970's (Champaud, 1973; Franqueville, 1973; Courade, 1974). 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." This is a simplified map: some groups are not represented.

The border between the two parts of Cameroon was designed without much concern for local conditions. Drawn using ethnographic sources, figure 2 shows that the border cuts across ethnolinguistic groups in the south. In the north, however, it seems to respect ethnolinguistic divisions, and indeed, the 1919 declaration

delineating the border makes reference to "the tribal boundary between Bansso and Bamum" (Brownlie, 1979, p. 567.). 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). This history might have influenced the demand and supply of education, but all results are robust to the exclusion of regions located on either sides of the northern part of the border.

Table 1 shows that there is no discontinuity in district-average elevation, temperature and monthly precipitation at the border: there is a small but significant difference in precipitation when considering districts within 100 km of the border, but it disappears when restricting the sample to districts within 50 or 25 km.

Table 1: Absence of geographical differences across the border

| | Districts located | | | | | | | | |
| | <100 km from border | | | <50 km from border | | | <25 km from border | | |
	English-sp. side	French-sp. side	difference	English-sp. side	French-sp. side	diff.	English-sp. side	French-sp. side	diff.
Elevation (m)	887	995	-107.99 (99)	1,092	1,026	65.87 (113)	1,014	989	25.51 (156)
Temperature (° celsius)	22.58	22.38	0.20 (0.45)	21.59	22.24	-0.65 (0.51)	22.04	22.49	-0.46 (0.66)
Monthly precipitation (mm)	198.96	183.70	15.25** (6.91)	192.94	186.45	6.49 (7.78)	194.69	194.90	-0.21 (10.79)
Observations	56	59	115	37	44	81	21	25	46

Notes: observations are means at the 2005-district level. The districts of Douala are excluded because Douala is excluded from all other regressions (including Douala hardly changes results). Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *Sources*: elevation data from NASA Shuttle Radar Topography Mission, available on the CIAT-CSI SRTM website (`http://srtm.csi.cgiar.org`), mean temperature and monthly precipitation from WorldClim (`http://www.worldclim.org`).

3.2. Migrations

Migrations are one of the major concerns threatening the validity of border discontinuity analysis. Cross-border migrations can be thought of as a problem of non-compliance, as individuals assigned to one colonizer move to the other part, whereas movements out of the border area can be thought of as a problem of selective attrition if education affects migration decisions (McCauley and Posner, 2015).

Because the census data that I use give the district of birth of individuals, the problem is partly tempered under the reasonable assumption that most people are schooled in their district of birth, and that migration decisions are taken in adulthood. When working at the village-level, I reallocate migrants to their village of birth assuming constant migration rates within districts — see data appendix.

Though the place of birth of individuals is known, potential selective migrations of the parents is a concern. Any advantage of the British side in education could be the result of either educated individuals migrating in numbers to the British side or uneducated individuals migrating to the French side. Figure 3 plots, for each cohort of the 1976 census, the percentage of cross-border migrants among individuals born within 100 km of the border on the French and British sides.[4] Migrations from French to British Cameroon appear to have been limited: only for the cohorts born between 1882 and 1891 do they involve more than 4% of individuals born in the French side, and migrants from the French part never represent more than 4% of the population of the British part. Migrations from British to French Cameroon were more important, especially for individuals who

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[4]Cross border migrants are defined as individuals born on one side of the border and living on the other side in 1976. I do not know the complete migration history of individuals.

became adults after independence and reunification. Almost 10% of people born in British Cameroon between 1942 and 1951 migrated to Francophone Cameroon at some point before 1976. This phenomenon could explain the British advantage for individuals born in the 1970s (their children) if cross-border migrants were less educated than those who stayed but, as one would expect, they were more educated: regressing years of schooling on a binary variable for migration and district of birth fixed effects on the sample of individuals born in British Cameroon within 100 km of the border between 1942 and 1951 yields a coefficient of 1.10 (standard error of .18).
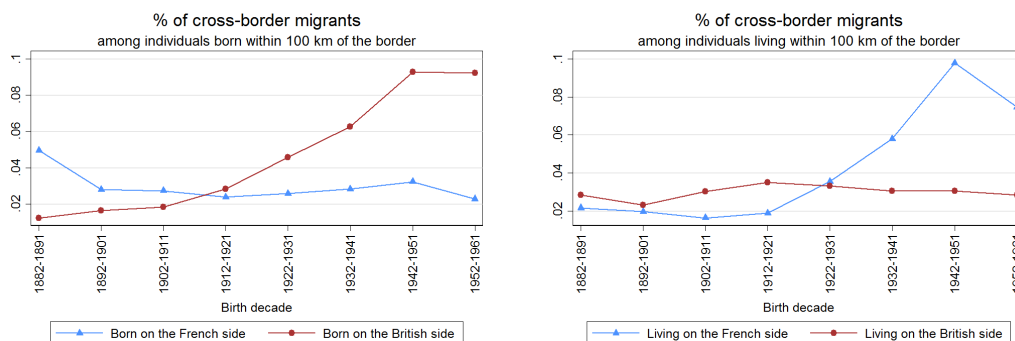
Figure 3: Cross-border migrations in the 1976 population census

Notes: cross-border migrants are individuals who were born on one side of the border and live on the other side in 1976.

Though cross-border migrations do not appear to be a concern for identification, migrations away from the border area might matter. Again, the problem is tempered by the fact that census data gives the district of birth, but we need to consider parents. I discuss in more details in section 6 the possibility that selective migrations away from the border explains the contemporary advantage of the former British side in secondary education.

3.3. Econometric specification

To obtain border discontinuities, that I interpret as the causal effect of having been colonized by the British rather than the French, I estimate by OLS the following equation on a sample of districts or villages close to the border:

$$s_{ij} = \tau BR_j + f(\text{geographic location}_j) + \beta B_j + u_{ij} \qquad (1)$$

where s_{ij} is the variable of interest for individual i born in district (or village) j; BR_j is a binary equal to 1 if district j lies on the western side of the border (colonized by the British); $f(\text{geographic location}_j)$ is a function of geographic location of district j; B_j is a vector of border-segment dummies ($B_{kj} = 1$ if district j is closer to border segment k than to any other segment).[5] I restrict the sample to districts located close to the border and, following Dell (2010), I control for geographical location using a polynomial in longitude x and latitude y. I test the robustness of my results to various specifications using different distance bands across the border and different polynomial order. I also present discontinuities estimated using a non-parametric local polynomial estimator with the optimal mean squared error bandwidth and robust confidence interval proposed by Calonico, Cattaneo and Titiunik (2014).[6] In spatial RDD, we can think of the unit of geolocation as the treatment unit, because treatment is a discontinuous function of geographic location; I therefore cluster standard errors by the unit of geolocation (district or village). Because all covariates are geographical controls, this is exactly equivalent

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[5]The border was divided in 5 equal length segments.

[6]I use a triangular kernel and perform the algorithm to determine the optimal bandwidth on a sample excluding the North and Extreme-North provinces, very far away from the border region.

to running OLS regressions on district averages and weighting by the number of individuals contributing to the average.[7]

4. Present-day legacies

In 2005, the strongest differences between the two parts of Cameroon are in education and religion. Individuals born on the former British side in the 1970s are about 10 percentage points more likely to finish high school and go to university. Households located on former British side have higher values of a wealth index based on housing quality, but this is the product of selective migrations: household heads born on either side of the border do not differ in their wealth.

4.1. Data

To estimate present-day discontinuities in education, religion and wealth, I use a 10% representative sample of the most recent Cameroonian population census (2005). This data source and the associated variables are described in more details in the data appendix. 2005 census data cannot be geolocated more precisely than the district level, which still gives a reasonable degree of geographical variation: in 2005, there were 299 districts in Cameroon, of which 121 where located within 100 km of the border between the Francophone and the Anglophone parts — the Anglophone part is about 100 km wide, which makes it natural to consider only districts within 100 km of the border. Appendix figure C.1 displays maps showing the geographical variation in some of the dependent variables considered in this

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[7]This is not the case when using a non-parametric local polynomial estimator with optimal mean squared error bandwidth.

section. These maps allow eyeballing the border discontinuities more formally estimated in table 2.

4.2. Results

The first panel of table 2 displays discontinuities in education for the cohort born between 1971 and 1980.[8] My main specification employs all 115 districts located within 100 km of the border (excluding Douala, the economic capital) and controls for geographic location with a polynomial of order 3 in latitude and longitude — column (5) — but I obtain similar results when considering the 46 districts located within 25 km of the border and controlling for a linear function of latitude and longitude — column (4), or when using a non parametric local polynomial estimator with MSE optimal bandwidth and robust confidence intervals (Calonico, Cattaneo and Titiunik, 2014) — column (6).

Though rates of primary school completion are slightly higher for individuals born in Anglophone Cameroon within 25 km of the border (83% versus 80% in Francophone Cameroon), the estimated discontinuity is never significant. However, individuals born in Anglophone Cameroon are more likely to have finished secondary school and have completed some years of higher education. 20% of those born within 25 km of the border in former British Cameroon have finished high school versus 14% in former French Cameroon. The estimated discontinuity of 9 percentage points is very precisely estimated and robust to all specifications. 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

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[8]Though women of this cohort have lower levels of schooling than men, differences at the border are similar for women and for men.

length of the primary cycle, see data appendix). Individuals born in Anglophone Cameroon are 11 percentage points more likely to have spent 15 years in school or more. 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.

Differences in colonizer identity had strong cultural legacies. Individuals born in former British Cameroon, where religious missions played a greater role in education, are more likely to be Christian today (second panel of table 2). On a sample of districts located within 25 km of the border, 89% of individuals born in the 1970s in former British Cameroon are Christian versus 66% in former French Cameroon (results are similar for other cohorts). The difference in the percentage of Christians is driven by a difference in the percentage of Protestants, but not Catholics. Individuals born in former French Cameroon are more likely to be Animists (5% within 25 km of the border versus 1% in former British Cameroon) and more likely to self declare as free thinkers (12% versus 3%). Results on the likelihood to be Christian or Protestant are not very robust — the discontinuity is small and insignificant in the specification on districts within 25 km of the border controlling for latitude and longitude, large but imprecisely estimated with a nonparametric local polynomial estimator. The reason is the presence of the majority Muslim Bamun kingdom on the French side of the border (see figure 2 and the third panel of appendix figure C.1), which increases the variance in the percentage of Christians on the former French side. Discontinuities in religion are more robust when excluding the northernmost third of the border, where the Bamun kingdom lies — appendix table C.1.

Table 2: Discontinuities at the border in 2005

	(1)	(2)	(3)	(4)	(5)	(6)
	means on sample within <25 km of border		estimated discontinuities			
			<25 km from border		<100 km	data-driven bwidth
	English- sp. side	French- sp. side	no (x,y) controls	(x,y) poly of order 1	(x,y) poly of order 3	non param. local polynomial estimator
Education (cohort born 1971–1980)						
Completed primary	0.80	0.83	-0.05 (0.03)	-0.07 (0.04)	0.02 (0.04)	-0.07 [-0.24 , 0.09]
Completed secondary	0.20	0.14	0.06*** (0.02)	0.07*** (0.02)	0.09*** (0.02)	0.10*** [0.05 , 0.21]
≥3 years of higher education	0.13	0.08	0.05*** (0.01)	0.06*** (0.01)	0.07*** (0.01)	0.09*** [0.03 , 0.16]
≥15 years spent in school	0.23	0.15	0.07*** (0.02)	0.10*** (0.02)	0.11*** (0.02)	0.07 [-0.04 , 0.18]
Religion (cohort born 1971–1980)						
Christian	0.89	0.66	0.21*** (0.05)	0.04 (0.05)	0.20*** (0.05)	0.25 [-0.07 , 0.47]
Protestant[a]	0.45	0.24	0.22*** (0.06)	0.05 (0.09)	0.21*** (0.07)	0.35 [-0.14 , 0.92]
Catholic	0.43	0.42	-0.01 (0.05)	-0.02 (0.09)	-0.01 (0.06)	-0.09 [-0.61 , 0.25]
Muslim	0.07	0.17	-0.06 (0.06)	0.15* (0.07)	-0.04 (0.05)	-0.01 [-0.20 , 0.39]
Animist	0.01	0.05	-0.05*** (0.01)	-0.05*** (0.01)	-0.06*** (0.02)	-0.0356 [-0.10 , 0.04]
Free thinkers	0.03	0.12	-0.10*** (0.02)	-0.13*** (0.03)	-0.12*** (0.03)	-0.131*** [-0.23 , -0.04]
Wealth and migrations (all cohorts)						
Wealth of residents[b]	0.20	-0.04	0.18 (0.15)	0.38** (0.15)	0.23 (0.17)	0.26 [-0.50 , 0.86]
Wealth of natives[c]	0.23	0.30	-0.09 (0.13)	-0.04 (0.16)	0.10 (0.15)	-0.27 [-1.18 , 0.55]
Migration of natives	0.34	0.49	-0.15*** (0.06)	-0.22** (0.10)	-0.11 (0.07)	-0.28 [-0.68 , 0.15]
# of districts	21	25	46	46	115	varies
# of individuals (born 1971–1980)	21,964	19,625	41,589	41,589	79,191	varies
# of household heads (resident)	26,454	21,821	48,275	88,842	88,842	varies
# of household heads (native)	28,282	30,851	59,133	121,404	121,404	varies

Notes: All regressions control for five border-segment dummies. A positive discontinuity favors the British side. Douala is excluded because it is the economic capital and largest city of Cameroon. Standard errors clustered by district in parentheses. Robust Calonico-Cattaneo-Titiunik confidence intervals in brackets — column (6). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. (a) Protestants comprise other Christians, who are neither Protestant, nor Catholics, nor Orthodox. (b) Wealth of residents is the average asset-based wealth index of households in the district. (c) Wealth of natives is the average asset-based wealth index of household heads born in the district.

Though census data provides detailed information on education, it contains few purely economic outcomes.[9] Information about housing quality allows building a wealth index (see data appendix). Because, contrary to education variables, this type of variable is not well suited for cohort analysis, I present results for the sample of all households — considering only the cohort born between 1971 and 1980 yields similar results. Though estimated discontinuities are not always statistically significant, I find that, in districts located within 25 km of the border, the average wealth index is higher in former British Cameroon. My results are therefore in line with what Lee and Schultz (2012) find using Demographic and Health Survey data. However, I show that this difference is entirely driven by selective migrations on the Francophone side. Francophone Cameroon is much larger that Anglophone Cameroon, and includes the administrative and economic capitals, Yaounde and Douala, so that an individual born in the Francophone part has more opportunities to migrate. If I consider, rather than the wealth of households located in the district, the wealth of household heads born in the district, I do not find any discontinuity in household wealth (last panel of table 2). The absence of discontinuity in wealth does not allow to conclude that returns to secondary and higher education are zero. First, because the wealth index is an imperfect measure. Second, because it is a measure at the household level, that I attribute to the household head. Many, in the cohort born between 1971 and 1980 are to young to be household heads in 2005.

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[9]I could not find geolocated labor force or consumption surveys for Cameroon. Geolocation is key for the kind of *ceteris paribus* approach allowed by border discontinuity.

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4.3. Robustness

We saw that, in the north, the border seemed to respect boundaries between ethno-linguistic groups, especially the boundaries of the precolonial Bamun kingdom (section 3 and figure 2). As a robustness test, appendix table C.1 presents discontinuities estimated excluding the northesnmost 3 tenths of the border: results on education are virtually unchanged, and results on religion are made more robust by the exclusion of the majority Muslim Bamun kingdom.

As a further robustness test, I run placebo border regressions, shifting the border by up to 20 km to the west and east in steps of 2 km, and estimating corresponding discontinuities. The 2 first panels of appendix figure C.2 plot the estimated placebo discontinuities against the size of the border shift (a negative shift is a shift to the West) for secondary completion and university education: the estimated effect goes to zero as we get away from the actual border.

5. Decompressing history

Why are individuals born in former British Cameroon more likely to finish high school and go to university? What are the mechanisms linking the colonial past to present-day outcomes? To answer these questions, I turn to historical outcomes. I undertake cohort analysis using the full count of the 1976 population census, build colonial public finance figures, and estimate discontinuities in school supply over the 20th century. Though both sides of the border started diverging in education after partition, the advantage of British Cameroon was rapidly smoothed away in the 1950s, when the French colonial government started investing heavily in education. This history of divergence and convergence at the border rules out

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some of the most simple mechanisms of persistence in supply and demand.

5.1. Data

Census data.   I complement the 10% extract of the 2005 population census with the full count of the 1976 census (more than 7 millions individuals). I was able to geolocate this census down to the village level (see data appendix), creating a unique dataset to undertake border discontinuity analysis. Figure 4 shows that the very dense spatial distribution of villages in the border region allows to consider villages only a few kilometers apart that fell on different sides of the border after the partition of German Cameroon. In a big part of the Francophone Ouest region, geolocation at the village level is impossible (see data appendix): village-level results presented in this section are estimated on the southern section of the border (section 2 on figure 4).[10]

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. This allows me to identify the effect of colonizer identity on education in different periods by looking at different age groups within the census — which means that I need to be wary of potential selection by mortality. To mitigate the problem of "age heaping", I focus on 10-year cohorts around ages ending in 0.[11]

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[10]I do not use section 1 because of the proximity of Douala, nor section 4 because the border is not convincingly exogenous there.

[11]"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, Baten and Craven, 2009) 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 French part), the difference in education outcomes between former British and former
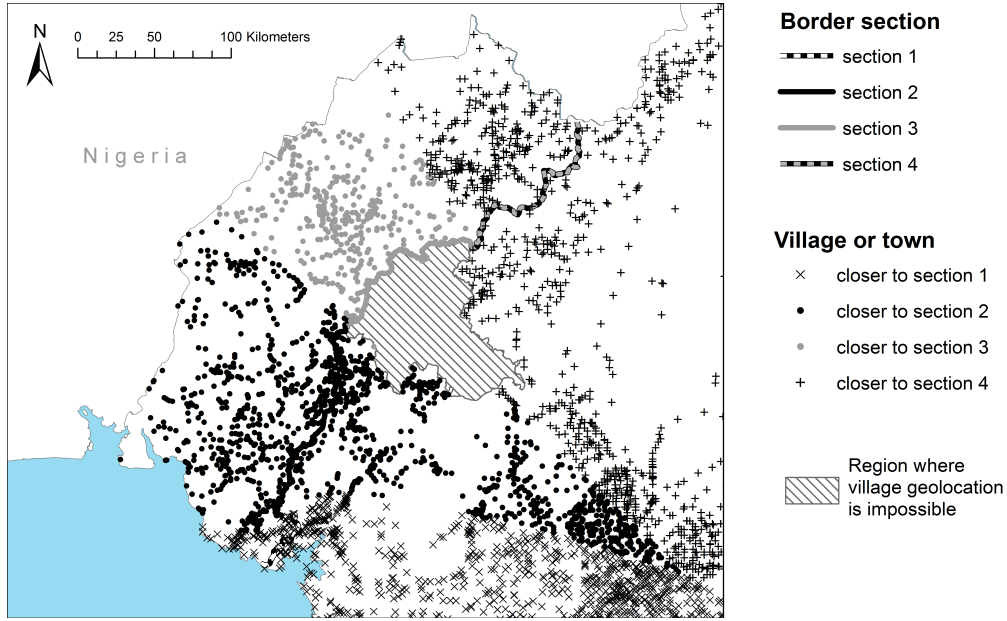
Figure 4: Localisation of villages in the 1976 population census
Source: author's map from 1976 Cameroonian population census data.

Other data. To better understand the mechanisms of divergence and convergence of education at the border, I build historical public finance figures. I also use recent administrative school databases giving the date of opening and status of every school in Cameroon to build a measure of school supply per district over the 20th century. These data sources are described in more details in the data appendix.

5.2. Main results

Though we will later focus on discontinuities using the village as the unit of geolocation, let's start by considering results using the district, for the sake of comparability with 2005 results. Combining 1976 and 2005 data, figure 5 shows the evolution of the discontinuity in education at the border (for male years of edu-

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French Cameroon is biased downwards at round ages (and upwards at other ages).

cation and completion of the secondary cycle). After partition, the 2 sides of the border started diverging: men born on the British side in the 1920s and 1930s had, all others things equal, one more year of education than those born on the French side, and they were more likely to complete secondary school. The discontinuity, however, was smoothed away in the last decade of colonization and first decade of independence. Finally, it re-emerged for the most recent cohort, driven by differences in rates of secondary school completion.
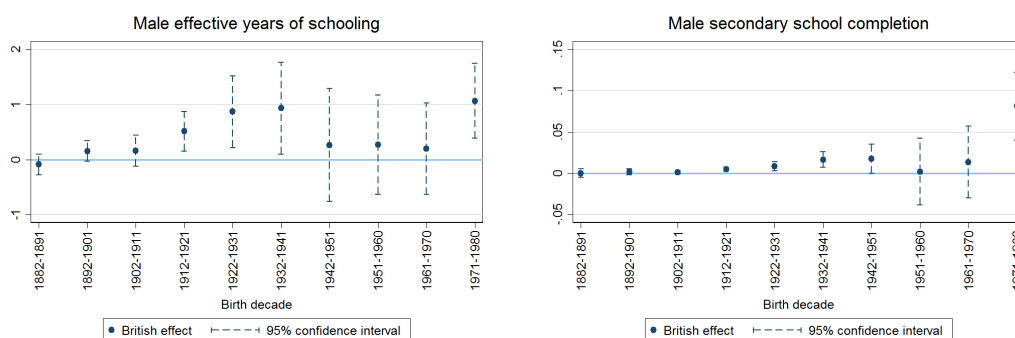

Figure 5: Border discontinuities in education over the 20th century
Notes: Discontinuities are estimated on the sample of districts located within 100 km of the border (excluding Douala), controlling for a polynomial of order 3 in latitude and longitude and 5 border segment dummies. A positive discontinuity favors the British side. Standard errors are clustered by district. *Data*: 1976 population census for cohorts born between 1882 and 1951, 2005 population census for cohorts born between 1951 and 1980. Because some districts were divided between the two censuses, the number of districts in the sample is larger in 2005 (115) than in 1976 (55).

The number of districts located in the border region increased between 1976 and 2005 because of district division, but it was low in 1976, making estimates of border discontinuities particularly imprecise when restricting the sample to smaller bandwidths.[12] Estimating discontinuities at the village level provides more statistical power. I transform village-level averages to take into account the education

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[12]There were only 46 districts within 100 km of the border in 2005. The number increased to 115 in 2005.

level of out-of-district migrants (the method is described in more details in the data appendix). Discontinuities are therefore estimated on village-level means, weighting each observation by the number of individuals contributing to the average. Another solution is to simply discard out-of-district migrants: this leaves results qualitatively unchanged.[13] Working at the village rather than the district level allows restricting the sample to units located very close to the border: my main specification controls for a polynomial of order 2 in latitude and longitude on a sample of villages located within 5 km of the border, but results are robust to other specifications, including a non-parametric local polynomial estimator with optimal bandwidth and robust confidence interval (Calonico, Cattaneo and Titiunik, 2014).

Figure 6 plots discontinuities in male education outcomes estimated with 1976 census data on the southern border section (section 2 on figure 4) for 8 10-year cohorts born between 1882 and 1961.[14]

Men born between 1912 and 1921, who were of school age in the decade following partition, are, all else being equal, 13 percentage points more likely to have been in school and 5 percentage points more likely to have completed primary schooling if they were born on the British side of the border. These figures are 11 and 8 for the cohort born between 1922 and 1931 (first panel of table 3). These are high effects considering average rates of school participation and primary completion for these cohorts: in the cohort 1922–1931, on the sample of villages located within 5 km of the border, the average male school participation rate is 51% on the British side

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[13]Though, because migrations are selective and more important on the French side, this increases the size of the positive British effect.

[14]Because very few girls attended school before the 1950s on both sides of the border, estimated discontinuities for female outcomes are small and statistically insignificant, and are not presented here.
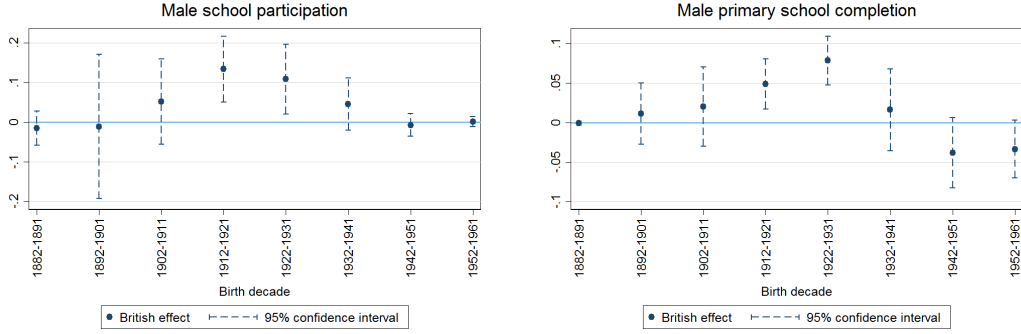
Figure 6: Discontinuities estimated on 1976 village-level data, southern border section

Notes: Discontinuities are estimated on the sample of villages located within 5 km of the southern section of the border, controlling for a polynomial of order 2 in latitude and longitude and three border-segment dummies. A positive discontinuity favors the British side. Dependent variables are population-weighted village-level means. Standard errors are robust.

versus 44% on the French side; for primary completion rates, these figures are 20% on the British side versus 13% on the French side — see table 3.

The positive British effect vanishes in the late colonial and early independence period. For school participation, the discontinuity approaches zero as, in this region, the percentage of men who went to school converges to 100% on both sides of the border — in the cohort born 1952–1961 within 5 km of the border, 97% of men went to school on both sides. For primary school completion, the effect becomes negative, favoring the French side, around –4 percentage points for cohorts born in the late colonial period, but it is not precisely estimated nor robust to all specifications (second panel of table 3).[15]

Finally, I estimate a large and positive effect of belonging to the former British side on a household wealth index (last panel of table 3). This is not entirely explained by selective migrations away from the border region: when I consider the

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[15]Additionally, the primary cycle was longer in British Cameroon: the difference vanishes when I define primary completion as having six years or more of primary schooling.

Table 3: Colonial period results (1976 census data)

cohort born between	(1)	(2)	(3)	(4)	(5)	(6)
	means on sample within <5 km from border		estimated discontinuities			
			<5 km from border		<10 km	data-driven bwidth
	British side	French side	no (x,y) controls	(x,y) poly of order 2	(x,y) poly of order 3	non param. local polynomial estimator
Education variables (men born 1922–1931)						
School participation	0.51	0.44	0.08* (0.04)	0.11** (0.04)	0.11*** (0.04)	0.10** [0.02 , 0.24]
Primary completion	0.20	0.13	0.07*** (0.02)	0.08*** (0.02)	0.10*** (0.02)	0.09*** [0.03 , 0.17]
Education variables (men born 1942–1951)						
School participation	0.88	0.93	-0.05** (0.02)	-0.01 (0.01)	-0.01 (0.01)	-0.02 [-0.07 , 0.06]
Primary completion	0.65	0.77	-0.11*** (0.03)	-0.04* (0.02)	-0.04 (0.02)	-0.04 [-0.10 , 0.08]
Wealth (all cohorts)						
Wealth of residents	0.61	-0.05	0.71*** (0.13)	0.66*** (0.15)	0.69*** (0.17)	1.07*** [0.37 , 2.23]
Wealth of natives	0.55	0.27	0.29*** (0.06)	0.26*** (0.06)	0.31*** (0.06)	0.41*** [0.20 , 0.73]
# of villages	67	49	116	116	205	varies

Notes: All regressions control for border-segment dummies. A positive discontinuity favors the British side. Dependent variables are population-weighted village-level means. Since all controls are at the village level, this is equivalent to clustering by village. Robust standard errors in parentheses. Robust Calonico-Cattaneo-Titiunik 95% confidence intervals in brackets — column (6) * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

wealth of household heads born in the village, the effect is reduced, but remains large (0.31 standard deviations) and very precisely estimated. Whatever policy changes managed to rapidly smooth away the divergence in education did not manage to smooth away the divergence in household wealth.[16]

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[16]The discontinuity in wealth is similar for all cohorts considered and is not driven by the household head who were of school age in the 1920s and 1930s.

5.3. Robustness

Placebo borders. The 2 middle panels of appendix figure C.2 show that the positive discontinuity in male school participation and primary school completion vanishes a few kilometers away from the actual border line. I do find, however, significant discontinuities further away from the actual border, explained by the presence of an important town near the placebo line (Kumba on the British side and the suburbs of Douala on the French side). These placebo discontinuities are reduced and lose statistical significance when I drop from the sample villages located within 10 km of a town (bottom panels of appendix figure C.2).

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. Some of the men born between 1922 and 1931 died before I could observe them in 1976, when they would have been between 45 and 55 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).[17] 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. Appendix figure C.3

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

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 a couple of percentage points larger on the British side: this would indicate a higher mortality on the French side, going against my findings. The share of men aged 35–44 (born 1932–1941) is a couple of percentage points smaller on the British side, but I estimate no discontinuity in education for this cohort.

What about wartime mortality? An estimated 100,000 to 200,000 people died during the independence war (Deltombe, Domergue and Tatsitsa, 2011), but the direction of selection is not obvious *a priori*. Wartime mortality could explain the positive British effect for older cohorts if it selected the most educated. 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 the estimated discontinuity is small and statistically insignificant for this cohort.

5.4. The role of education supply

Identifying the precise mechanisms explaining why French and British Cameroon started diverging at the border is not straightforward. There is, in the language of experimental sciences, only one treatment, and many outcomes. The natural experiment that was the division of Cameroon allows identifying a colonizer identity effect, or, more precisely, the effect of quasi-random assignment to one side of the border or the other. It does not allow identifying with precision which factor was the main driver of divergence: differences in policies towards traditional authorities, differences in education policies, the absence of forced labor in British Cameroon, or any other difference in colonial policies. The divergence

in education could be the result of higher demand, because of higher incomes or higher labor market returns to education on the British side. We also need to consider non-labor market returns: Protestantism, which became the largest religion in British Cameroon, has been associated with higher demand for education and higher human capital, as Protestants need to be able to read the bible by themselves (Woodberry, 2004; Becker and Woessmann, 2009). The divergence in education could also be the result of different colonial education supply policies.[18]

One thing that can be claimed with more certainty is that supply policies had a large role to play in the convergence in education around independence. The fact that, in 1976, household heads born on the French side of the border had lower wealth indices calls into question most mechanisms involving the demand side. Using colonial public finance data, I document differences in education policies between the two colonizers: in the 1930s, the British spent more than the French on education, but this reversed after the war, in the era of "developmental colonialism" (Cooper, 2002). The shift in education policies is reflected in school supply: estimated discontinuities in the number of schools per 100 children favor the British side before World War II, but the French side thereafter, particularly after independence.

Before World War II, public education expenditure was low everywhere, but the British spent more, and gave better incentives for religious missions to provide

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[18]We also need to consider the possibility that the divergence in education at the border after partition had nothing to do with policy. It would be the case if the border cut French Cameroon from important infrastructure or important 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 colonial government in Lagos (Ngoh, 2001).

Table 4: Public financing of education, French and British Cameroon

	1924	1930	1935	1937	1950	1955
Colonial government's education expenditure per school-age child (1925 s.)[1][2]						
French Cameroon	0.28	0.68	1.17	0.68	13.74	29.09
British Cameroon	1.05	1.95	1.54	2.35	8.75	10.13
Expenditure for public schools per school-age child (1925 s.)[1][2][3]						
French Cameroon	0.27	0.65	1.12	0.64	10.57	20.06
British Cameroon	1.05	1.89	1.34	2.02	5.50	3.77
Public subsidies for private education per school-age child (1925 s.)[1][2]						
French Cameroon	0.02	0.04	0.05	0.04	3.16	9.02
British Cameroon	0.01	0.05	0.19	0.32	3.25	6.35
Total expenditure per capita (1925 £)[2]						
French Cameroon	0.19	0.41	0.46	0.29	1.77	4.07[a]
British Cameroon	0.24	0.28	0.25	0.30	0.75	0.83[a]
Share of education in total expenditure						
French Cameroon	1.87%	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) French Cameroon figures were converted into pounds using the official exchange rate (London and Cambridge Economic Service and Alford, 1973). To express the figures in 1925 £, I used the UK retail price index as a deflator (London and Cambridge Economic Service and Alford, 1973). There are 20 shillings (s.) in a pound (£).
(3) Total expenditure (including inspection, and secondary and technical schools) minus subsidies to private schools.
(a) 1953 figures.

formal schooling (see historical background and historical appendix). Let's turn to table 4, built from historical archives: in 1937, British Cameroon was spending 2.35 1925-shilling per school-age child (less than 2015 $ 10) while French Cameroon was spending 0.68 1925-shilling (less than 2015 $ 3). Though most of the public expenditure was going to public schools, public subsidies for private education were 8 times higher in British Cameroon than in French Cameroon (32 versus 4 1925-shillings). Total expenditure per capita was actually very similar in both parts, which means that the share of education in total expenditure was higher in British Cameroon (7.7% versus 2.4%). After the war, public expenditure increased everywhere, but the surge was particularly pronounced in French Cameroon: total expenditure per capita was multiplied by 14 between 1937 and 1955, and education expenditure per capita was multiplied by more than 30 (table 4). In 1955, French Cameroon was spending 5 times more than British Cameroon on public schools, and 1.4 times more on subsidies to private schools.

Figure 7 plots border discontinuities in the number of schools per 100 children estimated 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 and need to assume that attrition was not selective with respect to colonial origins. The number of primary schools per children starts diverging in 1925, just after partition (first panel); the positive British effect reaches 0.2 schools per 100 school-age children in 1945; the discontinuity completely disappears in the last decade of colonization (1950–1960), and inverts after independence: it is negative, large (about -0.3 schools per 100 school-age children) and precisely estimated throughout the 1960s and 1970s. The two sides
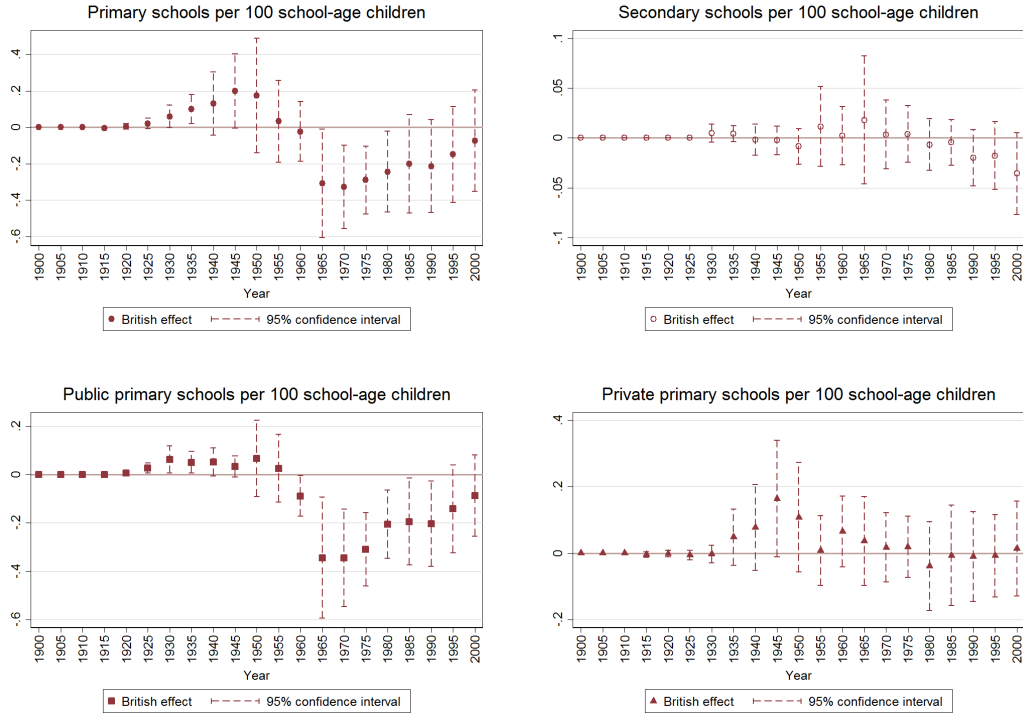
Figure 7: Border discontinuities in school supply over the 20th century
Notes: The dependent variable is the number of primary/secondary, public/private schools per 100 school-age children (6-11 for primary, 12-18 for secondary). The unit of observation is the district in its 2005 borders (excluding the district of Douala). Discontinuities are estimated on the sample of districts located within 100 km of the border, controlling for a polynomial of order 3 in latitude and longitude and 5 border segment dummies. The number of observations (districts) is 115.

seem to converge in the 1990s. This is evidence of some discrimination of the French-speaking government of Cameroon towards the Anglophone part after independence, and might explain why primary completion rates are slightly lower in Anglophone Cameroon for the cohort born 1970–1981 in the 2005 census (tables 2 and C.1). The bottom panels of figure 7 distinguish between public and private schools. While the British advantage before World War II was explained mainly by a difference in the number of private schools, inequality in the number of public schools was the main driver of inequality in education supply after independence.

The second panel of figure 7 displays discontinuities in the number of secondary schools: there is no clear pattern, but we see that the former British side was not advantaged in the 1990s, ruling out school supply as a potential mechanism for explaining the resurgence of a positive British effect in secondary education.

6. The legacy of pedagogical culture

Big investments in schools in French-speaking Cameroon starting in the end of the colonial period, and favoritism towards the Francophone part after reunification erased the initial divergence in education. What then explains why individuals born in the 1970s in former British Cameroon were more likely to finish high school and go to university? In this section, I explore various mechanisms, and argue that the most likely one is acting through the legacy of pedagogical culture and practices, particularly the practice of grade repetition. Grade repetition is much more common today in France than in other rich countries: in 2010, 28% of French 15-year-olds had repeated a grade versus 12% on average in OECD countries (OECD, 2012). In Africa, the average repetition rate, one of the highest in the world, is pulled up by former French colonies. Around 2002, primary school repetition rates averaged 22.5% in former French colonies versus 9.5% in former British colonies (Ndaruhutse et al., 2008). The merits of grade repetition as a pedagogical tool are heavily debated, but recent research provided well identified evidence of its detrimental effect on school dropout (Jacob and Lefgren, 2009; Manacorda, 2012).

I start by showing, using the 2005 census and school survey data, that repetition rates are much higher in former French Cameroon and jump discontinuously at

the border. Learning outcomes of children still in school, measured by literacy and standardized test scores, are not higher in the Anglophone system, which shows that higher repetition rates are the product of different practices, and not caused by differences in the proficiency of students. Then I test various likely mechanisms of persistence: the only control that causes the discontinuity to fall to zero is a district level measure of grade repetition.

6.1. Discontinuities in grade repetition

From the 2005 census, I build a district level measure of grade repetition: the number of students in middle school who are older than what their normal progression through the system would predict, taking into account average school entry age in each district (see data appendix). In 2005, in the sample of districts within 25 km of the border, the percentage of repeaters in middle school was 20% in former British Cameroon part versus 62% in former French Cameroon (first line of table 5). The estimated discontinuity of about –0.45 percentage points is very precisely estimated, and it is particularly visible on a map (last panel of appendix figure C.1).

Using primary school survey data yields similar results, although because of the small number of schools near the border, estimated discontinuities are not always significant (table 6). On the sample of schools located within 25 km of the border, students are on average 10 years and a half when reaching class 5 (CM1) in Anglophone Cameroon, versus 11 years and 4 months in Francophone Cameroon. The average number of classes repeated when reaching class 5 is 0.63 in the English-speaking system versus 1.06 in the French-speaking system.[19]

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[19]The difference in age is larger than the difference in the number of classes repeated, which

Table 5: Discontinuities in repetition and learning outcomes in the 2005 census

	(1)	(2)	(3)	(4)	(5)	(6)
	means on sample within <25 km of border		estimated discontinuities			
			<25 km from border		<100 km	data-driven bwidth
	English- sp. side	French- sp. side	no (x,y) controls	(x,y) poly of order 1	(x,y) poly of order 3	non param. local polynomial estimator
% of repeaters in middle school	0.20	0.62	-0.43*** (0.01)	-0.43*** (0.02)	-0.46*** (0.02)	-0.45*** [-0.57 , -0.04]
			Learning outcomes (12 year-olds still in school)			
can read	0.94	0.96	-0.02 (0.02)	-0.01 (0.01)	0.00 (0.02)	0.00 [-0.05 , 0.08]
can write	0.94	0.95	-0.02 (0.02)	-0.01 (0.01)	0.01 (0.02)	0.00 [-0.05 , 0.08]
# of districts	21	25	46	46	115	varies

Notes: All regressions control for five border-segment dummies. A positive discontinuity favors the British side. Douala is excluded because it is the economic capital and largest city of Cameroon. Standard errors clustered by district in parentheses. Robust Calonico-Cattaneo-Titiunik confidence intervals in brackets — column (6). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Broadly speaking, two reasons might explain why students repeat more grades in the Francophone system: either pedagogical practices differ (Bernard, Simon and Vianou, 2005; Ndaruhutse et al., 2008), 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. However, it is not the case that students in Anglophone Cameroon have an advantage in literacy (last panel of table 5), and standardized test scores in the end of class 5 are, if anything, higher in Francophone Cameroon (table 6).[20]

means that the average school entry age is higher in the Francophone system. This could also potentially explain differences in school attainment later in life.

[20]Differences in grade repetition practices could create complex selection effects, but they would go against what I want to show here: in a given grade, Anglophone students are not systematically better.

Table 6: Repetition is more prevalent in the French-speaking system (PASEC 2004–2005 school survey)

	(1)	(2)	(3)	(4)	(5)	(6)
	means on sample within <25 km of border		estimated discontinuities			
			<25 km from border		<100 km	data-driven bwidth
	English-sp. side	French-sp. side	no (x,y) controls	(x,y) poly of order 1	(x,y) poly of order 3	distance to border
			Class 5 students (CM1)			
Age	10.48	11.33	-0.79**	-1.01*	-0.98**	-0.88*
			(0.31)	(0.51)	(0.41)	[-1.97 , 0.04]
# of classes repeated	0.63	1.06	-0.38***	-0.13	-0.38***	-0.08
			(0.12)	(0.17)	(0.14)	[-1.97 , 0.04]
Standardized test score	39.16	41.47	-1.46	1.86	-4.47	-1.163
			(2.66)	(3.62)	(3.55)	[-8.46 , 9.17]
Number of students	668	350	1,018	1,018	1,963	varies
Number of schools	24	13	37	37	71	varies

Notes: All regressions control for five border-segment dummies, and for gender. A positive discontinuity favors the English-speaking side. Douala is excluded because it is the economic capital and largest city of Cameroon, and because it is excluded from all other analyses. Standard errors clustered by school in parentheses. Robust Calonico-Cattaneo-Titiunik confidence intervals in brackets — column (6). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Observations are weighted by their probability sampling weight.

6.2. Evidence for the role of grade repetition

To investigate the mechanisms explaining why individuals born in Anglophone Cameroon are more likely to finish high school and go to university, I estimate border discontinuities controlling for district level variables that could potentially explain the resurgence of an Anglophone advantage in education. The percentage of repeaters in middle-school provides a district level measure of the prevalence of grade repetition. Even though we already saw that the former British side was not advantaged in secondary school supply, I also control for the number of secondary schools in 1990. Because we saw that colonial origins mattered for religion and to check whether the Anglophone advantage is explained by an effect of religion on education preferences, I control for the percentage of Protestants in the district.

We saw that migrations from the border region were more important on the Francophone side of the border. If migration selected away the richest and most educated individuals, and if there was inter-generational transmission of education, this could explain the resurgence of a British advantage in education for individual born in the 1970s. In order to test for this channel, I also try controlling for average education and wealth of the cohort born in the 1940s [21]

Table 7: Discontinuities in secondary completion with controls, cohort born 1971–1980

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Districts within <100 km of border (x, y) polynomial of order 3						
British effect	0.09*** (0.02)	-0.01 (0.05)	0.07*** (0.02)	0.09*** (0.02)	0.07*** (0.01)	0.08*** (0.01)	0.08*** (0.02)
% of repeaters in middle school[a]		-0.24* (0.12)					
Average school entry age[b]			-0.14*** (0.04)				
Secondary schools in 1990[c]				0.50** (0.20)			
Education cohort 1941–1950[d]					0.04*** (0.00)		
Wealth cohort 1941–1950[e]						0.12*** (0.01)	
% of Protestants[f]							0.03 (0.03)
# of individuals	78,087	78,087	78,087	78,087	78,087	78,087	78,087
# of districts	115	115	115	115	115	115	115

Notes: discontinuities are estimated by OLS. All regressions control for 5 border-segment dummies. A positive discontinuity favors the British side. Douala is excluded because it is the economic capital and largest city of Cameroon. Dependent variables are population-weighted district-level means. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. (a) % of middle school students who are older than what their normal progression through the system would predict (in 2005). (b) Average age of children who are in their first year of primary school in 2005. (c) Number of secondary schools per 100 secondary school age children in 1990. (d) District average years of schooling of the cohort born between 1941 and 1950. (e) Average asset-based wealth index of household heads born in the district between 1941 and 1950. (f) % of Protestants and other Christians in the 1971-1980 cohort.

As evidenced by table 7, the district-level percentage of repeaters in middle school is the only control variable that causes the positive British effect on sec-

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[21] I obtain similar results if I control for education or wealth of the cohort born 1951-1960.

ondary school completion to go to zero. All other controls leave the estimated discontinuity virtually unchanged (table 7).

But, if higher rates of grade repetition in the Francophone system explain the Anglophone advantage in high school completion, why is there no discontinuity in secondary education for cohort born in the 1950s or 1960s (figure 5)? After all, if high repetition rates were a legacy of French colonization, they were likely already high in the decades following independence. The answer lies in geographical inequalities in school supply in post-independence Cameroon. The supply of primary schools clearly favored the former French side from 1960 onwards (figure 7). The combined effect of inequalities in school supply and the discouraging effects of grade repetition likely canceled out during this period. As school supply gradually became more balanced, the detrimental effect of grade repetition on dropout started appearing more clearly at the border.

7. Conclusion

Using the division of German Cameroon after World War I as a natural experiment to identify the causal effect of colonizer identity on education outcomes, I find that having been colonized by the British rather than the French had a positive effect of education for cohorts that reached school age after partition. This positive effect quickly disappeared when colonial education policies shifted and the French side started investing in education.

Because of this shift in policy, the initial divergence was short lived, but the reliance of British colonial education on subsidized religious missions still manifests itself today in the higher percentage of Christians in Anglophone Cameroon.

Another cultural legacy persisted: the widespread use of grade repetition as a pedagogical tool. In line with a recent literature on the detrimental effect of grade repetition on dropout, I argue that this pedagogical difference explains the failure of the Cameroonian Francophone system to retain students in secondary school, and the resurgence of an Anglophone advantage in higher levels of education in the recent period.

Understanding colonial legacies allow to break free from them: in Cameroon as elsewhere in Francophone Africa, curbing the use of grade repetition could limit dropout and allow more students to finish a secondary cycle and attend university.

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A. Historical Appendix

This appendix documents in more details the history of colonial education policies in Cameroon, using secondary sources and various primary sources, notably 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).

I discern two periods in the history of colonial education policies in French and British Cameroon: before World War II, education investments were low in both parts, but in British Cameroon, the colonial government gave incentives to missions for providing formal education, and allowed Native Administrations to open schools, so that overall public expenditure on education per capita was higher. After World War II, in the era of "developmental colonialism" (Cooper, 2002), education expenditure increased in both parts, but it was particularly spectacular in French Cameroon, whose government started a program of private school subsidies and public school construction.

A.1. British and French education policies before World War II

In German Kamerun, Christian missions (Protestant and Catholic) were the main providers of education. When Germany lost Kamerun, German missionaries left. Their schools and churches were soon headed by British and French missionaries of the same denomination — Catholic missions remained Catholic, and Protestant missions remained Protestant. Later, the Basel mission came back to British Cameroon and American missions, already present during German rule, developed

in French Cameroon. In the years following partition, both colonial powers aimed at curbing the spread of very low-quality "hedge" mission schools inherited from the German period, but they adopted different policies to do so.

British colonial education policy was heavily influenced by a 1922 report, *Education in Africa*, issued by the Phelps-Stoke Fund, a small but influential American nonprofit established in 1911 to advance social and economic development in Africa and the Americas. This report underlined the uneven quality of education in Africa and advocated closer cooperation between missions and colonial governments. Its recommendations were at the root of the 1926 Education Ordinance regulating education in Southern Nigeria, of which the British Cameroons were a part. The Ordinance made a clear distinction between Sunday Schools, which were not registered as schools and could provide only religious education, and formal schools, which were registered, inspected, and subsidized on the basis of efficiency (Fafunwa, 1974).

French colonial administrators had traditionally been wary of religious education, though passions about the separation of church and state had waned in France since the beginning of the 20th century — the time when education policies were put in place in the rest of French Africa. In French Cameroon, a 1920 decree formalized the cooperation between government and religious missions in education. Private schools had to receive an authorization from the colonial administration, which was responsible for inspecting them, and they had to respect a number of requirements. In exchange, they were eligible for a subsidy (France, Ministère des Colonies, 1921). The decree, however, failed to specify what was to happen to the numerous mission schools that could not follow its requirements (if only because few teachers held the demanding official teaching certificate which

was necessary to run a school). The decree's wording is vague, but it suggests that the administration had their disappearance in mind — two-thirds of private schools in Togo closed after a similar 1930 decision (Cogneau and Moradi, 2014). Missionaries believed that private schools that failed to meet the requirements were free to undertake any form of education, completely unsupervised by colonial administration. A 1930 decree confirmed this interpretation, stating that non-government-approved schools (*écoles non reconnues des missions*) were "entirely free of their organization," as long as they complied with school-age limitations (France, Ministère des Colonies, 1930). As a result, French Cameroon retained an important, unregulated private school sector.

French and British education policies in Cameroon before World War II do not illustrate the opposition of *laissez-faire* to government control, but of two systems of regulations that provided different incentives for religious missions. In British Nigeria, government control was more extensive than in French Cameroon, but it was less stringent. British government control extended to every school, whether it received a grant (assisted school) or not (unassisted school). In French Cameroon, only government-approved schools (*écoles reconnues des mission*, a small fraction of all mission schools) were inspected, but the requirements for these schools were particularly demanding: French was the only language of instruction, school managers had to hold an official teaching certificate, and the curriculum was the same as in public schools. British mission schools were subsidized on the basis of assessed efficiency.[22] French subsidies to mission schools were a complex function

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[22]The 1926 Education Ordinance did not state rules for determining efficiency, but the Department of Education developed its own system — schools were given letter grades from A to D for their efficiency. A percentage of the school's wage bill was paid based on its letter grades (Fafunwa, 1974).

of students' success rates at official examinations and teachers' qualifications.[23]

In British Cameroon, grants-in-aid made up a large share of the expenses of subsidized schools, so the incentive for mission schools to provide formal education was strong. In 1937, subsidies to private schools represented 68% of the subsidized schools' wage bill in British Cameroon, versus 19% in French Cameroon.[24] Public subsidies for private education per school-age child were always higher in British Cameroon than in French Cameroon in the 1930s, though British Cameroon received only the crumbs of Nigerian grants-in-aid.[25] In 1937, subsidies per school-age child were eight times higher in British Cameroon than in French Cameroon.

The French and the British both financed a small public sector. In British Cameroon, public schools relied on local stakeholders more than in French Cameroon. The public sector was mostly made up of native-administration schools, financed locally by native administrations — local governments empowered by indirect rule, whose revenue consisted of court fees and fines, a percentage of the poll tax, and school fees. In 1938, 19 of the 24 public schools in British Cameroon were native-

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[23]Government-approved mission schools received a subsidy proportional to the number of pupils passing official examinations: 150 francs for each pupil passing the end-of-primary examination and, from 1924 on, 300 francs for each pupil passing the entrance exam into the Superior School in Yaoundé (a school offering postprimary education), provided they had not committed to be employed by the mission. These subsidies were raised in 1928 and 1936. From 1924 on, each government-approved mission school run by a teacher holding an official certificate also received a subsidy for each bracket of 20 pupils; in 1929, the subsidy was increased and a lower subsidy was created for schools run by a teacher having passed the official end-of-primary examination. Both subsidies were increased in 1936 (France, Ministère des Colonies, 1921–1938).

[24]Author's calculations, from Great Britain, Colonial Office (1937), France, Ministère des Colonies (1937), and Cameroun (1937). In French Cameroon, I do not have data on wages in mission schools; I assume mission school teachers were paid the same wage as African teachers in the public sector — qualifications were, by law, similar.

[25]In 1929, the Cameroons province (the southern part of British Cameroon) represented about 5% of the population of Southern Nigeria but received only 0.36% of the grants-in-aid. In 1938–39, it received 2.3% of grants-in-aid — author's calculations made from Fafunwa (1974) and Great Britain, Colonial Office (1922–1938).

administration schools. Teaching in an African language was widespread in the first grades in British Cameroon, while French was the only language of instruction in French Cameroon. In 1930, there were no European teachers in public schools in British Cameroon, while, on the other side of the border, 25% of public-school teachers were French. Before World War II, the French did not compensate low subsidies to private education with higher investment in the public sector: expenditure for public schools per school-age child was higher in British Cameroon throughout the 1920s and 1930s — it was three times higher in 1937.

Before World War II, there was essentially no secondary education in either Cameroon, except for a few postprimary institutions for training teachers and health personnel. A few pupils from British Cameroon were sent to secondary school in other Nigerian provinces (notably, to Umahia College, in the Owerri province). In British Cameroon, the first secondary school was opened by the Catholic mission in 1939, seven years before the first secondary school opened in French Cameroon.

In both French and British mandated territories, education policies completely neglected the predominantly Muslim North — there were no mission schools there, and only a handful of public schools. In these regions, education was provided by Koranic schools, on which it is extremely hard to gather information, as they are never described in colonial reports.

Overall, before World War II, colonial education expenditure was low on both sides of the border. Though total expenditure per capita was higher in French Cameroon, education expenditure per school-age child was lower throughout the 1920s and 1930s: in 1937, British Cameroon was spending 2.35 1925-shilling per school-age child (less than 2015 $ 10) while French Cameroon was spending 0.68

1925-shilling (less than 2015 $ 3).

A.2. British and French education policies after World War II

Colonial policies changed radically in the last 15 years of colonization, a period called the era of "developmental colonialism" by historian Frederick Cooper (2002). While Great Britain insisted on the need for more self-government in its overseas territories, France devised plans for assimilation of its colonies into a large French polity. In both the French and the British Empire, more representative institutions were slowly put in place, while public expenditure per head boomed (Cogneau, Dupraz and Mesplé-Somps, 2015).

In 1944, the leaders of free France organized the Brazzaville Conference, whose goal was to prepare the colonial empire's postwar future and ensure it would remain French. The Conference participants rejected any idea of self-government for Africans, but understood that economic and social reforms were needed if France was to retain its African colonies despite mounting international criticism towards colonisation. The conference set up new goals for the colonial education system, notably, training Africans to be high-ranking administrators and not only subordinates (Ngoh, 1987). In this new climate, public investment in education surged. Education expenditure per school-age child was more than 10 times higher in 1950 than in the 1930s, and it doubled again between 1950 and 1955.[26]

In increasing its educational effort, the French colonial administration adopted a two-pronged strategy: subsidizing the private sector and investing in the public

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[26]These figures do not account for the expenditure of the FIDES (*Fonds d'Investissement pour le Développement Economique et Social*), a fund created in 1946 to invest in large-scale infrastructure and equipment in French colonies. Among other things, the fund financed construction of numerous public and private schools in Cameroon.

sector. Two decrees, in 1946 and 1947, modified the subsidy system: in addition to paying each mission a fixed amount proportional to its educational effort, the colonial government started paying each mission teacher a subsidy amounting to half the public sector wage of teachers holding similar qualifications.[27] The amount of subsidies paid to the private sector then kept increasing. In 1955, subsidies represented 78% of the private sector's wage bill.[28] In 1937, public subsidies for private education per school-age child were 8 times lower in French Cameroon than in British Cameroon; in 1950, they were comparable; in 1955, they were 40% higher. Still, subsidies to private schools represented only a third of education expenditure, as French Cameroon's colonial government launched a program to build public schools and hire public school teachers. Expenditure for government schools increased more than tenfold between 1937 and 1950, and doubled again between 1950 and 1955. As a result of this two-pronged strategy, enrollments increased in both private and public primary schools. Between 1946 and 1957, enrollment in public schools grew fivefold, while it doubled in private schools (France, Ministère des Colonies, 1947–1957). The investment effort also affected secondary schooling — the colonial government opened the first secondary school in Yaoundé in 1945-46. In 1956, there were five public and nine private secondary schools in French Cameroon.

Meanwhile, British Nigeria, of which British Cameroon was a part, was experiencing a period of great constitutional change, leading to more representative political institutions and greater regional autonomy (Ngoh, 2001). In British

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[27]France, Ministère des Colonies (1947); Yaoundé National Archives, 1AC 4778.

[28]Author's calculations, from France, Ministère des Colonies (1955) and Cameroun (1955). Again, I assume that wages in the private sector were similar to wages in the public sector.

Cameroon, a surge in grants-in-aid allowed primary enrollment rates to increase (Fajana, 1978). Unlike in French Cameroon, the educational effort focused mainly on subsidizing private schools — grants-in-aid represented about 60% of education expenditure in 1955. Overall, the increase in education expenditure was substantial, but less pronounced than in French Cameroon, so that, in 1955, governmental education expenditure per school-age child was three times lower in British Cameroon than on the other side of the border.[29]

B. Data Appendix

B.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.[30] For 2005, I use a representative 10% extract made available by IPUMS International.[31] In 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.

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[29]This might be partly due to the expansion of secondary education, which is more expensive than primary education. In the 1950s, there were several public secondary schools in French Cameroon, but there were only private secondary schools in the British Cameroons.

[30]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 Fran caise pour le Développement)

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

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 the Francophone Ouest region, I could not geolocate villages.[32] 2005 census data cannot be geolocated more precisely than the district level.

School attainment variables. Census data gives information on the last grade attended, distinguishing between the Francophone and Anglophone systems. Primary-cycle length varied through time and was typically longer in British Cameroon.[33] For older cohorts, I focus on the intensive margin of school participation and on school attainment variables (completion of the primary and secondary cycle) to make sure that results are not driven by a longer primary cycle in British Cameroon.[34] For younger cohorts (born 1971–1980), I also construct effective years of schooling (the theoretical number of years needed to attain the last grade attended), assuming that individuals did their entire education within the same system.[35] Because of differences in repetition rates (higher in the Francophone system), effective years of schooling need not translate into the same number of

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[32]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.

[33]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.

[34]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.

[35]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.

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 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. Doing so, I assume that repetition rates did not vary much between 1980 and 2002, and that they are similar across districts of the same region — there were 10 regions in Cameroon in 2005.

Grade repetition. In 2005, I construct a district-level measure of grade repetition by computing the percentage of junior high school students (first 4 years of secondary school) who 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 deemed to have repeated if $a_{id} - s_d > y_{id}$. I then average by district.

Wealth index. I use information on house quality to build a wealth index for each household by principal component analysis. The variables used are wall, roof and floor material, type of toilet, light and drinking water sources, and, in 2005 only, cooking energy source, waste and waste water disposal systems, and accessibility.

B.2. Reallocation of migrants in their district of birth

The 1976 population census gives the village of residence and the district of birth, but not the village of birth — there were 138 districts in 1976, counting on average 44 villages each. When working at the village level, I assume that individuals still leaving in their district of birth never moved and were born in their 1976 village of residence. To reallocate out-of-district migrants in their village of birth, I assume that, within a district, each village is equally likely to be the place of birth of a migrant born in the district. When the number of migrants is large enough, this amounts to replacing village means s_j in equation (1) by $(1-m_d) \times s_j + m_d \times \bar{s}_{d,mig}$, where m_d is the percentage of migrants in district d, and $\bar{s}_{d,mig}$ is the average of dependent variable s among migrants born in district d (more precisely, because I run separate regressions by cohort and gender, m_d is a cohort-gender specific percentage, and $\bar{s}_{d,mig}$ a cohort-gender specific average). Finally, village weights w_j are divided by $(1 - m_d)$.

B.3. Historical 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).

B.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.5. Primary school survey data

I use primary school survey data fro the PASEC (Programme d'Analyse des Systèmes Educatifs de la CONFEMEN), an organization assessing learning achievement and quality of primary education in French-speaking countries of Africa. In 2004–2005, 174 schools were surveyed, 43 of which were in the Anglophone regions. The school locality's name was used for geolocation.
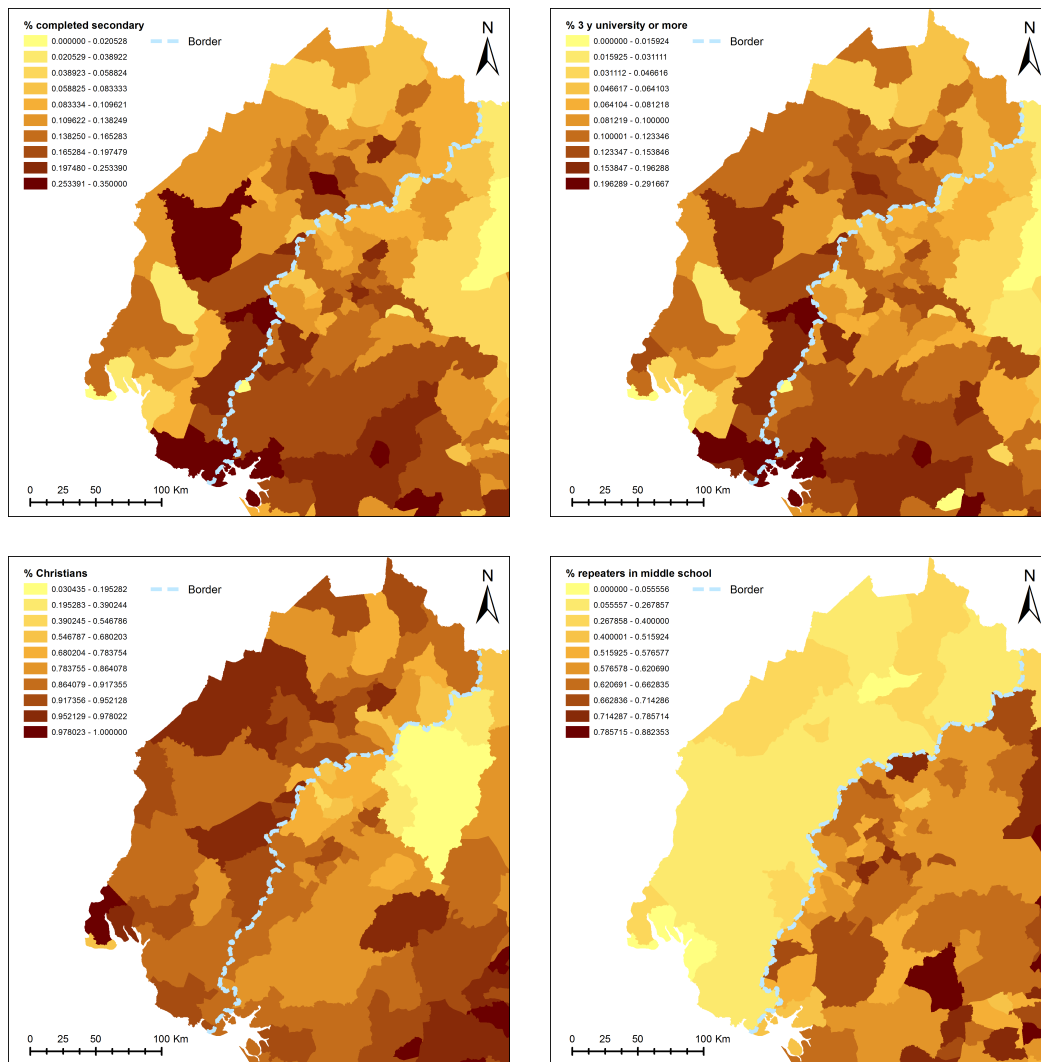
C. Additional results

Figure C.1: Maps of variables in the 2005 census

Table C.1: Discontinuities at the border in 2005 (excluding the north)

	(1)	(2)	(3)	(4)	(5)	(6)
	means on sample within <25 km of border		estimated discontinuities			
			<25 km from border		<100 km	data-driven bwidth
	English-sp. side	French-sp. side	no (x,y) controls	(x,y) poly of order 1	(x,y) poly of order 3	non-param. local polynomial estimator
Education (cohort born 1971–1980)						
Completed primary	0.82	0.86	-0.05* (0.03)	-0.08* (0.04)	-0.03 (0.05)	-0.07 [-0.26 , 0.16]
Completed secondary	0.22	0.15	0.07*** (0.02)	0.09*** (0.03)	0.11*** (0.03)	0.11*** [0.06 , 0.20]
≥3 years of higher education	0.15	0.08	0.06*** (0.01)	0.08*** (0.02)	0.09*** (0.02)	0.12*** [0.08 , 0.19]
≥15 years spent in school	0.25	0.16	0.09*** (0.02)	0.11*** (0.03)	0.14*** (0.03)	0.08 [-0.03 , 0.17]
Religion (cohort born 1971–1980)						
Christian	0.91	0.77	0.15*** (0.03)	0.12*** (0.03)	0.23*** (0.03)	0.21*** [0.10 , 0.42]
Protestant[a]	0.47	0.26	0.22*** (0.05)	0.18** (0.08)	0.18** (0.09)	0.34* [-.02 , .94]
Catholic	0.43	0.50	-0.07 (0.04)	-0.07 (0.08)	0.04 (0.09)	-0.14 [-0.75 , 0.30]
Muslim	0.03	0.02	0.02** (0.01)	0.04** (0.02)	0.00 (0.01)	-0.01 [-0.75 , 0.30]
Animist	0.01	0.06	-0.06*** (0.02)	-0.04** (0.02)	-0.08*** (0.02)	-0.08 [-0.75 , 0.30]
Free thinker	0.03	0.14	-0.12*** (0.03)	-0.12*** (0.02)	-0.15*** (0.03)	-0.14* [-0.29 , 0.02]
Wealth and migrations (all cohorts)						
Wealth of residents[b]	0.33	-0.02	0.31* (0.17)	0.47** (0.23)	0.33 (0.26)	0.26 [-0.34 , 0.97]
Wealth of natives[c]	0.35	0.32	-0.01 (0.15)	-0.05 (0.19)	0.17 (0.22)	-0.31 [-1.14 , 0.64]
Migration of natives	0.38	0.52	-0.16** (0.06)	-0.22** (0.10)	-0.07 (0.10)	-0.29 [-0.71 , 0.15]
# of districts	16	20	36	36	86	varies
# of individuals (born 1971–1980)	17,340	15,970	33,310	57,448	57,448	varies
# of household heads (resident)	20,938	17,532	38,470	65,292	65,292	varies
# of household heads (native)	21,391	25,276	46,667	89,097	89,097	varies

Notes: Exclusion of districts closest to the northernmost 3 tenth of the border (to avoid comparing the Bamun kingdom to the rest). All regressions control for five border-segment dummies. A positive discontinuity favors the British side. Douala is excluded because it is the economic capital and largest city of Cameroon. Standard errors clustered by district in parentheses. Robust Calonico-Cattaneo-Titiunik confidence intervals in brackets — column (6). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. (a) Protestants comprise other Christians, who are neither Protestant, nor Catholics, nor Orthodox. (b) Wealth of residents is the average asset-based wealth index of households in the district. (c) Wealth of natives is the average asset-based wealth index of household heads born in the district.
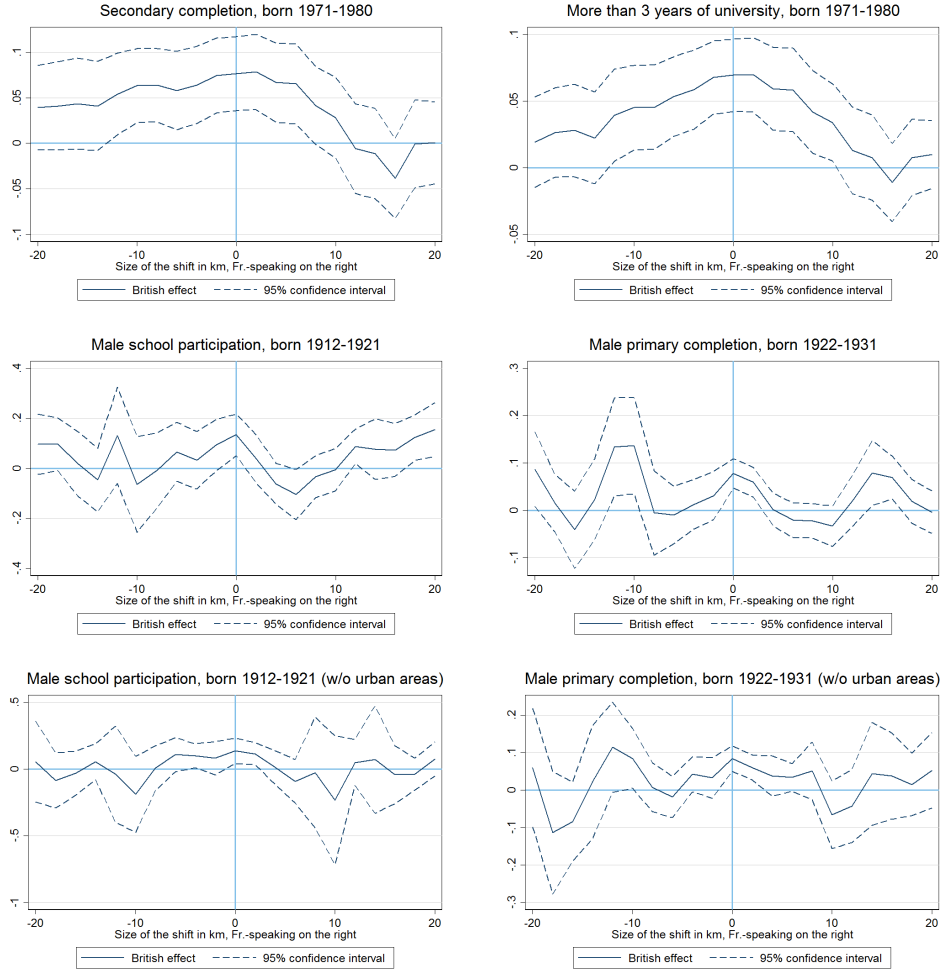
Figure C.2: Placebo border

Panels 1 and 2: 2005 population census. Discontinuities are estimated on the sample of districts located within 100 km of the border, controlling for a polynomial of order 3 in latitude and longitude and 5 border segment dummies.

Panels 3 and 4: 1976 population census. Discontinuities are estimated on the sample of villages located within 10 km of the border (southern section), controlling for latitude and longitude and 3 border segment dummies.

Panels 5 and 6: Same thing as 3 and 4, dropping villages located within 10 km of a town.
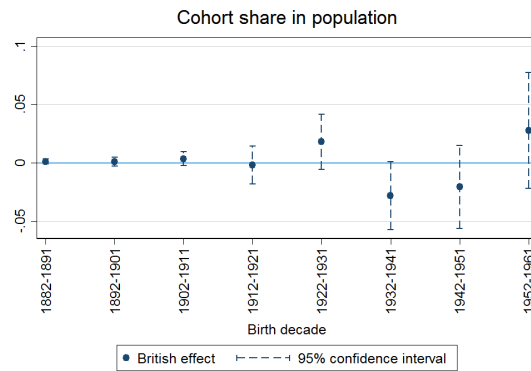
Figure C.3: Border discontinuities in cohort share of total population

Notes: The dependent variable is the number of men in a cohort divided by the total number of men in the eight cohorts. Discontinuities are estimated on the sample of villages located within 5 km of the southern section of the border, controlling for a polynomial of order 2 in latitude and longitude and three border-segment dummies. A positive discontinuity favors the British side. Standard errors are robust.