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African states and development in historical perspective: Colonial public finances in British and French West Africa*

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Abstract. — Why does it seem so difficult to build a sizeable developmental state in Africa? A growing literature looks at the colonial roots of differences in economic development, often using the French/British difference as a source of variation to identify which features of the colonial past mattered. We use historical archives to build a new dataset of public finances in 9 French and 4 British colonies of West Africa from 1900 to independence. Though we find some significant differences between French and British colonies, we conclude that overall patterns of public finances were similar in both empires. The most striking fact is the great increase in expenditure per capita in the last decades of colonization: it quadrupled between the end of World War II and independence. This increase in expenditure was made possible partly by an increase in customs revenue due to rising trade flows, but mostly by policy changes: net subsidies from colonizers to their colonies became positive, while, within the colonies, direct and indirect taxation rates increased. We conclude that the last fifteen years of colonization are a key period to understand colonial legacies.

Keywords: Public finances, West Africa, state building, colonization.

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1. Introduction

Why does it seem so difficult to build a sizeable developmental state in Africa? The economic literature has put forward weak states as a key factor explaining Africa's relative underdevelopment (Acemoglu and Robinson, 2012; Michalopoulos and Papaioannou, 2014). While some researchers insist that the conditions explaining weak state capacity in Africa existed long before European colonization (Herbst, 2000), others argue that most present-day features of African states were inherited from the colonial period (Cooper, 2002). Colonial African states were minimal, "gatekeeper" states, oriented towards resource extraction, and over-reliant on external trade taxation or archaic domestic taxes.

Since Africa was practically entirely colonized, there is no good counter-factual for European colonization. To identify the features of colonialism that mattered for long term economic development, researchers have focused on sources of variation such as the distinction between settler and extraction colonies (Acemoglu *et al.*, 2001), and the French/British difference. The British colonial legacy has been said to be more favorable because of the kind of legal and institutional framework it set up (La Porta *et al.*, 1998, 1999) and because of its effect on education (Brown, 2000; Grier, 1999).

Surprisingly, the history of public finances has been, with a few exceptions, absent from this debate, while the recent economic literature has highlighted the importance of taking the long run into account when thinking about state capacity building (Besley and Persson, 2009, 2013).

To better understand the links between the past and the present in developing countries in general, and in Africa in particular, we need to have a better knowledge of the functioning of colonial states which gave birth to today's independent states. From historical archives, we constructed a new dataset of public finances in 13 countries of West Africa from 1900 to independence, that we were able to extend to the postcolonial period for some variables and some countries. West Africa was the first region of Sub-Saharan Africa to bear prolonged European presence. With its checker-board of French and British colonies, it seems like the best region to undertake a comparative study of British and French colonialism.

Though we find some differences between French and British colonies (greater importance of education expenditure in British colonies, greater reliance on direct taxation in French colonies), we conclude that, overall, the level and composition of revenue and expenditure were similar in both Empires, especially when we consider pairs of neighboring colonies sharing similar geographical conditions. About half of public expenditure was oriented toward economic exploitation (infrastructure and production support). Although Nigeria stands out by its low level of net public expenditure and revenue per capita throughout the period, it does not seem that British "indirect rule" in other West African colonies resulted in smaller colonial states.

The most striking fact is the great increase in expenditure in the last decades of colonization: in French and British colonies alike, real expenditure per capita quadrupled between 1940 and 1955. This massive increase in the size of colonial states is not explained by public sector wage inflation. It was partly made possible by an increase in customs taxes resulting from higher trade flows, but mostly by changes in colonial policy: higher direct and indirect taxation rates, and an increase in external revenue in the form of subsidies from France and Britain.

In the history of African states, the very last fifteen years of colonization were of great importance: this is during this period that a number of features of contemporary states, such as external financing dependency, were put in place. We also have tentative evidence that this is during this period that civil service wage setting policies started diverging in French- and English-speaking Africa.

We are certainly not the first ones to be interested in the history of public finances in Africa, but we might be among the first ones to do so in a systematic and comparable manner over a long period of time. One of our goals is to build reliable long term series of public finance data in Africa, something that did not exist until today. Public finance series for African countries usually start in the 1980s (Cagé and Gadenne, 2015; Baunsgaard and Keen, 2010). Closely related to our work are the book of Davis and Huttenback (1986), who study the costs and benefits of British imperialism from 1860 to 1912 and conclude that it mainly transferred income within Britain from the middle to the upper class, the work of Huillery (2014), who studies financial transfers between France and French West Africa over the colonial period, and the work of Frankema and van Waijenburg (2014), who study colonial revenue in French and British Africa from 1880 to 1940.

Frankema and van Waijenburg's (2014) geographical scope is more extended that ours, but their data are far less detailed (they focus on gross revenue alone) and do not cover the last 20 years of colonization.

The rest of the chapter is organized as follows: we first give a brief summary of the history of conquest and colonial rule in French and British West Africa (section 1), before presenting the methodology used to construct the database (section 2). We then present our series on colonial expenditure (section 3) and revenue (section 4), before discussing some preliminary postcolonial figures (section 5), and concluding (section 6).

2. France and Britain in West Africa

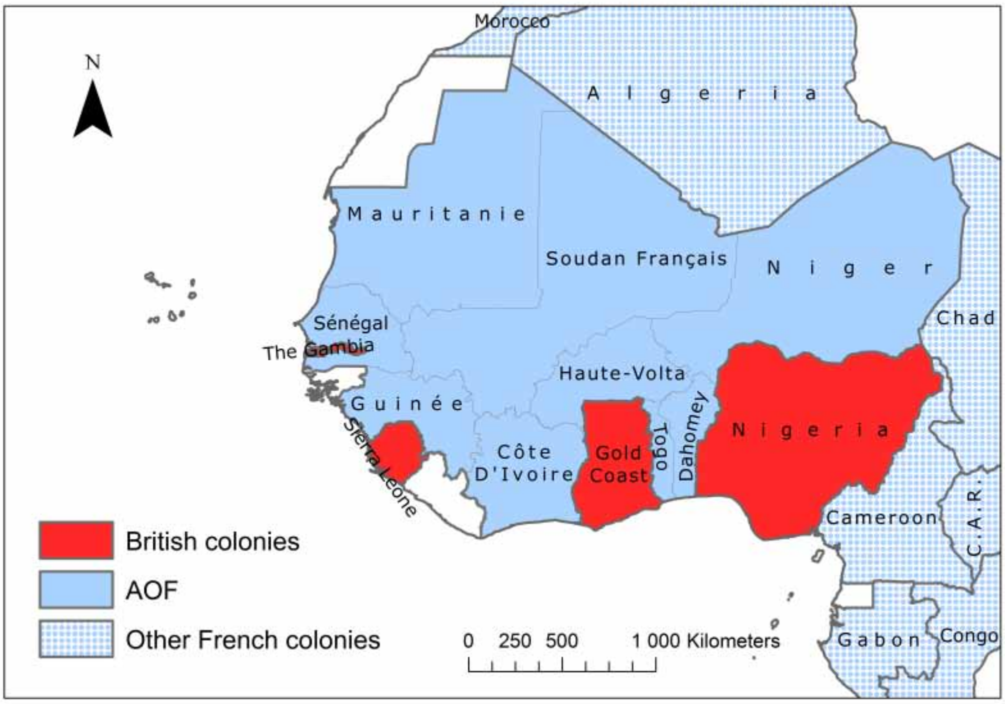
This section gives a very brief summary of the history of conquest and colonial rule in French and British West Africa, stressing the main differences between the two colonizers put forward by historians of the region.

2.1. Conquest

French and British conquest of West Africa took place mostly in the second half of the 19th century and followed a pattern of expansion from small establishments on the coast inwards. In 1850, the French were present in the Four Communes of Sénégal and on a narrow strip of coast-land in present-day Ivory Coast. The British possessed Gambia, the Colony of Freetown, and settlements on the coast of present-day Ghana. Territorial conquest began around this date and accelerated in the last 20 years of the century (this Scramble for Africa by European powers was formalized and regulated by the Berlin Conference of 1884-85). The British extended their territories around Freetown and in the Gold Coast, and added Nigeria to their West African possessions. From their coastal settlements, the French expanded well into the interior, conquering a one-piece territory that became the federation of AOF (*Afrique Occidentale Française*) in 1895.

By the beginning of the 20th century, military conquest was mostly complete. Except for the sharing of German Togo and Cameroon between the French and the British after World War I, the borders between the two empires did not move until

Figure 1: France and Britain in West Africa at the eve of decolonization



decolonization — figure 1. Lord Salisbury famously contrasted French expansion in West Africa "by a large and constant expenditure, and by a succession of military expeditions" with Great Britain's "policy of advance by commercial enterprise".[1] In the end, French West Africa was more extended (4.7 millions km^2 versus 1.25 million for the 4 British colonies), but less populated (15.6 millions inhabitants in 1910 versus 30 millions for British West Africa — 24.5 millions in Nigeria alone), and offered more opportunities for trade — if only because all of Great Britain's 4 West African colonies were coastal. This is something we have to account for when comparing French and British colonial public finances: taxing maritime trade is a cheap and easy way of collecting revenue that is not available in landlocked regions.

[1]Quoted in Hargreaves (1971), p. 261.

2.2. French and British colonial rule

A lot has been written on the differences between French and British colonial policies in Africa. These differences are often subsumed under the classical opposition between French direct rule and British indirect rule, but they include, beyond the question of the role of traditional authorities in colonial rule, differences in education and labor policies.

Comparative studies of colonial administration in Africa have crystallized in the first decades of the 20th century the idea of an opposition between French direct rule and British indirect rule (Dimier, 2004; Perham, 1967; Mair, 1936). According to this view, French colonial administration was very centralized and based on assimilation of colonial territories with France, while British colonial administration was much more decentralized, based upon cooperation with local chiefs. This view owes a lot to the writings of Frederick Lugard, governor of Nigeria in the beginning of the 20th century, whose book *The Dual Mandate in British Colonial Africa* was widely read in colonial circles (Lugard, 1922). In this book, Lugard theorized the system of administration that he established in Northern Nigeria, where he preserved the administrative, judiciary and religious structure of the Sokoto Caliphate.

The relevance of this opposition started being questioned and nuanced from the moment it was first expressed: French administration also relied on traditional authorites (Labouret, 1934; Delavignette, 1946), and British chiefs were often artificial creations without much local legitimacy (Hailey, 1938). More recent work (Crowder, 1964; Geschiere, 1993) has underlined the reality of the opposition between French and British policies towards local institutions. Crowder (1964) argued that, despite the existence of a form of indirect rule in French colonies, the differences between the two systems "were rather those of kind than of degree." Even more recently, research on the long term legacy of the type of colonial rule has yielded somewhat contradictory results: while some insist on the detrimental effect of despotic chiefs empowered by indirect rule (Mamdani, 1996; Acemoglu *et al.*, 2014b,a), others argue that empowering local authorities with tax collection built local government capacity and had positive long term effects (Berger, 2009).

Education has been underlined as the other major difference between French and

British rule in Africa. In British colonies, education was mainly undertaken by religious missions, partly financed by public subsidies, while the French favored public schools in their colonies. Mission schools where more local, employing mainly African teachers and teaching in local languages, and were therefore more efficient at providing primary education to a large number of children (Gifford and Weiskel, 1971). Primary enrolment rates were on average higher in British Africa during the colonial period (Benavot and Riddle, 1988), and some have argued that differences in educational legacies are important in explaining present-day outcomes (Brown, 2000; Grier, 1999). Cross country studies are not really able to isolate the effect of colonial rule from the effect of pre-existing conditions (Frankema, 2012), but Cogneau and Moradi (2014) and Dupraz (2016) have used natural experiments to estimate a positive causal effect of British colonizer identity on education outcomes, even though Dupraz (2016) calls into question the persistence of these differences over time.

Although it is tempting to see in the success of British religious missions an illustration of the benefits of *laissez-faire* education policies, we should keep in mind that cooperation between colonial governments and missions was important, and that missions were subsidized. The Phelps-Stoke Report on Education (1922), commissioned by an American fund to study education in Africa, was very influential in shaping education policies in British African colonies: it advocated closer cooperation between missions and colonial governments, and recommended increasing government expenditure on education Fajana (1978). The question therefore remains of the extent to which government cooperation and subsidies mattered for the success of missionary education in British Africa.

A third aspect of the opposition between French and British rule concerns civil liberties. Although colonization was everywhere, and almost by definition, synonymous with the imposition of a dual legal system (one for Europeans, one for Africans), the restriction of civil liberties seems to have been harsher in French Africa. One good illustration of this is forced labor. Though all colonial powers introduced some form of coerced labor in their African colonies, France (and Portugal) stood out by their large scale use of forced labor well into the 20th century (Cooper, 1996; van Waijenburg, 2015). In French colonies, forced labor took the form of both a labor tax (*prestation*) and the use of military conscription for public works. The *prestation* (or *corvée*) required Africans to work a certain number of days per year on local public work projects, while military conscripts were used for longer period of times on larger scale projects. Although the British used forced labor in their colonies, they were quicker to abandon it, immediately ratifying the 1930 International Labor Office Forced Labor Convention while the French refused until 1937, and continued to use forced labor up to World War II (Cooper, 1996).

2.3. From fiscal autonomy to development policies to independence

Before World War II, fiscal autonomy was the stated aim of both British and French colonial policies (Davis and Huttenback, 1986; Gardner, 2012). Huillery (2014) computed the net public subsidies from metropolitan France to AOF during the entire colonial period, and concluded that they were overall very limited. From the 1920s on, in both France and the UK, colonial administrators started calling for metropolitan investments in the colonies. Albert Sarraut's (1923) plan for economic development of the colonies was largely ignored, while in the UK similar ideas failed to translate into action (Constantine, 1984).

In 1929, the British Colonial Development Act created a Colonial Development Fund credited by the British Treasury to finance investment projects in the colonies, but the amount of money transferred to the Fund remained very limited. The Colonial Development and Welfare Acts of 1940 and 1945 increased the amounts transferred to the Fund and broadened the scope of projects that could be financed (Constantine, 1984). France created in 1945 a similar fund, the FIDES (*Fonds d'investissement pour le développement économique et social*), dedicated to large scale infrastructure in the colonies.

One of the reasons for the creation of these development funds was that France and Britain's possession of colonial empires were increasingly being questioned by the international community, especially by the United States and the USSR, the two great victors of World War II. Colonial rule was also more and more contested from within, notably by labor movements. Faced with the necessity of thinking about colonization in new ways, Britain insisted on the need for more self-government, while France devised plans for assimilation of its colonies into a large French polity (Cooper, 1996). But after a short period of rapid institutional change, all British and French colonies of West Africa became independent in a space of 8 years between 1957 (independence of the Gold Coast, which became Ghana) and 1965 (independence of the Gambia).

3. Methodology and data

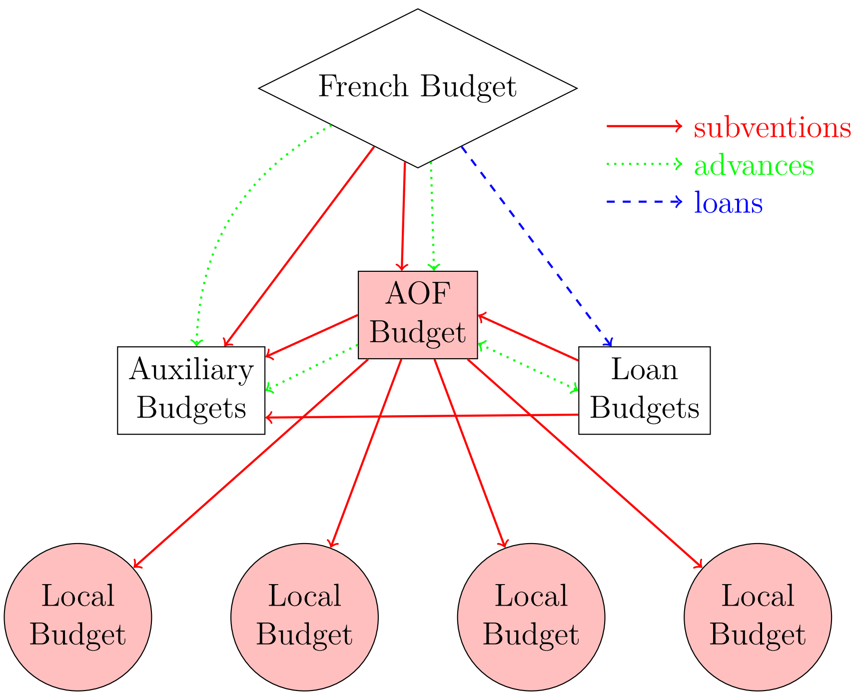
We collected detailed data on public finances every three years from 1901 to 1958 for all colonies of AOF and the four British colonies of West Africa. This section briefly presents the way we built our dataset, and addresses the potential pitfalls of a comparison between French and British colonies.

3.1. Assembling various sources of data

Public finances in the federation of AOF were organised in a pyramidal structure (Huillery, 2014) — see figure 2. At the top of the pyramid, the French metropolitan budget, more specifically, the budget of the Ministry of Colonies (*Ministère des Colonies*), provided advances and grants to the budget of the General Government (*Gouvernment Général*) of AOF, and various auxiliary budgets, such as development funds and railway budgets. It also provided loans to federal level loan budgets. The Ministry of Colonies was also responsible for military expenditure in the colonies. The General Government of the AOF collected taxes (mainly custom duties) and was responsible for expenditure in federal-level administration and infrastructure. Local (colony-level) budgets (*Budgets locaux*) collected direct and indirect taxes, received grants from the General Government, and were responsible for colony-level expenditure.

We collected data from the final accounts (*Comptes Définitifs*) of each of these budgets. Final accounts give a measure of effective revenue and expenditure at the end of the fiscal year. We used provisional budget estimates when we could not find final accounts, but also to collect data on the number of government employees and their wage — this information practically never appears in final accounts. Though we consider grants and loans made by the metropolitan government to the colonies, our data does not include direct expenditure of the French budget via the

Figure 2: Financial Structure of the AOF



Source: Huillery (2014).

Ministry of Colonies. The reason is that these were mostly military expenditure, whose allocation between the different regions of the French empire requires relying on many assumptions. As for civil expenditure, they do not make much difference for the period we consider here. Though we include revenue transferred from railways to the General Budget, and capital expenditure on railways made by the General Budget or loan budgets, our figures do not incorporate railway recurrent expenditure.

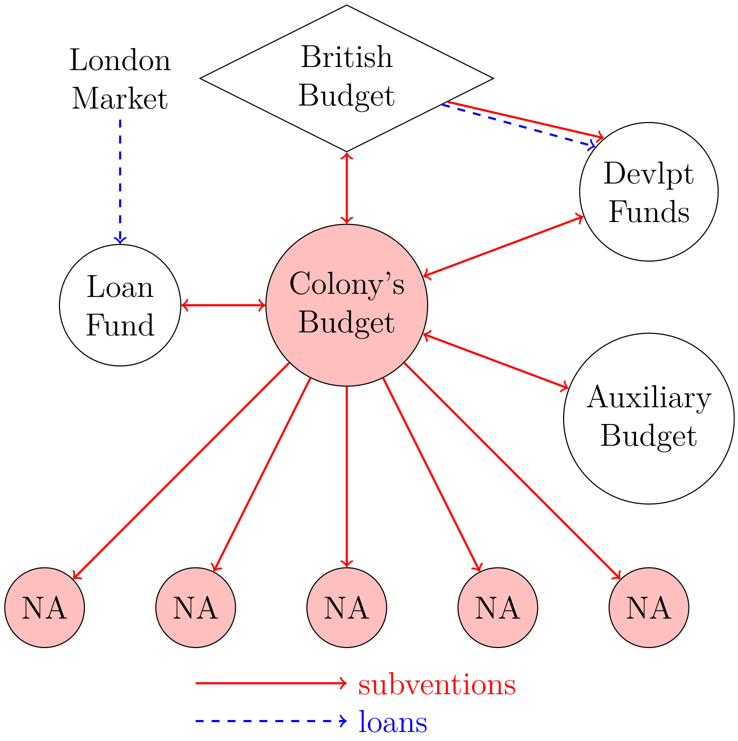
Our source for the FIDES accounts gives us only the expenditure side. On the revenue side, knowing that the fund was financed partly by subsidies from France and partly by contributions from the colonies (appearing in colonial budgets), we recover the French government subsidy by subtracting colonies' contribution from total expenditure.[2]

The federal structure of AOF poses a challenge when we want to do colony-level comparisons. On top of direct transfers from the federal budget to each colony's budget, part of the General Government's expenditure was for federal-level administration and infrastructure projects, such as railways spanning several colonies. We allocate this federal-level expenditure to each colony in proportion of its population. As far as revenue is concerned, a population rule is disputable: the bulk (74% on average) of net federal revenue was made of custom duties, which should be primarily allocated to coastal colonies with a high volume of trade. To have an idea of the contribution of each colony to the federal budget's custom duties, we take advantage of the fact that the AOF ceased to exist in 1957. We use the share of each colony in the total custom duties of former AOF colonies in 1958 to allocate custom duties of the AOF to specific colonies in each year before 1958. Other categories of revenue are allocated in proportion of population.

The British colonies of West Africa were not organized in a federal structure and their budgets were independent from one another. Each colony therefore had its separate auxiliary, loan, and development budgets — figure 3. Local public finances, which were practically non-existent in AOF, were somewhat developed in British colonies. All over British Africa, local government, called Native Ad-

[2] These subventions appear in the Ministry of Colonies' budgets, but we could not find these budgets for some years in the 1950s, where subventions to the FIDES were particularly important. For year where we have the Ministry of Colonies' budgets, our method matches the subsidies directly observed.

Figure 3: Financial Structure of British colonies



NA= Native Administration.

ministrations, had a legal existence. They were progressively allowed to have their own budget, or Native Treasury. This system was particularly well developed in Nigeria, were Native Treasuries were constituted as early as 1915.

Because of the non-pyramidal structure of British West Africa, it was possible to adopt a colony-based approach, using three kinds of sources. The *Colonial Blue Books* give summaries of actual revenue and expenditure up to 1939 or 1945, depending the colony. When possible (from 1928 on), we preferred using provisional budgets (Approved Estimates), which have the advantage of being way more detailed than the *Blue Books* and of providing figures for the number of employees and wages in each sector. We also used Financial Reports, giving final accounts. After World War II, Nigeria gradually became a federation: we therefore collected, besides the Nigerian federal revenue and expenditure, revenue and expenditure of each region. Auxiliary budgets such as those of loan funds and colonial develop-

Table 1: Native Administration Finances around 1946/1949

	Nigeria	Gold Coast	Sierra Leone	Gambia
Share of NA revenue in total public revenue	0.25	0.09	0.04	0.05
Share of direct taxes in NA revenue	0.71	0.34	0.60	0.76
Share of NA exp. in total public exp.	0.23	0.09	0.05	0.05
Share of administration in NA expenditure	0.22	0.29	0.59	?
Share of education in NA expenditure	0.08	0.21	0.05	?

Nigeria: sources are 1945 Nigeria Estimates for colonial finances, 1946 estimates from Hailey (1950) for Native Treasuries Western and Northern regions, 1947 final accounts for Native Treasuries Eastern region. Gold Coast: sources are 1946 Gold Coast Estimates for Colonial finances, 1946 final accounts for Native Treasuries, Colony and Northern Territories and 1946 estimates for Native Treasuries, Colony. Sierra Leone: sources are 1949 Gambia Estimates for colonial finances, 1948 estimates from Hailey (1950) for Native Treasuries. Gambia: sources are 1946 Gambia Estimates for colonial finances, 1947 estimates from Hailey (1950) for Native Treasuries.

ment funds are usually found in the *Blue Books*, Approved Estimates of Financial Reports for each colony. Like for AOF, railway auxiliary budgets were not taken into account.

Finding Native Treasury budgets proved more difficult. In Nigeria, the system of Native Administration was well developed and we were able to find provisional budgets or final accounts for most years. In Gambia, Sierra Leone and the Gold Coast, we only found figures for a handful of years but these figures indicate that in Nigeria only did Native Treasuries represent an important share of total public revenue (25% in 1946 –see table 1). Our results include Native Treasury revenue and expenditure when available (1916-1949 for Nigeria, 1940-1946 for the Gold Coast, 1946 for Gambia and 1949 for Sierra Lone).

3.2. Variable definition

The collection of public finance data at a detailed level offers two main advantages: 1/ we are able to construct comparable variables for British and French colonies; 2/ we can construct consolidated revenue and expenditure figures (cancelling out the various transfers between different budgets) and measures of net expenditure and revenue, whereas most papers considering colonial public finances, like Frankema and van Waijenburg (2014), present gross figure.

We collected internal revenue variables (custom duties, other indirect taxes, direct taxes, revenue of administrative services and industrial exploitations), as well as external revenue variables (grants, loans, advances, interests and reimbursements) and transfers from reserve funds. We collected internal expenditure variables (administration, financial services, justice, security, health, education, production support, infrastructure), as well as external expenditure (grants, loans, advances, interests and reimbursements) and transfers to reserve funds.

Since, for AOF, we do not take into account military expenditure (which was the responsibility of the Ministry of Colonies), we also exclude military expenditure in British colonial budgets. British colonial military expenditure was small, and therefore does not make much difference overall, as can be seen in figure 4.

We define net public revenue (NPR) and net public expenditure (NPR) in the following way:

$$\begin{aligned}
NPE_t = & \sum_i \text{total expenditure}_{it} - \sum_i \text{loans}^O_{it} - \sum_i \text{advances}^O_{it} \\
& - \sum_i \text{interests}^O_{it} - \sum_i \text{reimbursements}^O_{it} \\
& - \sum_i \text{reserve fund transfers}^O_{it} - \sum_i \text{grants}^O_{it} + \sum_i \text{local grants}^O_{it}
\end{aligned}$$

$$\begin{aligned}
NPR_t = & \sum_i \text{total revenue}_{it} - \sum_i \text{loans}^I_{it} - \sum_i \text{advances}^I_{it} \\
& - \sum_i \text{interests}^I_{it} - \sum_i \text{reimbursements}^I_{it} \\
& - \sum_i \text{reserve fund transfers}^I_{it} - \sum_i \text{grants}^I_{it} + \sum_i \text{local grants}^I_{it}
\end{aligned}$$

where t indexes time, i indexes budgets, O=paid out and I=paid in. Net public revenue is revenue net of all external revenue and all payments between budgets. It is a measure of what was actually levied inside a colony, and we can think of it as a measure of fiscal capacity. Net public expenditure is expenditure net of all external payments an payments betweens budgets. It is a measure of what was actually spent inside a colony. We call net surplus/deficit the difference between NPE and NPR:

$$NS_t = NPE_t - NPR_t = -ND_t$$

Net deficits are by construction equal to the sum of net subsidies, net loans, net advances, net interests and reimbursements and net reserve fund transfers. It is a measure of the capacity for a territory to self-finance.

3.3. The pitfalls of comparison

In order for the comparison between French and British colonies to make sense, we need to ensure that amounts are expressed in a single deflated unit of account and normalized by population. Normalizing by GDP to obtain shares of expenditure and revenue in GDP is made difficult by the absence of GDP figures for African colonies for most of the colonial periods, although Jerven (2012) has computed estimates for the Gold Coast.

We also need to make sure that public finance figures are comparable. One challenge is the use of coerced labor for public works in French colonies: van Waijenburg (2015) has attempted to compute the implied fiscal value of *corvée* labor, assuming a counter-factual where it would have been paid at the average unskilled public sector wage. She finds a very high contribution of coerced labor to public expenditure, especially in the beginning of the 20th century — and still as high as 20% of monetary public expenditure in the 1930s. However, the average public sector unskilled wage is likely an over-valuation of the contribution of *corvée* labor. The figures presented in this chapter encompass only monetary expenditure and revenue.

All British colonial budgets were written in pounds. French colonial budgets were written in francs before 1946 and in CFA francs afterwards (a money common to all African colonies and pegged to the franc). We expressed all monetary variables in 1913 pounds and francs using UK and French consumption indices from Villa (1994) and London and Cambridge Economic Service and Alford (1973). Figures in 1913 pounds were then converted into 1913 francs using the exchange rate for 1913 from London and Cambridge Economic Service and Alford (1973). The reason we rely on French and British CPIs is that we do not systematically have African CPIs. Building African CPIs during the colonial period is not an easy task: it has been attempted by Frankema and van Waijenburg (2012) for British colonies; for French colonies, the available data seem too scarce for now. Using French and British CPIs, we need to assume that the inflation differential between Europe and its colonies was moderate. During peacetime, this is a reasonable assumption, but there are reasons to believe that the inflation differential between France and AOF was high during World War II — AOF joined Free France very early on and was cut from Vichy France during most of the conflict. However, the figures provided by Thioub (1994) for Sénégal point to inflation being relatively similar in West Africa and in France during the war.[3] Moreover, it is not obvious that public expenditure should be deflated using the consumption basket of an average worker. One simple way to test the robustness of our findings (especially the massive increase in public expenditure in the last fifteen years of colonization) is to measure the size of the colonial state in number of government employees (nurses, teachers, policemen). We undertake this comparison for Côte d'Ivoire and Ghana.

To compute per capita figures, we relied on population estimates from Frankema and Jerven (2014). The population figures they give apply to countries in their present-day borders. After WWI, part of German Kamerun was attached to the colony of Nigeria (the other part became French Cameroun) and part of German Togoland was attached to the Gold Coast (the other part became French Togo, which joined AOF in 1919). In AOF, the borders of different colonies evolved during the period (notably, the colony of Haute-Volta disappeared between 1932 and 1947 and its territory was divided between other AOF colonies). We adapted population figures accordingly, using sub-colony population figures from Huillery

[3] The cost of living in Dakar was multiplied by 3.58 from 1938 to 1944 according to Thioub (1994), while it was multiplied by 2.7 in the same period in France, and by 4 in the period 1938-45 (Villa, 1994).

(2009), Cogneau and Moradi (2014) for Togo, Cameroonian censuses and League of Nations reports for British Cameroon.

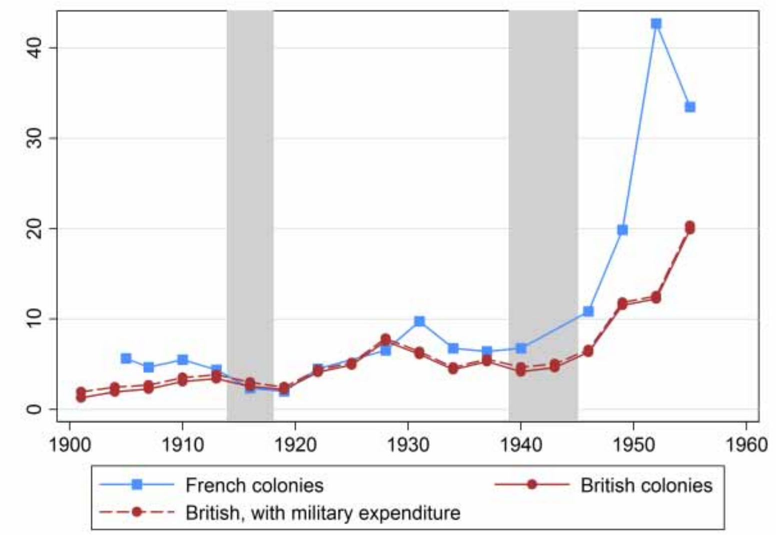
When comparing British and French colonial public finances, it is very hard to assume that the geographical areas compared were identical in all respects except identity of the colonizer. Restricting the comparison to West Africa avoids having to compare vastly different regions, but by no mean do we argue that it solves the selection problem. The British colonies we consider were, for one thing, all coastal, while AOF extended well inside the interior of West Africa. We acknowledge the problem of comparing AOF with all British West African colonies and extend the regional analysis by considering pairs of neighboring colonies. The best case study is surely the Gold Coast/Côte d'Ivoire comparison (both were colonized early and both specialized in cocoa production), but we also compare Sierra Leone with Guinée, Gambia with Sénégal (although Gambia, a very small colony, might not be a very good comparison) and Nigeria with its two coastal neighbors, Dahomey and Cameroon (although Cameroon was not part of the AOF).

4. The size and role of colonial states

When considering net civil expenditure per capita (figure 4), the striking fact is not a cross empire difference but the great increase in expenditure per head in the late colonial period, in both British and French colonies. In the AOF, net expenditure per head was multiplied by more than 4 in the last decades of colonization, jumping from an average of 7.7 1913 francs in the 1930's to 33.4 in 1955. In the 4 British colonies of West Africa, net civil expenditure per head was multiplied by a bit less than 4, jumping from an average of 5.3 1913 francs in the 1930's to 19.9 in 1955.

One should not put too much emphasis on the higher expenditure per capita in AOF for most of the period: results presented on figure 4 are heavily influenced by Nigeria, whose large size gives it a lot of weight in the computation of total expenditure: according to Frankema and Jerven (2014), in 1930 the population of Nigeria was 24.5 millions against 3.8 millions for the Gold Coast, 1.4 millions for Sierra Leone and 240 000 for Gambia. Nigeria was specific inside the British empire, because of its sheer size, but also because it was the colony that served as a model for Frederick Lugard's theory of indirect rule (Lugard, 1922). When

Figure 4: Civilian public expenditure per head (1913 francs)

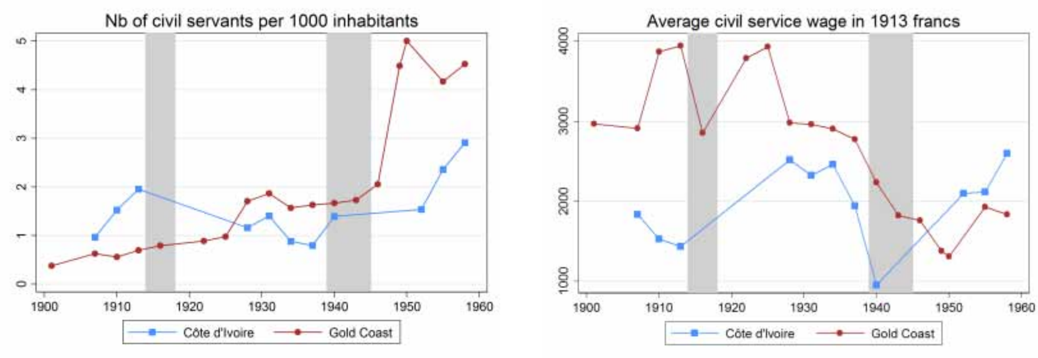


Mali (then called Soudan Français) missing in years 1922, 1928 and 1946. Shaded areas represent world wars.

we focus on pairwise comparisons of geographical neighbors (see appendix figure A.1), the advantage of AOF disappears. Only comparisons including Nigeria reveal important differences at the advantage of the French colonies. The gap between Nigeria and its 2 coastal neighbors widens in the late colonial period. In 1955, net expenditure per head was 11 francs of 1913 in Nigeria against 32 in Dahomey and 49 in Cameroon. Even though we were not able to find Native Administration Estimates for 1952 and 1955, they would evidently not be enough to bridge the gap. Of all colonies considered, Nigeria has actually the lowest level of net expenditure per capita in every decade except the 1920s (where NPE per head is lower in Niger and Haute-Volta). This might be explained by the application of Lugard style indirect rule in Nigeria or by the challenges of administering such a populated colony.

The increase in expenditure in the last fifteen years of colonization was not due to wage inflation. Labor movements were particularly active in West Africa in the postwar period, especially in French colonies, where African civil servants and formal sector employees asking to be paid similarly to their French counterparts used the slogan "equal pay for equal work" (Cooper, 1996). For Côte d'Ivoire and

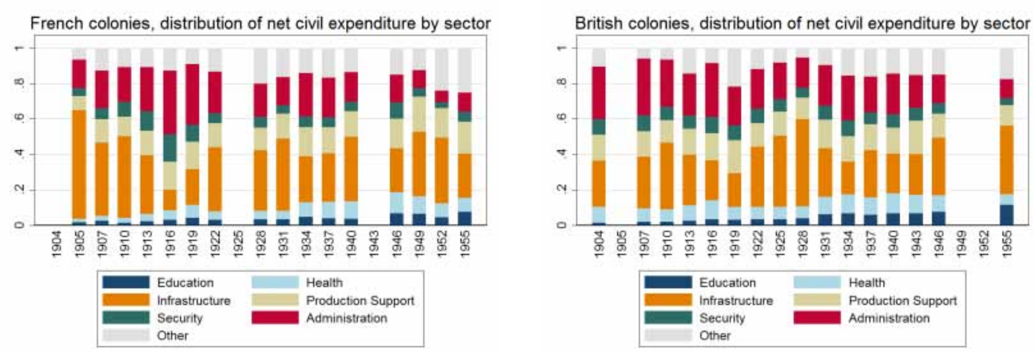
Figure 5: Number of civil servants per 1000 inhabitants and average civil service wage in Côte d'Ivoire and the Gold Coast



Shaded areas represent world wars.

the Gold Coast, we were able to construct comparable series for the number of civil servants and civil service wages (figure 5): in both colonies, the number of civil servants per head is multiplied by a bit less than 3 between the 1930s and 1958. While in the Gold Coast, the average civil service wage is divided by more than 2 between the 1920s and the 1950s, as the civil service expands and africanizes, it remains more or less constant in Côte d'Ivoire.

Figure 6: Distribution of net expenditure by sectors, French and British colonies

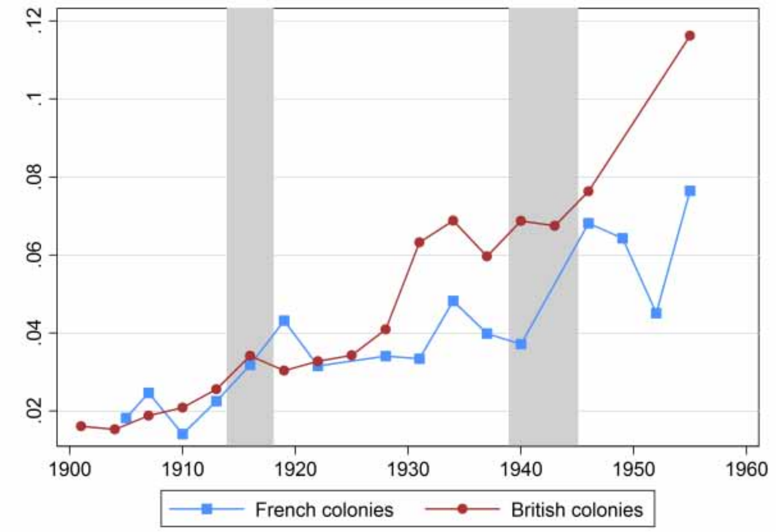


Mali (then called Soudan Français) missing in years 1922, 1928 and 1946.

What were colonial states doing? The structure of expenditure was very similar in French and British colonies. Figure 6 reveals that public expenditure in the colonies was primarily oriented towards economic exploitation: the first category of expenditure was infrastructure (around 30%), while production support (subsidies to private companies, forestry, geological surveys, agricultural research, etc.)

represented around 15%. In the beginning of the period, administrative expenditure (broadly defined, including justice and financial services) was the second category of expenditure (a bit more than 25% on average in French and British colonies alike in the first 2 decades of the 20th century); however, the share of administration in expenditure decreased as colonial states expanded (the share of administration was 11% in both British and French colonies in 1955). It doesn't seem that the British version of "indirect rule" translated into lower administration expenditure as compared with French colonies.

Figure 7: Share of education in net civilian public expenditure



Mali (then called Soudan Français) missing in years 1922, 1928 and 1946. Shaded areas represent world wars.

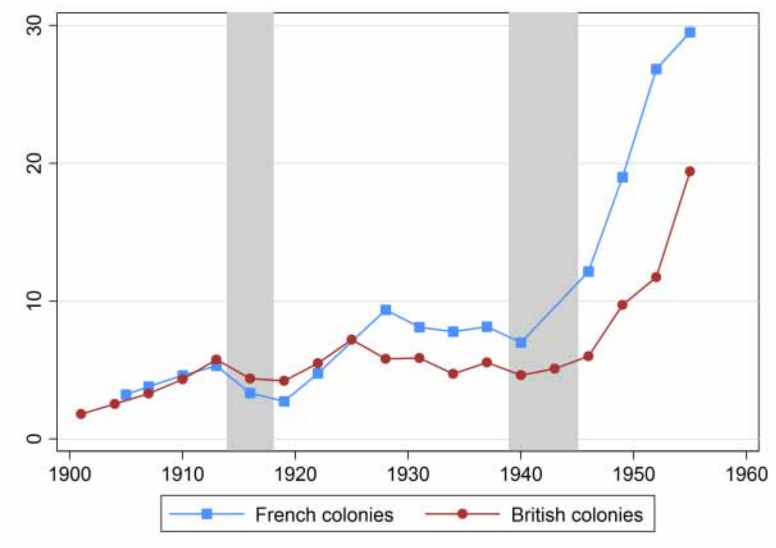
Education share in expenditure increased during the period: in the first 2 decades of the 20th century, education represented on average 2.6% of net expenditure in French colonies and 2.4% in British colonies. In 1955, these shares were 11.6% in British colonies and 7.6% in French colonies. It seems that shares of education in expenditure started diverging in the 1930s (see Figure 7): on average, in this decade, the share of education was 4% in French colonies against 6.4% in British colonies. Divergence is even more pronounced if we compare the Gold Coast with its neighbor Côte d'Ivoire (see Figure A.2): in the 1930's, the share of education expenditure averaged 3.1% in Côte d'Ivoire against 9.5% in the Gold

Coast (where 45% of education expenditure was subsidies to mission schools). It is tempting to see here the effect of the Phelps-Stoke Report on Education (1922), advocating increased public expenditure in education, which was very influential in shaping education policies in British Africa.

Overall, patterns of public spending in French and British colonies of West Africa share more common aspects than differences. We agree with Frankema and van Waijenburg (2014) that identity of the colonizer does not seem to be particularly relevant in explaining the size of colonial states. But in light of the radical increase in net expenditure in the very last decades of colonization in British and French colonies alike, we hesitate to conclude that state formation was primarily determined by local factors. Such a radical shift in colonial policies hints that the scope of possible policies was not that limited.

5. Financing colonial states

Figure 8: Net public revenue per head (1913 francs)

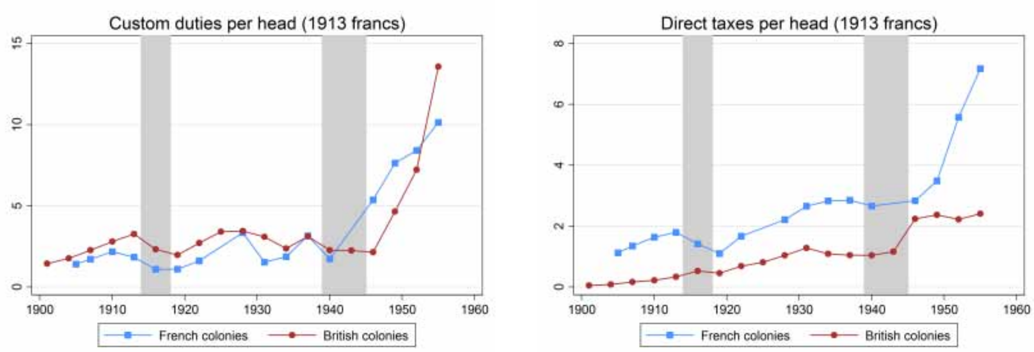


Mali (then called Soudan Français) missing in years 1922, 1928 and 1946. Shaded areas represent world wars.

What accounts for the boom in expenditure in the decades following World War II? Part of it is due to an increase in trade flows and in the corresponding customs taxes, but most of it is due to a change in fiscal policy: higher direct and indirect taxation rates, and the beginning of public aid (positive net subsidies from the colonizers to their colonies).

Revenue per head net of external financing increased fourfold in AOF from 1940 to 1955, going from 7 to 29.4 1913 francs per head. In British West Africa, it increased fourfold as well, going from 4.6 to 19.4 1913 francs per head (figure 8). The lack of reliable GDP figures before 1950 makes it difficult to express this increase in GDP shares, but it is very unlikely explained by GDP growth. In the Gold Coast, where net public revenue per capita was multiplied by five between 1937 and 1955, GDP per capita increased by 50% between 1913 and 1955 according to the Maddison project database (Bolt and van Zanden, 2014), while GDP per capita actually decreased between 1937 and 1955 according to Jerven's (2012) figures.

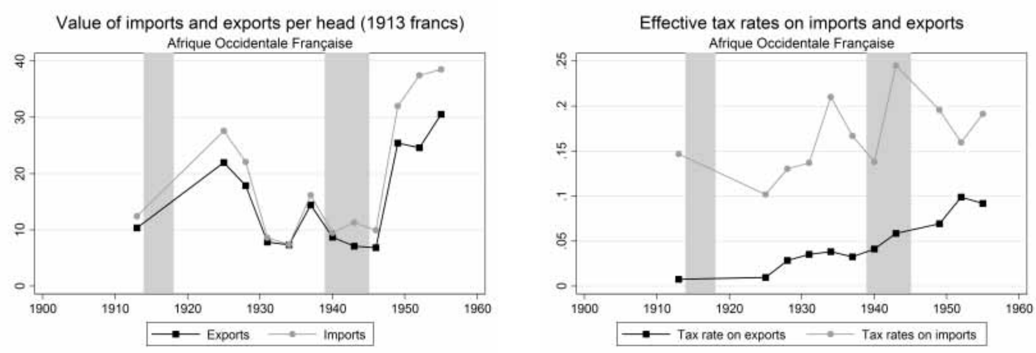
Figure 9: Customs duties and direct taxes per head



Mali (then called Soudan Français) missing in years 1922, 1928 and 1946. Shaded areas represent world wars.

In AOF, the increase in net revenue was explained by an increase in custom duties and direct taxes alike, while in British West Africa, most of the increase came from custom duties (see figure 9). Part of the increase in customs revenue is explained by an increase in trade flows. Figure 10 displays the value of imports and exports per capita in AOF, and the corresponding effective rates of taxation — obtained by dividing the value of imports (exports) by total tax revenue from imports (exports). Trade flows per capita nearly quadrupled between the depression era of the 1930s and the 1950s. However, they only double if we compare the 1950s to pre-1929 levels. The increase in customs revenue is also explained by intensification of trade taxation: export tax rates roughly doubled between the 1920s and the 1950s, while import tax rates nearly tripled (figure 10, panel 2).

Figure 10: Trade flows and customs tax rates in AOF

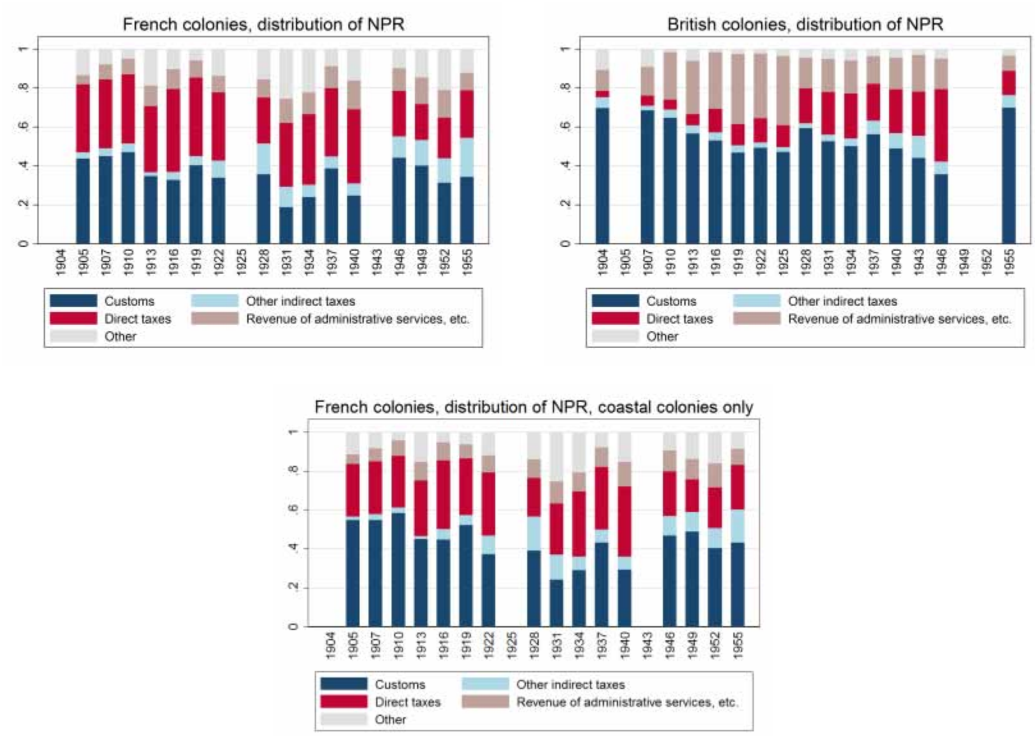


Togo is missing for all years. Shaded areas represent World Wars.

Overall, the repartition of net revenue by source shows that British colonies of West Africa relied more on custom duties and less on direct taxes than their French neighbors (see figure 11). However, local conditions such as the fact of being landlocked are an important determinant of the use of custom duties in colonial taxation. The last panel of figure 11 shows the distribution of revenue by source considering French coastal colonies only. In AOF, custom duties were collected by the General Government: we allocated them to colonies following the 1958 distribution of custom duties (when AOF no longer existed). Unsurprisingly, coastal colonies make the bulk of total custom duties collected in the former AOF in 1958 (46% for Côte d'Ivoire, 22% for Dahomey, 16% for Sénégal). When considering only coastal colonies, although the share of custom duties increases slightly and the share of direct taxes decreases, the difference with British colonies remains.

The period between World War II and decolonization was also a period of increase in external revenue. The evolution of net deficits (net revenue minus net expenditure, military included for British colonies) reveals 4 periods (figure 12): before World War I, while French colonies were running net deficits, British colonies had, on average, balanced public finances. This hides a great difference between Northern Nigeria and other British colonies of West Africa: while in Northern Nigeria, grants in aid from the British government represented the bulk of rev-

Figure 11: Distribution of net revenue by source, French and British colonies

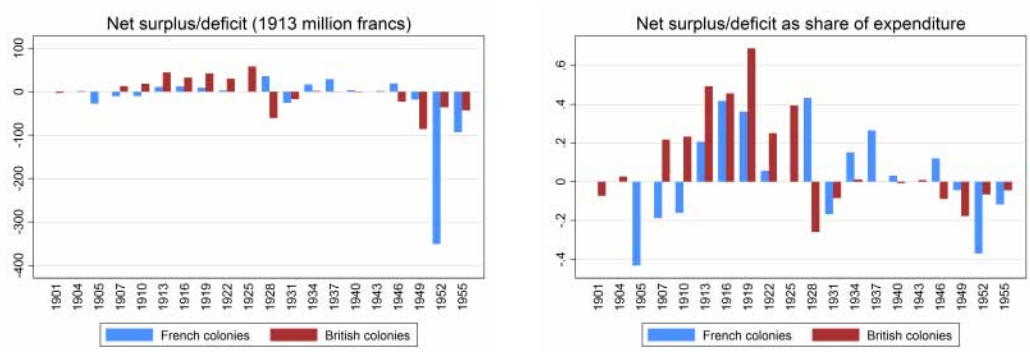


Mali (then called Soudan Français) missing in years 1922, 1928 and 1946.

enue, other British colonies were running substantial net surpluses. Then, up to the middle of the 1920s, French and British colonies alike ran very important net surpluses (up to 60% of net expenditure) as they were reimbursing the loans of the preceding period. From the mid 1920s to World War II, public finances were on average balanced. In the late colonial period, British and French colonies of West Africa started running net deficits again.

In the last fifteen years of colonization, net deficits corresponded to large subsidies from France and Britain to their West African colonies (figure 13). In AOF, as was shown by Huillery (2014), colonies were on average a net subsidizer of the French government up to World War II. In the late colonial period, with the setting up of the FIDES, a fund dedicated to large scale infrastructure in the colonies, AOF became a net receiver of subsidies. For the post-WWII period, our results are somewhat different from those of Huillery (2014). While she finds that the maximum annual amount of net subsidies to AOF never exceeded 80 millions 1914

Figure 12: Net surplus/deficit, French and British colonies



No observation for French colonies in 1901, 1904, 1925 and 1943, for British colonies in 1905. Mali (then called Soudan Français) missing in years 1922, 1928 and 1946.

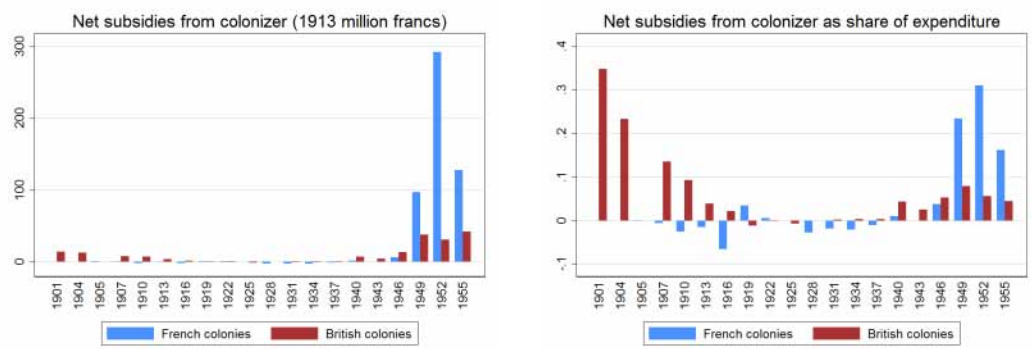
francs and that the AOF was a net subsidizer of the French government for most of the 1950s, we find much higher figure (up to 300 millions 1913 francs for the year 1952).[4]

In Great Britain as well, the philosophy of colonial policies changed over the first half of the century. Before World War I, freshly conquered Northern Nigeria was still reliant on British Treasury grants for the balancing of its budget (although the other British colonies of West Africa received no grants), but the ultimate goal of British Imperial policy was self sufficiency of the colonies. In the 1920s and 1930s, the idea that the British Treasury should be empowered to give financial assistance to the colonies for big infrastructure projects gradually gained ground (Constantine, 1984). Although Imperial government expenditure on colonial development remained extremely limited in the aftermath of the Colonial Development Act of 1929, the Colonial Development and Welfare Acts of 1940 and 1945 started a policy of development aid to British colonies.

The increase in net subsidies was more pronounced in French colonies, where they represent more than 20% of total expenditure in AOF in 1949, and more than 30% in 1952, while they are always below 10% in British colonies. This was likely a manifestation of the different ways in which France and Britain envisioned the future of their African empire after World War II (self-government versus

[4]These different results seem to be due to the different way in which we compute French subventions to the FIDES. Huillery (2014) computes them from the Ministry of Colonies' budget, in which some years are missing in the 1950s.

Figure 13: Net subsidies from colonizer, French and British colonies



No observation for French colonies in 1901, 1904, 1925 and 1943, for British colonies in 1905. Mali (then called Soudan Français) missing in years 1922, 1928 and 1946.

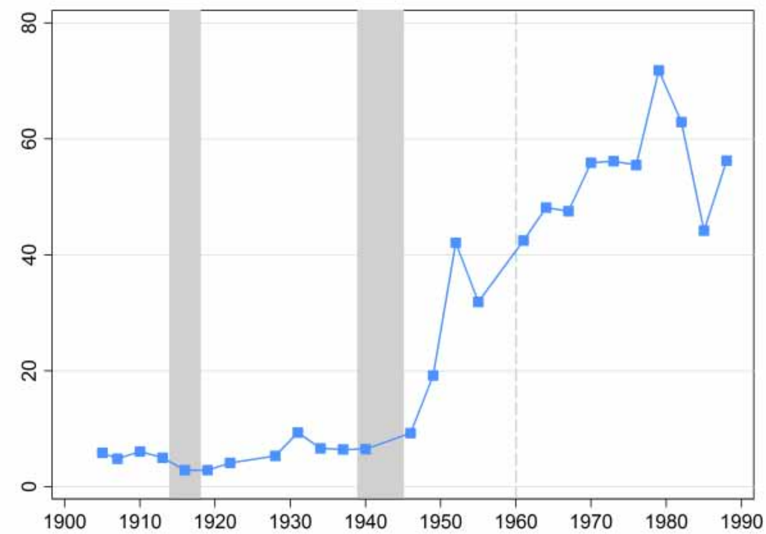
assimilation).

Overall, we observe a change in colonial fiscal policies in the last twenty years of colonization: France and Britain increase both internal taxation and subsidies to the colonies. Pinning down the exact cause of this change in policy is arduous, but we offer three broad mechanisms (that are not necessarily mutually exclusive): 1/ **Political change in Europe**: already in the 1930s, the view of colonization started shifting in policy circles, some colonial administrators calling for higher metropolitan investments in the colonies (Sarraut, 1923; Constantine, 1984). Renewed political elites after World War II might have defended a more developmentalist view of colonization. 2/ **State capacity building**: France and Britain reaped in the 1950s the fruits of investments in fiscal capacity in earlier decades. However, this explanation would fit with positive net subsidies from colonizers before World War II and balanced budget after, not the opposite. 3/ **Appeasement**: face with internal (notably labor movements) and external (United States and USSR) pressure for change, France and Britain started investing in their colonies to avoid losing their empires. However, the dismantling of the French and British colonial empires around 1960 did not mark a discontinuity in terms of public finances. Notably, France and Britain continued disbursing public aid primarily to their former colonies.

6. Colonial legacies

One of our goals is to build and compare long series over the entire 20th century. However, finding detailed budgetary data after decolonization proves quite difficult. Recent public finance series, such as the IMF's *Government Finance Statistics* start in the 1980s and are notoriously imperfect (Baunsgaard and Keen, 2010). For French-speaking West Africa, we were able to find public finance figures in the reports of the Franc Zone (a monetary union between France and some of its former colonies that survived decolonization).

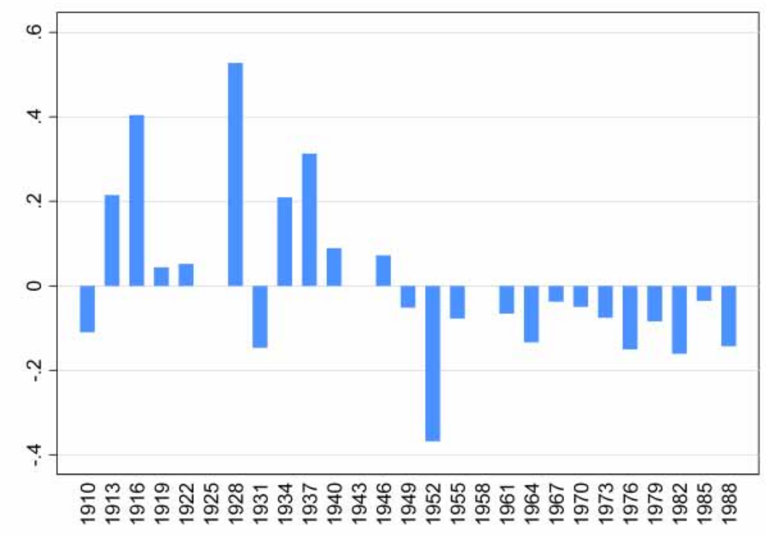
Figure 14: Net public expenditure per head in French-speaking West Africa over the 20th century (in 1913 francs)



Mali (then called Soudan Français) missing in years 1922, 1928 and 1946. Guinée missing from 1958 on, Mauritanie missing in 1976. Shaded areas represent world wars. The dashed line marks independence (1960) for every country except Guinée, which gained independence in 1958.

In terms of public finances, independence was no breaking point. In French-speaking West Africa, after having been multiplied by more than 4 between 1940 and 1955, net public expenditure per head increased by 50% between 1955 and the beginning of the 1980s. Figure 14 clearly shows that, in terms of expenditure, the discontinuity is after World War II rather than in 1960. The last fifteen years of colonization inaugurated a period of dependence from external financing that never really ended (figure 15): from independence to 1988, French-speaking West Africa was running deficits representing 9.4% of net expenditure on average. Here again, the breaking point seem to have happened before 1960.

Figure 15: Net surplus/deficit as a percentage of net expenditure in French-speaking West Africa over the 20th century



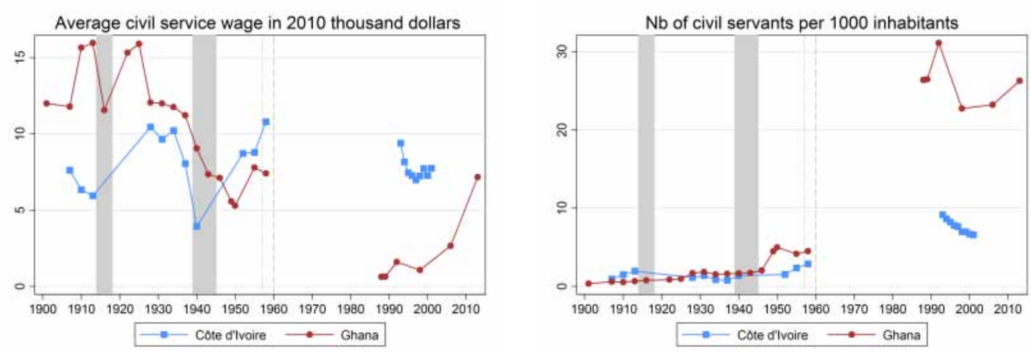
No observation in 1925, 1943 and 1958. Mali (then called Soudan Français) missing in years 1922, 1928 and 1946. Guinée missing from 1958 on, Mauritanie missing in 1976

Wage setting policies between Côte d'Ivoire and Ghana continued to differ after independence: panel 1 of figure 16 (built from IMF data for Côte d'Ivoire and from LSMS survey data for Ghana) shows that the average civil service wage remained high in Côte d'Ivoire throughout the 20th century (around 2010$ 8,000 per year) while it fell to very low levels in Ghana. As a result of the tradeoff between employment and wages in the civil service, the number of civil servants per capita was more than twice as high in Ghana as in Côte d'Ivoire in the 1990s (panel 2 of figure 16).[5] Ghanaian civil service wages, however, caught up with Côte d'Ivoire in the first decade of the 21st century, while the number of civil servants remained high. A lot of this is probably due a high differential in inflation: Côte d'Ivoire has remained in the Franc Zone since independence and its money has been pegged

[5] We use survey data for Ghana, which very likely under-represents civil servants at the top of the income distribution.

to the franc (now the euro), leaving no room for adjustments through inflation. Ghana, on the other hand, has had an independent monetary policy since 1957 and has known very high levels of inflation, especially in the 1970s and 1980s.

Figure 16: Civil service in Côte d'Ivoire and Ghana over the 20th century



Sources: authors' data for the colonial period. After independence: IMF data for Côte d'Ivoire and LSMS survey data for Ghana. Shaded areas represent world wars. The dashed line marks independence of Côte d'Ivoire (1960), the dotted line independence of Ghana (1958).

7. Conclusion

Even though we underline significant differences between French and British colonial policies (for instance greater reliance on direct taxation in French colonies, greater importance of education in British colonies), patterns of colonial public finances in French and British West Africa share more common aspects than differences. With the important exception of Nigeria, where net expenditure per head was the lowest of all colonies considered throughout the period, it does not seem that the size of colonial states was smaller in British colonies.

The striking fact is the formidable increase in net expenditure in the end of the period, in British and French colonies alike. This increase in expenditure was made possible by an increase in internal revenue due to booming trade flows, and higher direct and indirect taxation rates, as well as an increase in external revenue in the form of subsidies from the colonizers. Identifying the cause of this policy change is not straightforward, although we favor an appeasement explanation, where France and Britain responded to external and internal pressure to end colonization by investing in their colonies in the hope to keep their empires.

In terms of public finances, independence was no breaking point, so that the last fifteen years of colonization is an important period for understanding a number of features of contemporary African states, such as external financing dependency. We also have some evidence that civil service wage setting policies started diverging in French and British Africa in this period.

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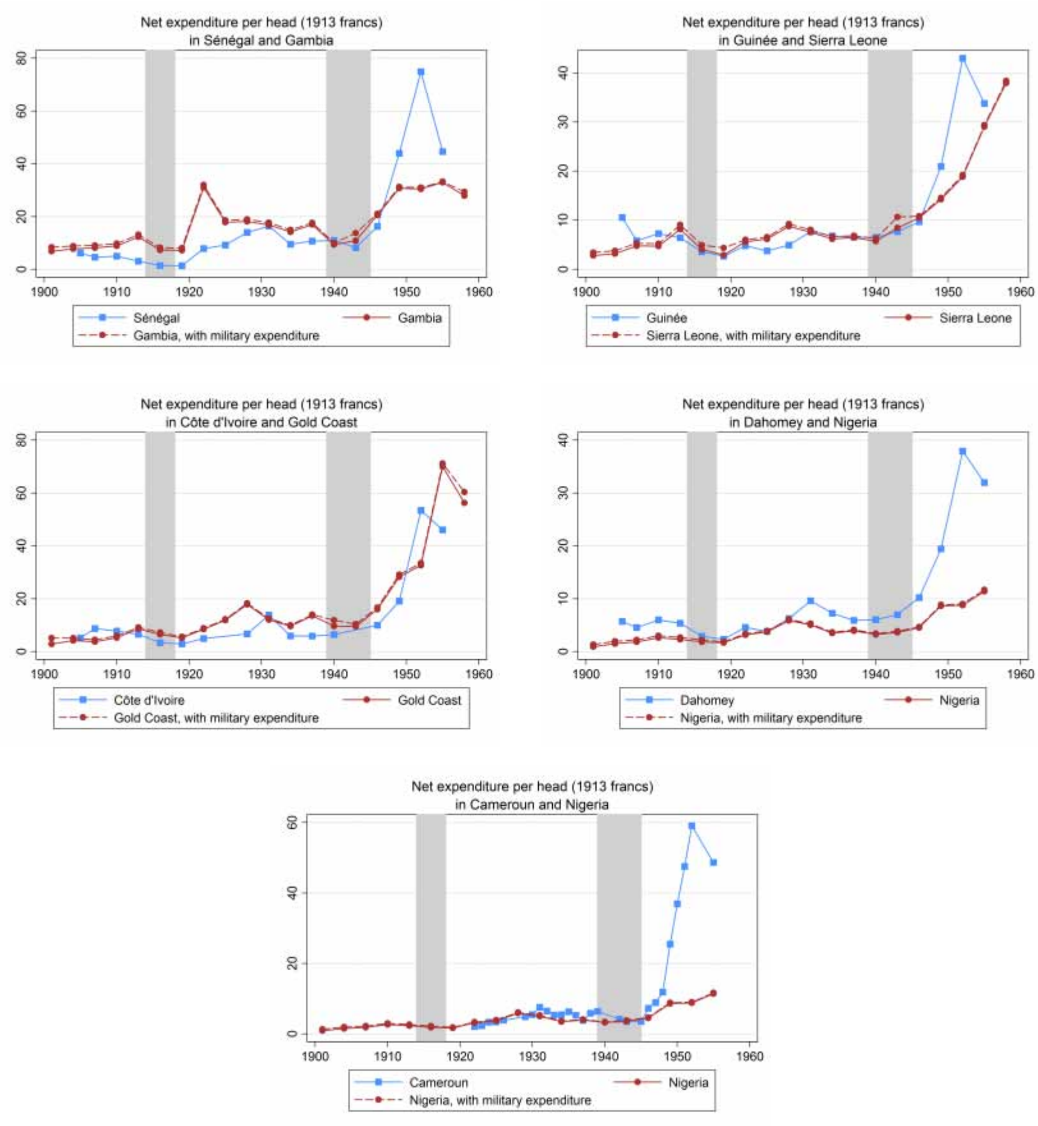
Appendix

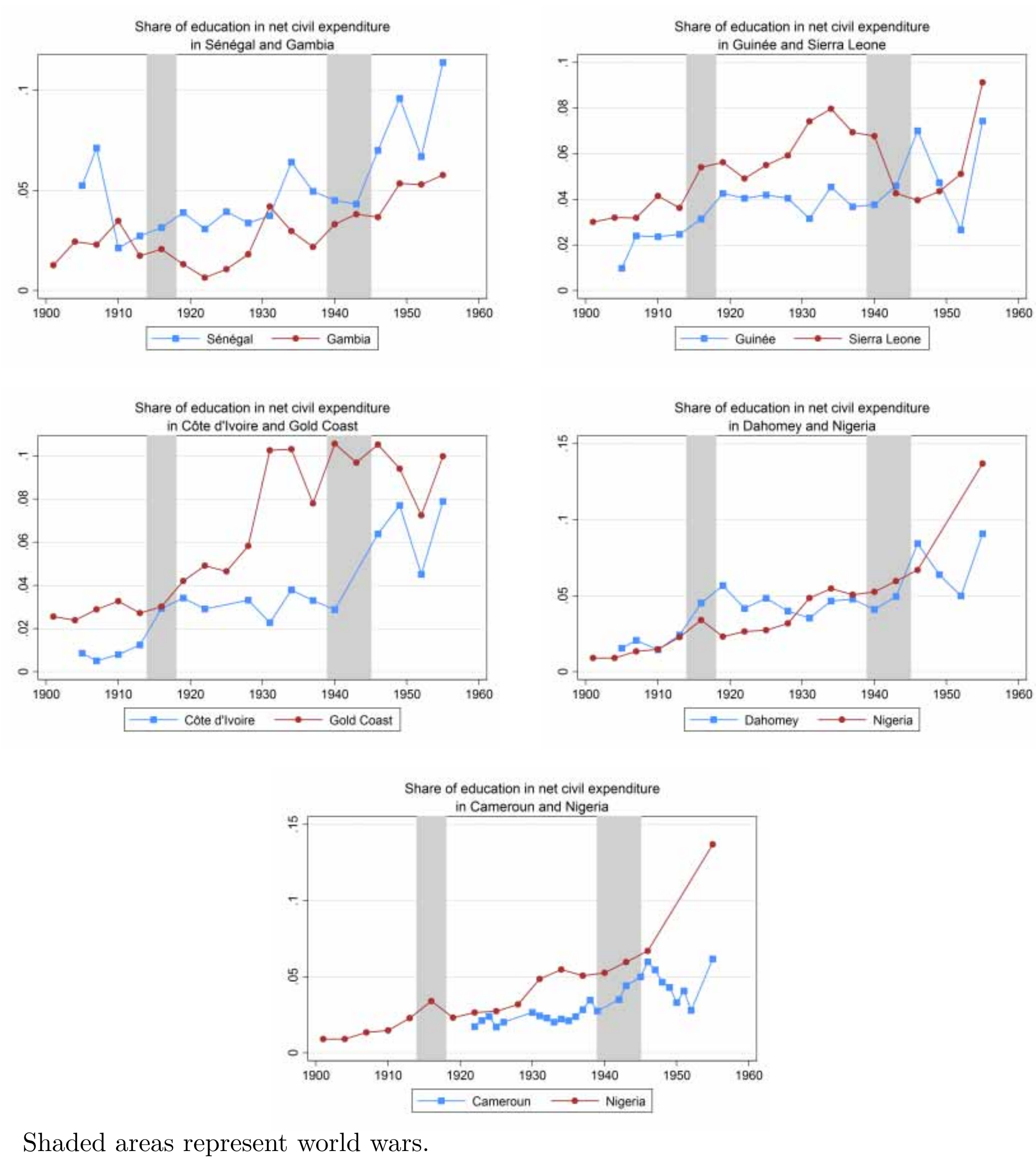
A. Comparison of pairs of geographical neighbors

Figure A.1: Total net expenditure per head in pairs of geographical neighbors



Shaded areas represent world wars.

Figure A.2: Share of education expenditure in pairs of geographical neighbors



Shaded areas represent world wars.