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# Fiscal capacity and state formation in francophone West Africa 1850-2010

## Abstract

*This study contributes to African state and fiscal history by presenting a detailed comparison of the evolution of fiscal capacity in four countries in francophone West Africa – Benin, Côte d'Ivoire, Niger and Senegal - over both the colonial and independent periods. While common patterns and persistence can be observed it is instead the unique fiscal pathways of the individual countries that stand out. These pathways can only be understood by analyzing how the underlying economic and political factors of each country develop over time. The importance of the colonial heritage in the development of fiscal capacity for individual countries should therefore not be overemphasized.*

## 1 Introduction

The central role of fiscal capacity in state formation and in order to finance sustainable development has been recognized in landmark studies of the 'rise of the West' (Tilly 1992) and by leading development agencies (OECD and African Development Bank 2010; World Bank 2013). These insights have fostered a surge in scholarship on the history and contemporary development of taxation around the globe including Africa (Martin, Mehrotra, and Prasad 2009). We have thus gained increasing knowledge about how the colonial period and later economic and political factors have shaped the variation and evolution of fiscal capacity in Africa, even though unified accounts of the history of taxation in Africa, as exists for the Western world is still lacking (eg. Webber and Wildavsky 1985).

This study takes as a starting point two sets of questions relating to the long-term development of taxation in Africa. The first question relates to the wider debate on the historical determinants of institutions in colonized countries. Were they shaped by pre-colonial factor endowments (i.e. local geographic and commercial conditions) or rather the identity and institutions of the colonizing power?[1] Recent research on colonial fiscal capacity in Africa has lent support to the factor endowment argument, by suggesting that the colonial authorities in a pragmatic way adapted their tax systems to local conditions (Frankema and van Waijenburg 2014). The second question regards the extent to which the fiscal capacities established during the colonial period persisted and shaped the tax systems of modern

[1] Some of the key contributions to the 'colonial origin' debate include Sokoloff and Engermann (2000), Acemogly, Johnson and Robinson (2001) and La Porta, Lopez-de-Silanes, and Shleifer (2008).

African countries? The long-term persistence of tax systems is a phenomenon that is well-established in the fiscal literature on the Western world (Webber and Wildavsky 1985) and studies on Africa have found evidence of how structures established during the colonial period influence performance today (Mkandawire 2010; Feger and Asafu-Adjaye 2014).[2]

A major limitation of the literature on taxation in Africa is that it is focuses either on the colonial or the contemporary period. Studies that have tried to bridge the two periods have generally relied on correlations between colonial and modern data separated by significant periods of time, and have not been able to study developments between the points of observation. Persistence has been largely presumed based on theoretical assumptions about institutional persistence and the experience from the history of taxation in Western Europe. This study aims to fill this gap in the literature on taxation in Africa by studying the evolution of fiscal capacity in francophone West Africa in the long run, including both the colonial and independent periods. It is based on the premise that the origin and dynamics of taxation in Africa and the extent to which it differs from the fiscal pathways of the Western world can only be understood from detailed studies of the fiscal pathways of individual African countries. The analysis relies on a unique dataset that measures the fiscal evolution of four francophone countries in West Africa over a 160 year period.

The focus of the study is on francophone West Africa, which is a region that is relatively understudied in the current literature on African economic history compared to English-speaking Africa. More importantly, by staying within a group of countries that share a common colonial and independent history it is possible to control for the exposure to French colonial policies and institutions. This approach makes it thus possible to study directly how variations in local conditions interacted with fiscal capacity in territories that have shared the same basic fiscal legislation and institutions during both the colonial and the independent periods. A distinguishing feature of colonial French West Africa was its federal organization, within which the colonies took on different roles based on local geographic, economic and political conditions. The paper contrasts two territories that were relatively wealthy during the colonial period and after independence - Côte d'Ivoire and Senegal – compared to two countries that were less advanced – Benin and Niger. The expectation is that higher fiscal capacity developed in the former set of countries compared to the latter because the local conditions were more permissive. The paper thus allows for a more precise analysis of variations within the French colonial system than what is common in the comparative literature on colonial Africa, which tends to rely on broad colonial typologies such as settler/non-settler, plantation/small-holder, French/British or West/East.

## 2 Review of previous literature

An often cited statement is Joseph Schumpeter's "*[t]he fiscal history of a people is above all an essential part of its general history*". For students of taxation this is no exaggeration. The power to tax is a key

[2] This is in line with the general assumption about the persistence of institutions. See North (1990).

element of what constitutes a state (North 1981). As state structures have developed throughout history taxes have been raised by those in power in order to finance war-making, protect property rights, or provide other public goods. There are, however, two fundamental constraints to the taxation power – the fiscal capacity – of a state. First, the state needs to have control over its territory and the administrative capacity to collect taxes from a potentially hostile population (Soifer 2008). Second, the potential level and composition of taxation is constrained by the structural characteristics of the economy, while the tax system also influences economic development by having an impact on the levels of investments, incentives and productivity of the economy. A general model of taxation emphasizes the endogeneity between the tax system and political and economic factors (Besley and Persson 2013). Both historical studies and cross-sectional comparisons indicate that the association between the three factors is in general positive - as countries grow and democratize they tend to increase the tax level and diversify the tax mix (*Idem*).[3] Lack of economic development and political openness may thus be important explanations to why developing countries generally have significantly lower fiscal capacity than developed economies. Taxes make up around 17% of GDP in developing countries compared to 33% in industrialised countries and these levels have been largely unchanged since the 1970s. (Bird 2014, p. 3). A general characteristic of developing countries is that personal income and social security taxes matter so little (*Idem*). Africa's non-resource tax intake represented 15% of GDP in 2010 and has been largely unchanged since the 1980's (Mansour 2014).[4] While African tax revenues appear as low in a comparative perspective and insufficient to provide public services, the tax effort for many African countries actually exceeds what would be expected given structural characteristics (OECD and African Development Bank 2010: 95). African countries are thus faced with the considerable challenge of how to increase the fiscal capacity, given that the tax base is not able to support this.

In order to understand the origin of this dilemma, there is a need to study how the African tax systems emerged and evolved historically (Mkandawire 2010). This process differed considerably from what happened in Western Europe, but has to a limited degree been subject to systematic study. In Western Europe fiscal systems emerged gradually as states needed the means to finance war-making, ensure property rights and provide social services (Webber and Wildavsky 1985). Taxation showed a high degree of persistence as it evolved and adapted to changing local economic and political conditions.

[3] There is a vast literature that studies econometrically the relationship between different economic and political determinants, such as GDP per capita, trade, population, share of agriculture and taxation. See Bird, Martinez-Vazquez, and Torgler (2004) for an overview for developing countries and Addison and Levin (2012) for an application to Sub-Saharan Africa. Other related research on contemporary taxation in Sub-Saharan Africa has aimed to explain the composition of taxes (Feger 2014), the impact of aid flows (Bhushan and Samy 2012), the impact of natural resource revenue (Botlhole, Asafu-Adjaye, and Carmignani 2012), the relationship between democracy and taxation (Piccolino 2014; Baskaran and Bigsten 2013) and the impact of autonomous decisions versus the influence of foreign experts (Fjeldstad 2014; Bird 2013; Ehrhart 2013).

[4] If resource taxes are included the African tax to GDP ratio increased from 17.5% in 1980 to 22% in 2010 (Mansour 2014).

Impetus for both state formation and development of the tax system came from the threat of war, which impelled rulers to take control of territory and extract taxes (Tilly 1992).

In Africa the emergence of the modern state and taxation instead had a strong exogenous character as European state structures and tax systems were transposed to existing African societies during the colonial period (Young 1994). In the French colonies fiscal systems were established tailored on the system that existed in metropolitan France (Thuronyi 2003). This does not, however, mean that colonial tax systems became replicas of those that existed in the metropole. Some authors emphasize the colonial impact (Young 1994), but the economic, social and political conditions in Africa were clearly very different from Europe and these local conditions contributed to shaping colonial institutions (Herbst 2000). The colonial state was also based on very different foundations compared to Europe as it was focused on extraction of resources and based on racist ideologies far removed from the modern welfare state that emerged in Europe (Olivier de Sardan 2004). This meant that the colonial states worked differently from the European states and did not have the same legitimacy (Fotsing 1995).

In addition, the colonial state was overall a very limited one and can be described as a 'gatekeeper states' focused on collecting revenue from trade (Cooper 2002). Colonies generally had to rely on their own resources, and limited number of colonial administrators had difficulties collecting taxes from resistant local populations (Bush and Maltby 2004; Richens 2009). Studies of the fiscal system in British Africa and Belgian Congo show that only limited fiscal capacity developed during the colonial period - tax rates were low and taxes easy to evade (Gardner 2013b; Gardner 2013a). A recent study of colonial fiscal systems found that access to coast and potential for cash crop production were important determinants of taxation, rather than the origin of the colonizing nation (Frankema and van Waijenburg 2014). The study showed that the most commercialized colonies tended to have higher levels of taxation, but also lower shares of direct taxation. The implication is that colonizers were pragmatic and introduced direct taxes only if necessary, since direct taxes were more difficult to collect and more likely to be resisted than trade taxes.[5] The main limitation of that study is that it only covers the period before the Second World War, why it does show what happened during the late colonial period and after independence.[6]

Just as other institutions, tax systems tend to show a high degree of path dependency or 'fiscal inertia' (North 1990; Webber and Wildavsky 1985; Bird and Zolt 2005). The institutional literature has put a focus on how the distribution of economic and political power shapes institutions and influences how they persist (Acemoglu, Johnson, and Robinson 2004). If unchallenged elites groups have no interest in changing the institutional framework. A large body of work points to significant persistence of colonial structures and institutions and their impact on modern institutions and performance (Acemoglu,

[5] Theoretical support for these conclusions can also be found in the institutional literature as a number of factors – such as administrative capacity - influence the way formal institutions are translated into outcomes (Greif 2007).
[6] There are also some methodological limitations that are discussed below.

Johnson, and Robinson 2001; La Porta, Lopez-de-Silanes, and Shleifer 2008). The persistent impact of colonial structures have also been shown to be determinants of differences in modern tax efforts between African countries (Mkandawire 2010; Feger and Asafu-Adjaye 2014). A significant limitation of this kind of literature is that it relies on correlating data points that are isolated in time without considering what is happening in terms of persistence and change in-between, thus "compressing history" (Austin 2008a).

In the literature on African economic history there are also strong arguments that point to persistence as independent governments to a large degree took over existing colonial state and economic structures (Cooper 2002; Coquery-Vidrovitch 1976). Inter-state war-making, a key driver of state formation and taxation in the Western world, have largely been absent from the African continent further promoting continuity (Herbst 2000). However, even if there are good arguments for persistence, a number of factors are undoubtedly contributing the specific fiscal pathways of individual countries unique. There have been significant variation in economic performance and political contexts have varied between countries and over time (Jerven 2010). More fundamentally factor endowments have changed over time with the discovery and exploitation of natural resources, variations in rainfall and strong population growth. Some parts of Africa have been moving from having low population densities to being labour-abundant (Austin 2008b). These changes in geographic, economic and political conditions interplay with taxation and the outcome is a mix of persistence and change (Bird and Das-Gupta 2014: 2).[7] Most of the existing literature has been too limited in time or methodology to be able to study this dynamic over long time-periods in individual African countries. This paper is contributing to filling that gap.

## 3 Method and data

The basic method applied in this study is to compare the evolution of fiscal outcomes for the four countries. There are two issues we would like to study. First, we are interested in the relative positions of the four countries in terms of characteristics of the colonial tax system. Do these positions correspond to the observations from the literature, i.e. that more commercialised colonies have a higher tax revenues and higher shares of trade taxes? Second, we take a more dynamic perspective, by asking if these relative positions change over time. Studying changes in relative positions is a way to control for factors and trends to which all four countries are subjected.[8] For the individual countries there may also be significant breaks – or 'critical junctures' in the development of fiscal outcomes.[9]

[7] More precisely taxation can be decomposed into responsiveness, persistence and discretion and modelled econometrically. See Afonso et al (2010) for such an approach.
[8] See Mahoney (2010) for an application to Latin America.
[9] Critical junctures can be characterised by the "*loosening of constraints of structure that allow for the agency and contingency to shape divergence from the past, or divergence across cases*" (Soifer 2012: 1573) In Soifer's framework such divergence is created by an interplay between permissive conditions, that change the underlying context and increase the likelihood of change, and productive conditions, which determine the possible outcomes of critical junctures.

Fiscal capacity is in this paper assessed by using several measures of taxation outcomes (Table 1).[10] The use of several measures is needed to give a more comprehensive picture of fiscal developments. The first measure concerns the absolute tax level and is measured principally by using the real tax revenue per capita. The second measure of taxation is the tax ratio, which is computed by dividing total nominal tax revenue by GDP. Both the tax level and the tax ratio measures are suitable for comparing the evolution of tax levels between countries and over time. The tax ratio is also a proxy measure for the so-called tax effort of a country since it relates actual taxation to the economic potential of a country.[11] The third measure relates to the composition of tax revenues, the tax mix. The tax mix is measured by relating different types of taxes to total tax revenue.

**Table 1 Measures of fiscal capacity**

| | | |
|---|---|---|
| **Tax level** | Real taxes per capita | The amount of total tax revenue actually collected adjusted for differences in price levels between countries and over time divided by the population. A higher amount implies higher fiscal capacity. |
| **Tax ratio** | Tax to trade (or GDP) | The amount of total tax revenue actually collected divided by total trade flows (or GDP). A higher share implies higher fiscal capacity. |
| **Tax mix** | Share of different types of tax | Measure of the degree of diversification of the tax base. Lower share of trade taxes implies higher fiscal capacity. |

A significant contribution of this paper is the compilation of the annual long-term data series needed to calculate the various measures of fiscal capacity. Colonial taxation data has principally been extracted directly from primary sources in the form of government budget and accounts (series start 1856 for Senegal, 1890 for Benin and Côte d'Ivoire, and 1910 for Niger). The colonial taxation data has been combined with existing databases of modern taxation available from *Banque Central des Etats de l'Afrique de l'Ouest* (BCEAO) for the 1960-1979 period[12] and a database of African tax revenues recently compiled by Mansour (2014) for the 1980-2010 period.

[10] See Fukuyama (2013) for a discussion of various ways to measure state capacity, including fiscal capacity. Fiscal capacity (ability to raise revenue) should be distinguished from other aspects of state capacity such as legal capacity (such as property rights), collective capacity (related to public goods provision) (Besley and Persson 2014). See OECD and African Development Bank (2010) for the use of various taxation measures on contemporary African data.

[11] A more sophisticated measure of tax effort is to divide a country's actual tax ratio by an estimate of its tax potential that is the measure used by eg. Mkandawire (2010). The tax potential is a measure of how much tax the country should be able to collect given the structural characteristics of its economy and is estimated econometrically using cross-country data.

[12] Available from http://edenpub.bceao.int/. In addition, some gaps and errors during the 1957-1979 period were filled and corrected using various World Bank country reports, annual statistical reports of the *Banque Central des Etats de l'Afrique de l'Ouest* and annual reports on developments within the monetary union between France and the African francophone territories– the so-called 'Zone Franc' - produced by Banque de France.

The colonies of French West Africa were organized as a federation between 1905 and 1958. During that period the bulk of trade taxes and other indirect taxes entered the federal budget (see Huillery 2014). These taxes have to the extent possible been reassigned to the local budgets in order to ensure consistency of the long-term series. Since the focus of this paper is on formal fiscal capacity the data does not include the value of the significant amounts of forced labour that the French colonial regime extracted from local populations (Frankema and van Waijenburg 2014). Recent estimates have shown that the implied value of such revenue could at times correspond to more than half of the colonial budget in Côte d'Ivoire, Dahomey and Niger, while it reached around 20% at most in Senegal (van Waijenburg 2015). This means that the formal taxation data underestimates the total tax burden to which local populations were subjected. The main sources for the fiscal data used in this study and the territorial developments for the colonial period are discussed in Annex 2.[13]

Power purchasing parities (PPPs) were used to deflate the nominal tax data so that real developments can be studied taking into account differences in wage levels between colonies and over time. In the absence of colonial price data, wage data for unskilled and skilled labour was collected for the colonial period and used to calculate the PPPs. This is both an improvement and a simplification of the approach used in Frankema and van Waijenburg (2014). They use the same PPPs for all French colonies (more precisely the average of wages in Dahomey, Senegal, and Côte d'Ivoire) and only for benchmark years, but used the wage levels of four occupational groups, both unskilled and skilled, for the calculation of PPPs.[14] More details of the colonial PPP calculations are provided in Annex 3. The colonial PPPs were linked to PPPs measured from the domestic absorption side for the 1960-2010 period published in the Penn World Table (8.1) (variable *pl_da*).

In addition to taxation, complete time-series of annual data was also collected on population and trade flows (exports plus imports) over the 1850-2010 period for each of the four countries. Population data for 1950 to 2010 comes from the United Nations Population Division's 2012 Revision of the World Population Prospects. For the colonial period the population data is from estimates by Frankema and Jerven (2014), which are based on backward projections using the 2006 Revision of the World Population Prospects. For consistency the Frankema-Jerven data has been recalculated using the 2012 Revision. The data is based on the modern borders of Benin, Côte d'Ivoire, Niger and Senegal. In order

[13] There were also a number of shifts in the geographic areas under administration in the various colonies within the Federation – it was not until after the Second World War that the modern borders were more or less determined. No corrections have been made for these alteration. There are main reasons for that. The first reason is that we are interested in the formal fiscal revenues that enter the state budget, regardless of their origin. The second reason is that these developments occurred during a limited period of time, involving limited amounts, compared the long time-period covered in this study.

[14] There are two other differences between the approach of this paper and that of Frankema and van Waijenburg (2014). They include *inter alia* infrastructure-related budgets that were annexed to the federal budget in the calculations. This is likely to have boosted the figures of Senegal since the country hosted important railway and port facilities. Second, the authors seem to have taken into account transfers between colonies. There was no need to account for transfers in this paper since the focus has only been on tax revenue at source, excluding other revenue.

to ensure consistency over time, no adjustments have been made for the colonial period to account for the share of populations actually under French control or the changes in the borders of individual colonies during the federal period. The actual tax pressure on the population under French control is likely to have been considerably higher than what the calculations in this paper show, when the French did not control the whole territory of the colonies, in particular during the period of conquest.

The colonial trade data was collected from various issues of French statistical publications *Notices statistiques sur les colonies françaises* and *Annuaire statistique,* in addition to various colonial reports and issues of the annual reports of the 'Zone Franc'. The colonial trade data is inclusive of re-exports (so called 'general trade') until 1928 and exclusive of re-exports (so called 'special trade') thereafter. For the post-1960 period trade data from BCEAO was preferred to data from the World Development Indicators. The reason is that the BCEAO data is closer to the colonial data, since it includes only the value of goods (thus excluding services) and measures value at the port of exports, while the WDI data covers both goods and services and includes costs of freight and insurance. This means the BCEAO reports lower levels of trade flows that the WDI, but the evolution over time of the two datasets is very similar. The trade data does not take into account the considerable amounts of informal trade and smuggling that takes place between the countries of the region.

From 1960 and onwards yearly GDP data has been collected from the World Development Indicators. GDP data for the colonial period is not readily available.[15] Instead GDP data for the colonial period was estimated by using average trade to GDP ratios for the period 1960-1969 as a basis for projecting GDP backwards in relation to total trade flows.[16] For simplicity the trade to GDP ratios were kept constant for Benin, Niger and Senegal for all years before 1960. For Côte d'Ivoire a lower share was used for the period before 1949 in order to correct for the expansion of cocoa exports around that time.[17] This procedure yields a set of colonial GDP figures that should be considered very rough estimates.

## 4 Historical background to the four countries

An initial view of the pre-or early colonial characteristics of the four countries is given in Table 2. *Senegal* had a long coastline and was early on inhabited by a diverse and relatively dense population organized in a variety of kingdoms and other structures. The geography was dominated by low steppe land with moderate levels of rainfall. The Portuguese arrived in the 15th century, while the French founded establishments in the 17th century. Senegal became a major slave port and a French colony in

[15] GDP calculations were first attempted by colonial authorities in 1951 and more consistently made from 1958 by the BCEAO. GDP estimates for all of francophone Africa have also been produced by a group of French economists (Maldant, Haubert, and Breton 1973). Prados de la Escosura also relies on trade related data to estimate African GDP based on backward projection (Prados de la Escosura, L. 2012).
[16] This is a procedure close to that used by Patrick Manning to estimate the historical GDP of Dahomey. Manning multiplies Dahomey's exports by seven to arrive at the GDP (Manning 1982).
[17] The average share of trade/GDP for the period 1960-1969 was for Benin 21.65%, Côte d'Ivoire 56.50%, Niger10.13% and Senegal 36.65%. Before 1948 a 20% share was used for Côte d'Ivoire.

1840.[18] The real French conquest of West Africa started off in Senegal in the middle of the 1850s (Bouche 1991: 47). *Benin* was a densely populated area with tropical climate and access to the coast. By the 19th century there were some important local kingdoms that were engaged in licit trade after having been heavily involved in the slave trade. Dahomey was declared a French protectorate in 1883 and a colony in 1894 (Coquery-Vidrovitch 1992). *Côte d'Ivoire* also had a coastal location but with predominately tropical and wet climate. The area was different from Benin and Senegal in that the levels of political centralisation and population densities were low before the arrival of the Europeans. Côte d'Ivoire was also less affected by the slave trade. Côte d'Ivoire became a French colony in 1893. *Niger* was land-locked. Its area was predominantly desert with very low rainfall and population densities. There were important market towns servicing the Trans-Saharan trade. French control of Niger developed slowly. The first treaties were signed in the 1890's, but the territory remained under military rule until 1920, when civil rule was established. Niger was declared a colony in 1922.

**Table 2 Geography and early settlement**

| | **Benin** | **Côte d'Ivoire** | **Niger** | **Senegal** |
|---|---|---|---|---|
| Location (1) | Coastal | Coastal | Land-locked | Coastal |
| Climate types (1) | Tropical wet & dry<br>Steppe, low latitude | Tropical monsoon<br>Tropical wet & dry | Desert, low latitude | Tropical wet & dry<br>Dry steppe wasteland<br>Desert, low latitude |
| Av. annual rainfall (mm) (2) | 1,039 | 1,348 | 151 | 686 |
| Population (1910) (3) | 1.3 million | 1.6 million | 1.5 million | 1.5 million |
| Population density 1910 (per sq km) (4) | 12 | 5 | 1 | 8 |
| Pre-colonial political centralization (1 = high) (5) | 0.695 | 0.082 | 0.589 | 0.694 |
| Ethnic fractionalisation (1 = high) (6) | 0.62 | 0.86 | 0.73 | 0.72 |
| Slave extraction (no people) (7) | 456,583 | 52,646 | 19,912 | 376,926 |

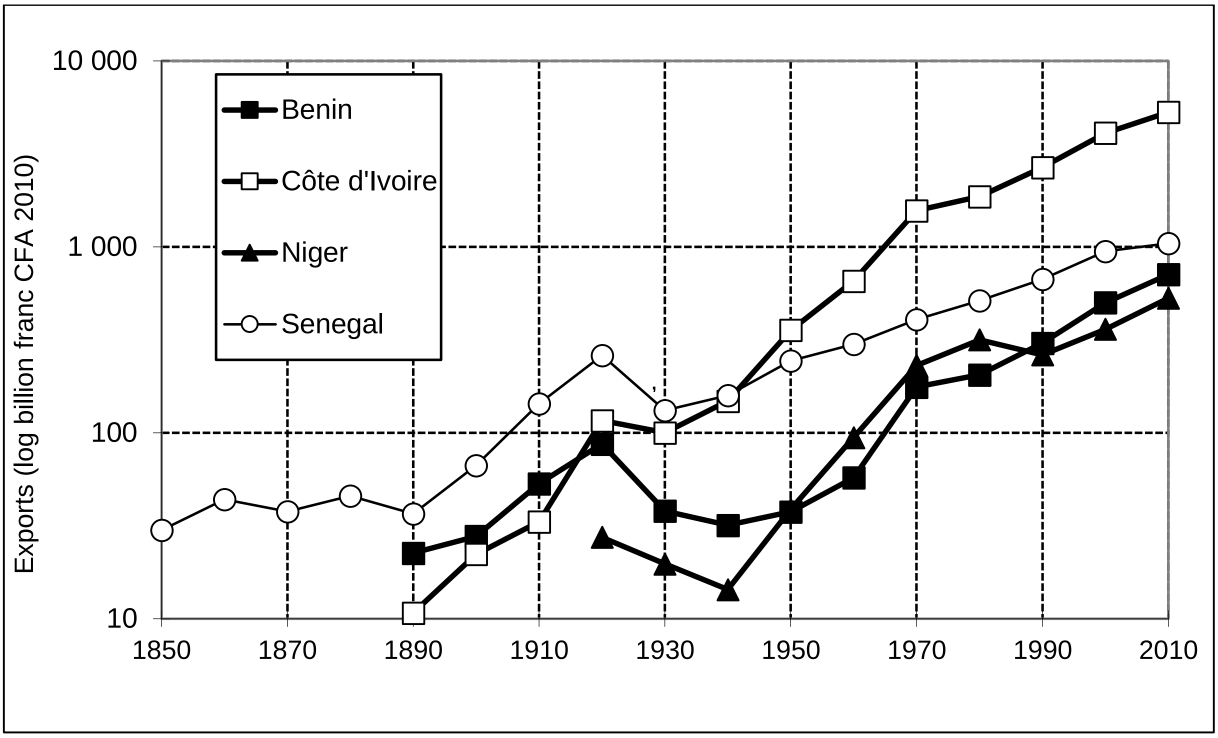
Source: (1) Parker (1997); (2) World Bank World Development Indicators; (3) Frankema and Jerven (2014); (4) author's calculations based on (3) and modern land area from World Development Indicators; (5) Gennaioli and Rainer (2007); (6) Easterly and Levine (1997); (7) Nunn (2008).

During the colonial period the four territories remained predominantly trading colonies with limited European settlement. Local geographic conditions and population patterns favoured specialisation in different export crops. Groundnut exports started being exported from Senegal in the 1840s. In Dahomey palm oil had been exported early on as a licit alternative to slaves by the local kingdoms. In Côte d'Ivoire coffee and later cocoa emerged as a major export crop. Niger initially lacked commercial production, but after the First World War groundnut production developed, even though significant volumes were only reached by the 1940s. Export crop production in all colonies was predominantly small-holder, while

[18] Being declared a colony did not mean the French had control over the colony's whole territory. The conquest phase in French West Africa can be said to have ended in the 1910's, but the conquest of the interior of some of the colonies lasted until 1915 or even 1920 depending on the author (Coquery-Vidrovitch 1992; Amin 1971).

the commerce became dominated by French companies (Amin 1971). Figure 1 shows the value of exports of the four countries. During the colonial period there was a certain 'reversal of fortunes'. Senegal was initially the most prosperous colony, but groundnuts production and exports expanded at a slow pace from after the First World War (Vanhaeverbeke 1970). Dahomey was also relatively successful in increasing exports until the 1930s, but then entered a prolonged period of stagnation (Austin, Dahomey). Côte d'Ivoire had initially been poor, but by the 1920s it had caught up with Benin in terms of exports and then continued to expand its exports at a pace that outdid the other three colonies (Coquery-Vidrovitch 1992). Niger started from low levels of export, but caught up with Benin in the 1950s.

**Figure 1 Real exports from the four countries per decade 1850-2010**

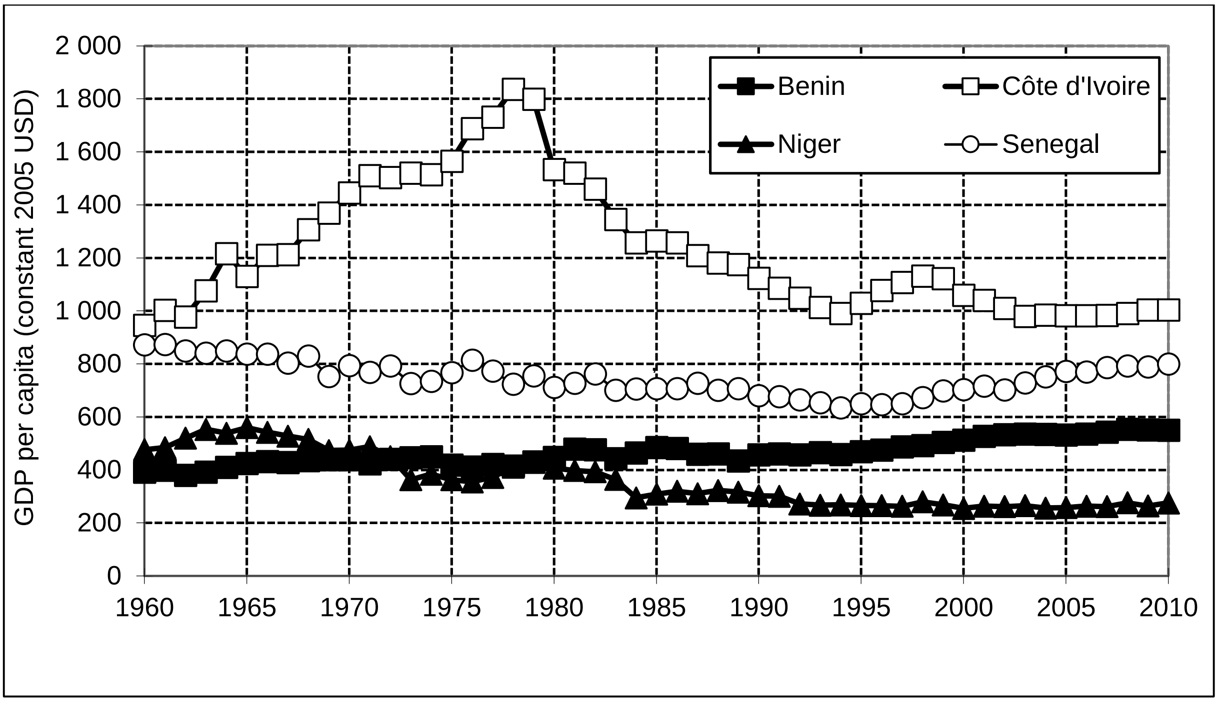



Source: See section 3

Public and private investments in the French colonies were limited until the Second World War. The colonial authorities supported the production of export crops mainly through expansion of transport facilities such as ports, railways and roads. After the war more development oriented policies were formulated, but most investments continued to go to infrastructure, while investment in production and schooling remained limited (Manning 1998). There was a degree of urbanisation and economic growth in French West Africa as a whole in the post-war period (Maldant, Haubert, and Breton 1973), but the degree of structural change was limited and the manufacturing sector remained small.

At independence Côte d'Ivoire had just surpassed Senegal as the wealthiest economy in former French West Africa, while Benin and Niger were considerably poorer. This is shown in Figure 2, which shows the development of real GDP per capita since independence until 2010. What is most striking is the boom and bust pattern of Côte d'Ivoire, which is closely associated with developments in the cocoa sector (Fauré 1990). The long-term patterns of GDP per capita of the other countries are much less dynamic with slow growth (Benin), stagnation (Senegal) and negative growth (Niger). This unsatisfactory growth history is due both to slow growing economies and rapid population growth, which has pushed down per capita GDP.

**Figure 2 Real GDP per capita of the four countries per annum 1960-2010**




Source: World Development Indicators.

All four countries ran into severe balance of payment problems around the second oil crisis and had to agree to structural adjustments programmes with the IMF between 1979 (Senegal) and 1989 (Benin) (Guillaumont 1985; Goreux 1985; World Bank 1992). To regain competitiveness the CFA franc was devalued by 50% against the French franc in 1994. The same year Benin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Senegal and Togo deepened their regional integration by forming the West African Economic and Monetary Union (WAEMU; UMEOA in French) with a view of forming a customs union with a common external tariff by 2000 (van den Boogaerde and Tsangarides 2005) .

On the political side there have been considerable changes over time. All four countries adopted what can be described as 'liberal' policies at independence, as opposed to the outright socialist policies of countries such as Guinea and Mali (Amin 1971). This did not exclude heavy involvement of the state in development planning and investment. Freedom House ranked all four countries "Not Free" until 1975. After that time, Côte d'Ivoire and Senegal gradually became freer. Benin and Niger were ruled by military dictators in the 1970s and 1980s before democratising in the beginning on the 1990s. Côte d'Ivoire experienced political instability in the late 1990s and early 2000s (World Bank 2012). By 2010 Freedom House ranked Benin as "Free", Niger and Senegal as "Partly Free" and Côte d'Ivoire as "Not Free".

This brief historical background highlights three significant shifts in relative economic positions between the countries that indicate the existence of critical junctures. They are 1) the sharp rise and fall of Côte d'Ivoire, which is clearly linked with the permissive conditions in the cocoa sector; 2) the long stagnation and relatively recent recovery of Benin; and 3) the "awakening" of Niger after the Second World War. Senegal was until the eve of the Second World War clearly the wealthiest and most commercialised colony. The colony grew in the post-war period, but as an independent country its economy has been characterised more by stagnation than dynamism making it difficult to distinguish any clear breaks. We now turn to studying what happened to the tax system given the economic and political context of the four countries.

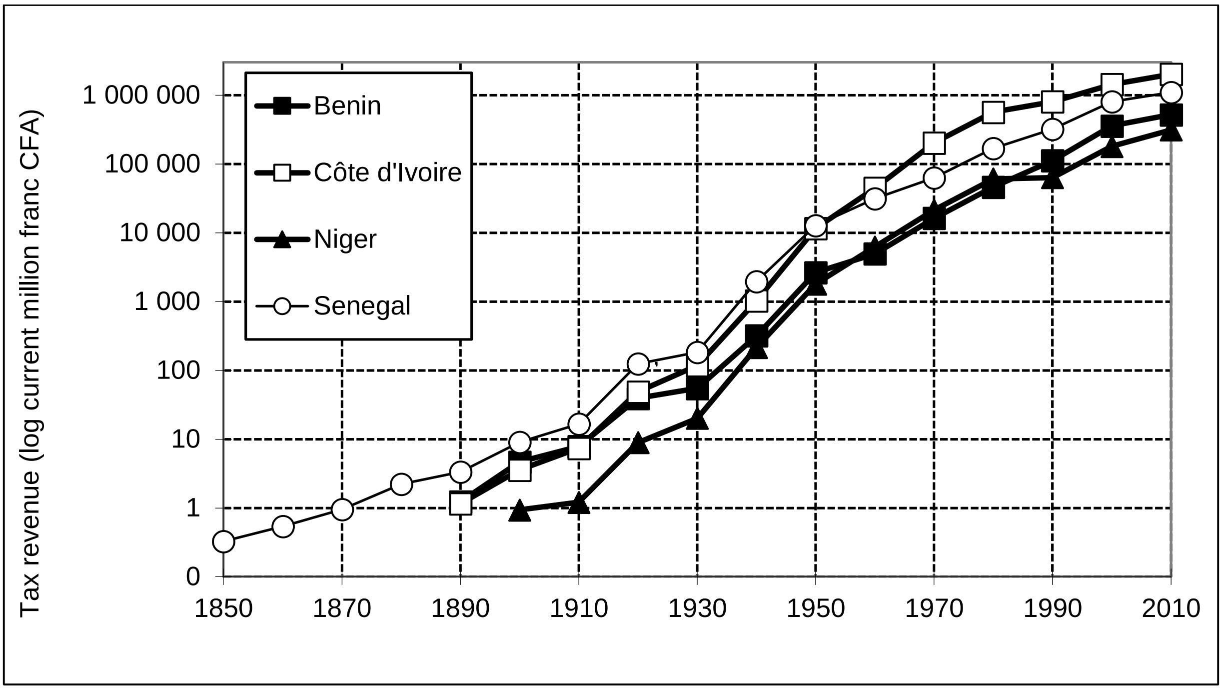
## 5 Persistence and change in fiscal capacity over time

### 5.1 Background

A first look at the long-term development of fiscal capacity in the four countries is given in Figure 3, which shows total tax revenue in nominal terms between the 1850s and 2010. The data is given as decadal (ten year) averages as in most of the figures that will follow in order to smooth out annual variations. The patterns observed give a first assessment of the two questions mentioned above. First, local conditions matter. The old and wealthiest colony Senegal was at higher levels of taxation than Benin and Côte d'Ivoire until well after the Second World War.[19] Peripheral Niger was initially at much lower levels than the other three colonies. Second, there is a high degree of persistency in the long-term developments of tax revenues. There is relatively steady growth in nominal tax revenues and the relative positions between countries rarely shift. The three main shifts in relative position that were discussed in the historical background are also clearly observable in the terms of nominal tax revenue. There is the acceleration of Côte d'Ivoire that leads to divergence from Benin and eventual catching up with Senegal after the Second World War. Niger is able to surpass stagnating Benin in the decades after independence, before falling back in the 1990s. In spite of these relative changes the figure indicates that the fiscal patterns established during the colonial period, and one can even argue as early as the 1920's, basically prevailed until 2010. Perhaps history can be compressed after all? That is of course to jump to conclusions too early. The rest of this paper is dedicated to deepen the analysis in order to quality the initial impressions provided by nominal tax revenues.

[19] At that time all the four colonies had similar population sizes.

**Figure 3 Nominal tax revenue 1850-2010**




Source: See Section 3. Note: In this and the following figures the data is presented as averages for 10 year periods. For example, '1860' refers to the years 1860-1869. '2010' is the average of 2009 and 2010.

### 5.2 Real tax level

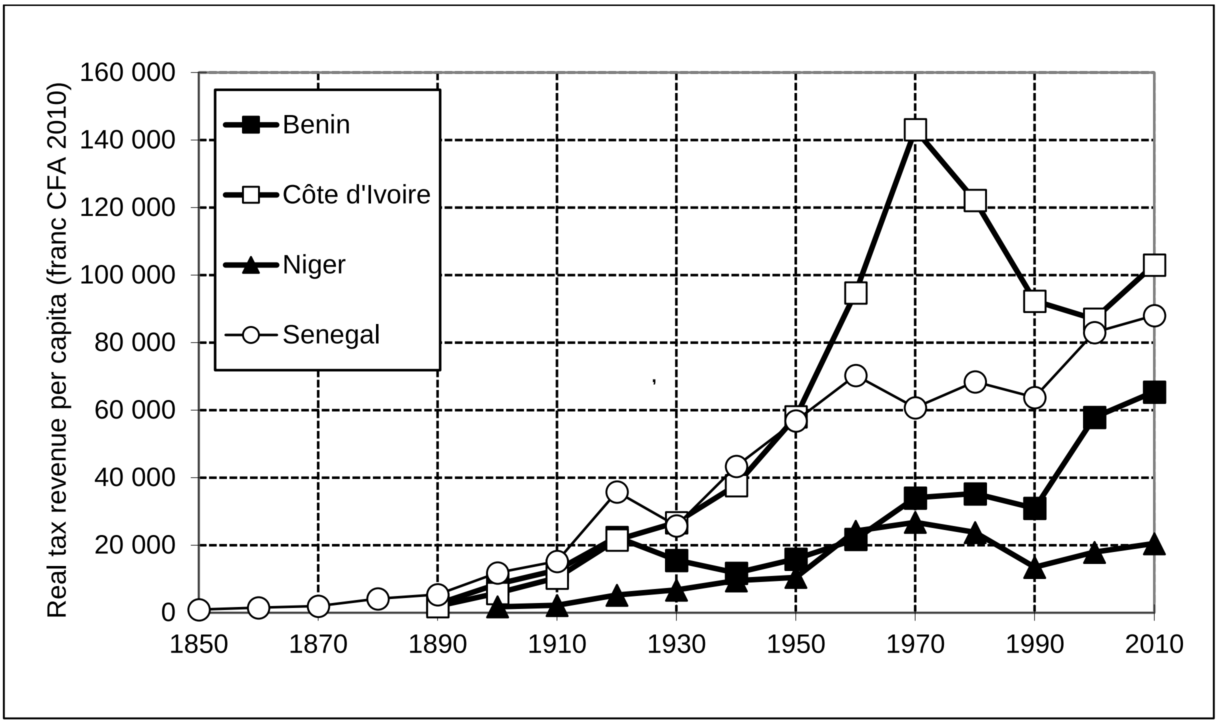
The study of the evolution of real tax revenues is more revealing than the nominal patterns. Figure 4 shows decadal averages of total tax revenue per capita expressed in the purchasing power of Senegal in 2010. The use of purchasing power has in particular the effect of lowering the real tax revenues of Senegal vis-à-vis the other countries for most years, since price levels were in general higher than in the countries. When population growth is also accounted for it is instead Côte d'Ivoire and Niger that are penalized. All four colonies were of similar population size until the 1940's based on their modern borders (between 2 and 2.4 million inhabitants), but more rapid population growth in Côte d'Ivoire and Niger (3.3-3.4 % per year between 1950 and 2010) compared to Benin and Senegal (2.6-2.7 % per year) caused divergence in terms of population size after the war. By 2010 the most recent UN estimates give Benin a population in the range of 9.5 million compared to 13 million in Senegal, 16 million in Niger and 19 million in Côte d'Ivoire.

Figure 4 clearly shows the long-run divergence between on the one hand Côte d'Ivoire and Senegal and on the other hand Benin and Niger. The 1930s appears as a critical juncture for fiscal capacity as predicted by those who argue that the depression of the 1930s was a turning-point for African economies, rather than for example the Second World War (Cooper 2002; Coquery-Vidrovitch 1976). The real tax revenues per capita of all the colonies increased in the 1920s, but in the 1930s the countries diverged.[20] While Benin and Senegal did poorly the tax revenues of both Côte d'Ivoire continued to increase. While Senegal's revenues then recovered to growth in the 1940s, Benin joined the lower pathway of Niger. This relationship between the four countries has persisted for some 80 years until today. There are two main country specific developments that challenge this striking pattern of persistence. Most visually striking is the boom-bust pattern of Côte d'Ivoire in the 1960s to 1990s that is related to the GDP per capita development shown above, but that were less apparent in Figure 3. This is a good illustration of how taxation outcomes are closely related to current economic and political developments. The other important shift provides another example of this, by potentially linking Benin's improved performance to the shift to democratic rule in 1990, even though this coincided with a rapid expansion of the cotton sector (World Bank 2009). Inspection of the annual tax series shows that Benin's real tax revenue per capita had been falling for much of the 1980s, but that they returned to growth in 1990. Growth continued for each consecutive year until 2008, establishing Benin's fiscal capacity at a level closer to Côte d'Ivoire and Senegal than Niger.

Figure 5 presents the average annual change in real tax revenue per capita divided in into sub-periods. It shows clearly the build-up of fiscal capacity that took place in the early colonial period (1890s-1930s) and the development era (1930s to 1970s), which was followed by the lost years of the oil crises and the structural adjustment period (1970s to 1990s). Since the 1990s there has been a clear but uneven improvement in fiscal capacity and only the future can tell if that signals the return to more sustainable growth of fiscal capacity in the four countries. The annual increase for the full 107-year period between 1903 and 2010 for which there is data for all four countries was around 2% for Benin and Senegal, and 3% for Côte d'Ivoire and Niger that both started from lower levels.

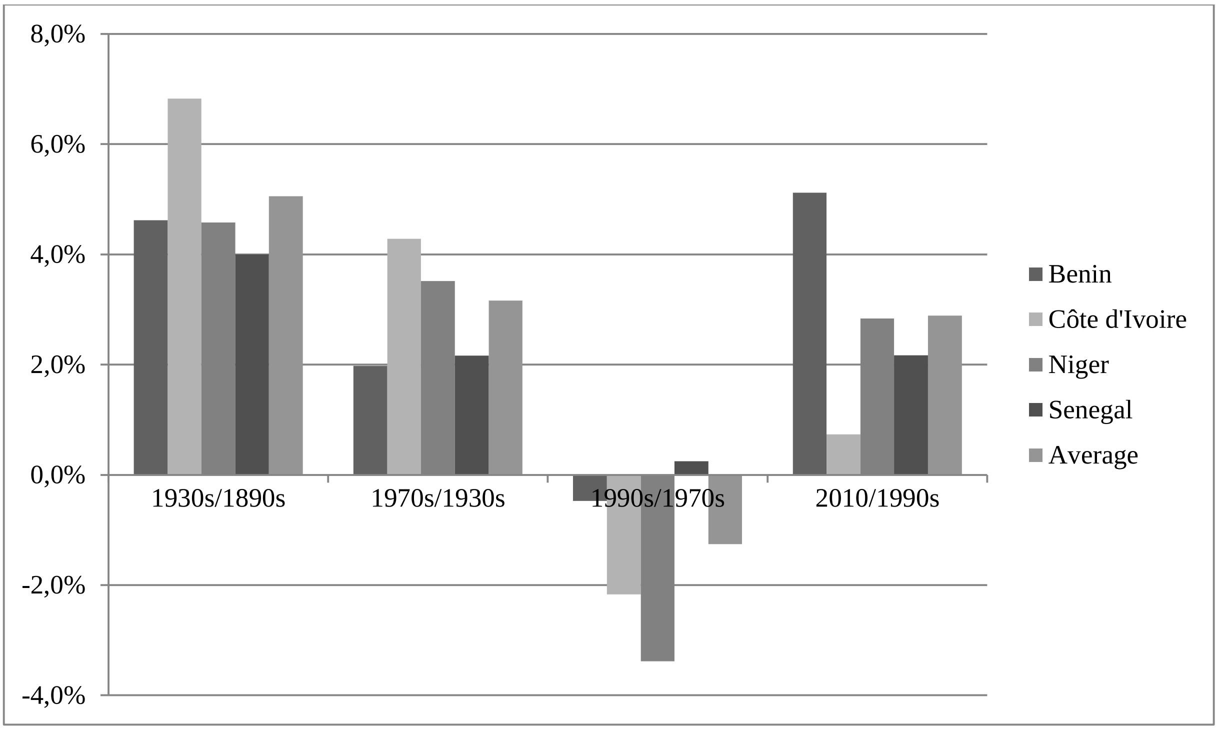
[20] The method of calculating real tax revenue per capita used in this study produces a starkly different picture of the position of Senegal in relation to the other countries compared to Frankema and van Waijenburg (2014). In that paper the authors arrive at a real gross public revenue per capita of Senegal, which is up to three time as high as those of Côte d'Ivoire and Dahomey during the 1911-1937 period. One reason is the methodological differences that were discussed above.

**Figure 4 Real total tax revenue per capita 1850-2010**




Source: See Section 3.

**Figure 5 Average annual change of real tax revenue per capita by sub-period 1850-2010**




Source: See Section 3. Niger from the 1900s.

## 5.3 Tax mix

The two main tax sources in the federation of French West Africa were trade taxes and head taxes Suret-Canale (1964: 435ff). Trade taxes existed from the time of the earliest budgets (1856) used in this paper. They consisted of entry and exit taxes that had fiscal objectives and customs duties that were of protectionist character. The head tax was introduced in Senegal in 1860, in Benin in 1890, and in Côte d'Ivoire and Niger in the beginning of the 1900s. The head tax was a uniform amount that applied to all African adults, except mothers with many children. In 1900 a law on self-sufficiency of the colonies was passed, which excluded financial contributions to the colonies from the French state. These reforms gave the colonies an impetus to develop the tax system, in particular direct taxation. Suret-Canale (1964) notes that the trade taxes followed the development of the market economy, while individual taxation was much more stable. This meant that the local population was hard hit by the head tax in periods of reduced purchasing power.

The European administrator of each administrative unit (*cercle*) was responsible for collecting head taxes, but the actual collection was delegated to local village or canton chefs (Mbaye 1991: 66-67). This decentralised system of tax collection was open to abuse of the local populations (Suret-Canale 1964: 435ff). Europeans paid income tax at levels that were lower than in France. Various types of direct taxes on business, professionals and real estate were applied, but remained a relatively limited revenue source, as the large companies with head-quarters in France paid their taxes in France. During the Second World War there were some adjustments to the tax system, with the transfer of the non-trade indirect taxes to the federal budget, reshaping of old taxes and creation of some new taxes. Nevertheless, the basic tax structure seemed to have remained largely untouched until the end of the colonial period, even though there were recurrent discussions on how to meet the fiscal needs of the territories (Thompson and Adloff 1958: 288-290). Very few traditional local taxes appear in the budgets of the four colonies, with the exception of the '*oussourou'* that shows up in the account of Niger in 1905.[21]

Figure 6 presents how the share of trade taxes to total tax revenue evolved. The literature review found that trade taxes were the preferred option during the colonial period since they were easier to collect. The figure shows that the dependence on trade taxes were indeed very high in Benin, Côte d'Ivoire and Senegal by the end of the 19th century, but there was a relatively sharp fall in the beginning of the 1900s. It seems likely that the 1900 law on self-sufficiency and the loss of trade taxes with the creation of the federation in 1905 forced the colonies to diversify the tax base by expanding direct taxes (the composition of taxes for the four countries are shown in Annex 1). Interestingly the share of trade taxes of Côte d'Ivoire was lower than in Benin and Senegal between the 1910s and 1930s, before coffee exports started to expand. In Niger the situation was quite different compared to the other three colonies; the share of trade taxes in this poor colony was much lower all through the colonial period as can be

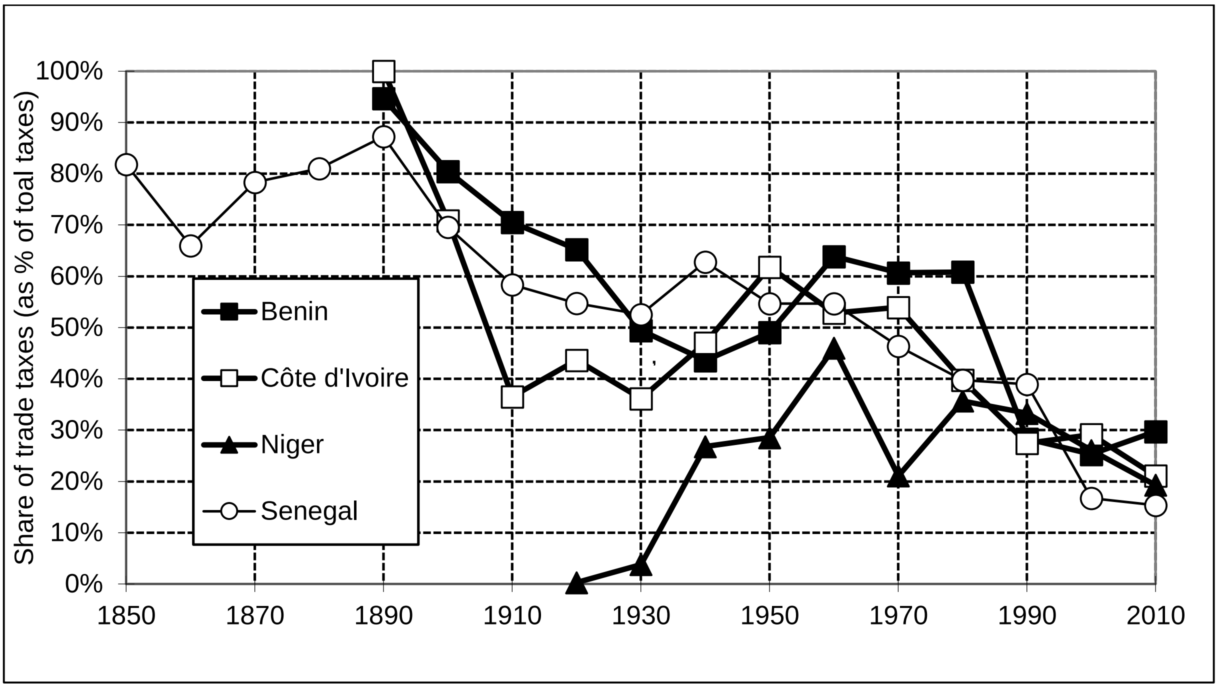
[21] The 'oussourou' was a circulation tax paid in kind such as salt or cattle.

expected from the literature review. French attempts to tax and control had disrupted the traditional trans-Saharan trade and the French had considerable difficulties in controlling Niger's vast territory (Idrissa 1998). Instead the French administration resorted to direct taxation and the recruitment of forced labour in Niger.

The share of trade taxes was stable or increased during the development era, presumably as a result of expanding economic activity and trade. By the 1960s the four countries had converged to trade tax shares between 45% and 65%. From there on the trend has been falling, with some variation between countries. The convergence was especially marked in the 1990s. By 2010 the share of trade taxes was down to between 15% and 30% of total tax revenue. Benin stands out as being markedly above the other three countries until the 1980s. Given that the economic and political development of the countries has been so different, both the simultaneous fall and the convergence in trade tax shares need to be explained. Annex 1 shows that trade taxes have mainly been replaced by other types of indirect taxes, while the shares of direct taxes have increased only modestly if not at all. These developments are consistent with a broad move from trade taxes to broad based consumption taxes (usually VAT) that has taken place in developing countries from the 1970s. This may seem as a significant change, but can also be viewed as a mere replacement of one set of indirect taxes with a new one (Bird 2013). An explanation of the convergence in tax mix may be sought in the regional integration process within the regional economic community for francophone West Africa – UEMOA (*Union économique et monétaire ouest-africaine*) and the concomitant cutting of customs duties, even though progress in harmonizing the tax systems of member states have only been partial (van den Boogaerde and Tsangarides 2005; Mansour and Rota Graziosi 2013).[22] Overall, the persistence in terms of tax mix is less obvious than in terms of the tax levels discussed above as the four countries have traded relative places relative repeatedly. Instead a general pattern of a continuous falling share  of trade tax revenue in all the four countries, indicating a process of increased diversification of the tax base.

[22] The UEMOA Treaty concluded in 2000 introduced fiscal convergence and multilateral surveillance of macroeconomic policies. According to the French Central Bank the CET has resulted in a decrease in customs duties and the dismantling of non-tariff barriers in almost all of the UEMOA countries (Banque de France 2010).

**Figure 6 Trade taxes as share of total tax revenue 1880-2010**

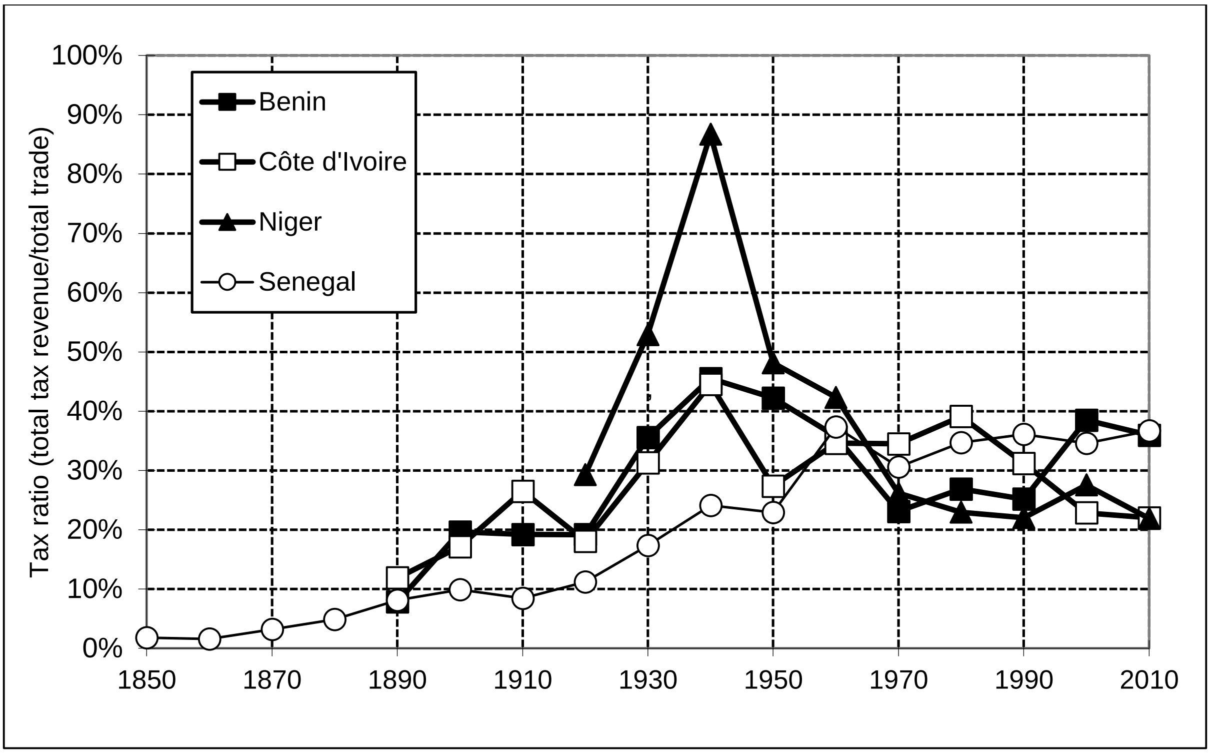



Source: See Section 3.

### 5.4 Tax ratio

This brings us to the question of how tax revenue relates to economic growth. As mentioned above the pattern identified in the literature is for tax revenue as a share of GDP to increase with GDP growth, meaning that the tax ratio tends to go up with economic growth. The implication is that the stagnation or slow growth of tax revenues of the four countries (with the periodic exception of Côte d'Ivoire) after the depression of the 1930's is indicative of weak economic growth of the four countries. Ideally the tax ratio is measured by using GDP data. In the absence of GDP data for the colonial the total trade flow is used instead as a first approximation, before we turn to using rough GDP estimates. Figure 7 reports total government tax revenue as the share of total trade flows. There are variations between the countries, but the general increase from early colonisation to the 1940s does seem clear for all the countries. If anything this is followed by declining or stagnating tax ratio during the development era. The high levels of Niger during the colonial period are indicative of a high tax pressure compared to the low economic potential of the country (Coquery-Vidrovitch 1992). After the Second World War, there was considerable convergence and all countries were at similar levels at independence (35-45%). Somewhat surprisingly, measured through the tax ratio measure Senegal appears as a relative low-tax colony all through the colonial period, which is contrary to the view found in the literature that the country had a particularly over-sized public sector by independence (Morrisson 2006). Since the 1970s the countries have remained within a 20-40% interval. The most obvious significant developments that can be considered critical junctures have been the decline of Côte d'Ivoire's tax ratio from the 1980s and the increase of that of Benin from the 2000s.

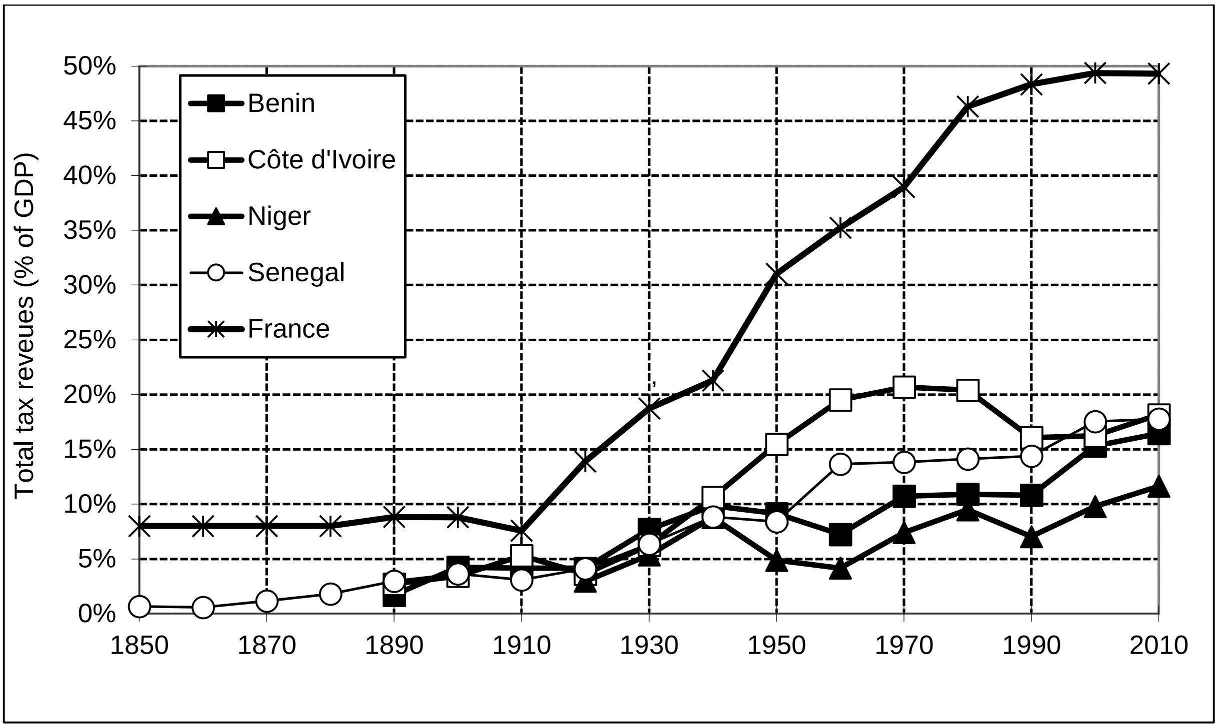
**Figure 7 Total tax revenue as share of total merchandise trade 1860-2010**




Source: See Section 3.

Tax ratios based on trade flows give only a partial picture of the tax level compared to GDP. Different countries are dependent on trade to different degrees and trade flows tend to vary more between years than GDP. Figure 8 shows the GDP based tax ratios using the very rough GDP measure applied in this study. The figure also includes the same measure for France (based on more reliable GDP estimates for the pre-1960 period), in order to give an indication of whether the tax ratios in the colonies were ever close to metropolitan levels. Figure 8 shows that France has been at a much higher tax ratio level all through history, illustrating the fragility of the colonial states created by the French. The curves indicate brief periods of convergence between the metropolis and the colonies during the world wars and in particular the First World War. There was largely parallel growth between the wars, but there is clear divergence between France and the colonies from the 1950's onwards. This was when the welfare state started to expand in Europe (Lindert 2004). While the French tax ratio more than doubled between 1940 and 1990, the ratios of the four West African countries increased some 50% in Côte d'Ivoire and Senegal, but were largely stagnant in the Benin and Niger. The exception again is Côte d'Ivoire that as late as 1960 was at a tax ratio that corresponded to 55% of that of France, before falling back in relative terms. The figure also shows that the 1950's in particular was a period of divergence between the colonies. The tax ratios of Côte d’Ivoire and a decade later Senegal moved to another level, while the tax ratios of Benin and Niger fell back. The decadal averages of the figure obscures somewhat the decline in tax ratio that took place in relation to the structural adjustment period of the 1980’s and the subsequent return to tax ratio growth from the 1990’s. By the 2000’s Benin had caught up with the two leaders, while Niger still lagged behind. Again one explanation for the recent convergence in tax ratios is the tax coordination going on within UEMOA mentioned above (Mansour and Rota Graziosi 2013).[23]

**Figure 8 Total tax revenue as a share of GDP 1850-2010**



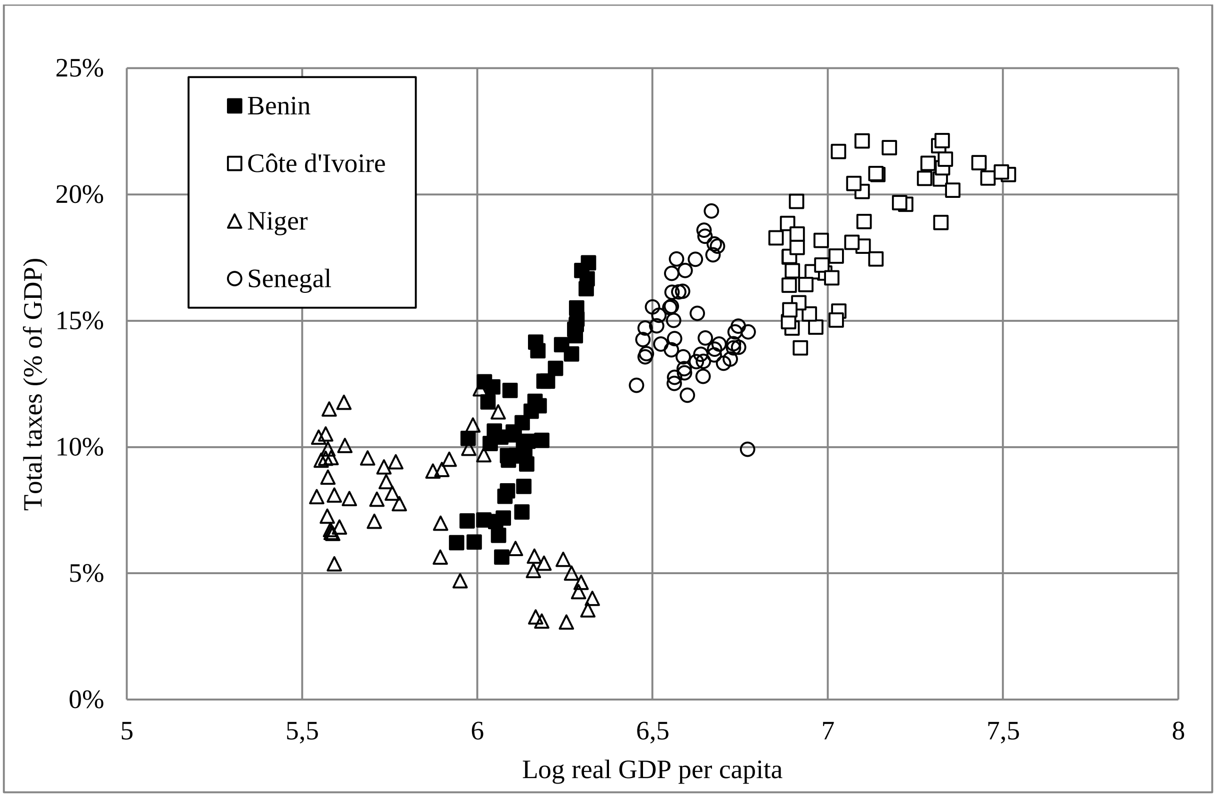

Source: Benin, Côte d’Ivoire, Niger and Senegal: see Section 4. France: Piketty (2010: Table A12).

The positive association between wealth and tax ratio from the literature is confirmed for the case countries in Figure 9, where the tax ratio is plotted against GDP per capita for the 1960-2010 period for which data GDP is available. The more wealthy the country the higher the tax ratio. However, the type of association between the two variables varies markedly between the countries. In Benin and Côte d’Ivoire there is a strong positive correlation, while in Senegal it is insignificant and in the case of Niger appears to be negative. Understanding these differences deserve further analysis, but some tentative explanations can be offered. Côte d’Ivoire has been a boom and bust economy since independence and the tax revenue followed that pattern and created a positive linear relationship. Senegal has been a

[23] One of the criteria of the UEMOA treaty is that tax revenues must be equal to or greater than 17% of nominal GDP.

stagnating economy with gradual increases in tax levels, which means that the relationship between the two variables has not been strong. Benin has also managed to increase its tax ratio significantly in a context of slow growth. One can hypothesise that democratisation in both Benin and Senegal may have contributed to increases in tax revenue even though it is beyond the scope to analyse the other factors that are at work. Niger is an outlier compared to the other countries. There is an apparent negative relationship between growth and the tax ratio in the case of Niger. This is explained by the fact that the tax ratio has increased over time from very low levels, while GDP per capita has been negative. This analysis shows that the nature between taxation and GDP cannot be assumed and that different countries follow very different fiscal patterns in relation to economic and political developments.

**Figure 9 Tax revenue and GDP per capita 1960-2010**



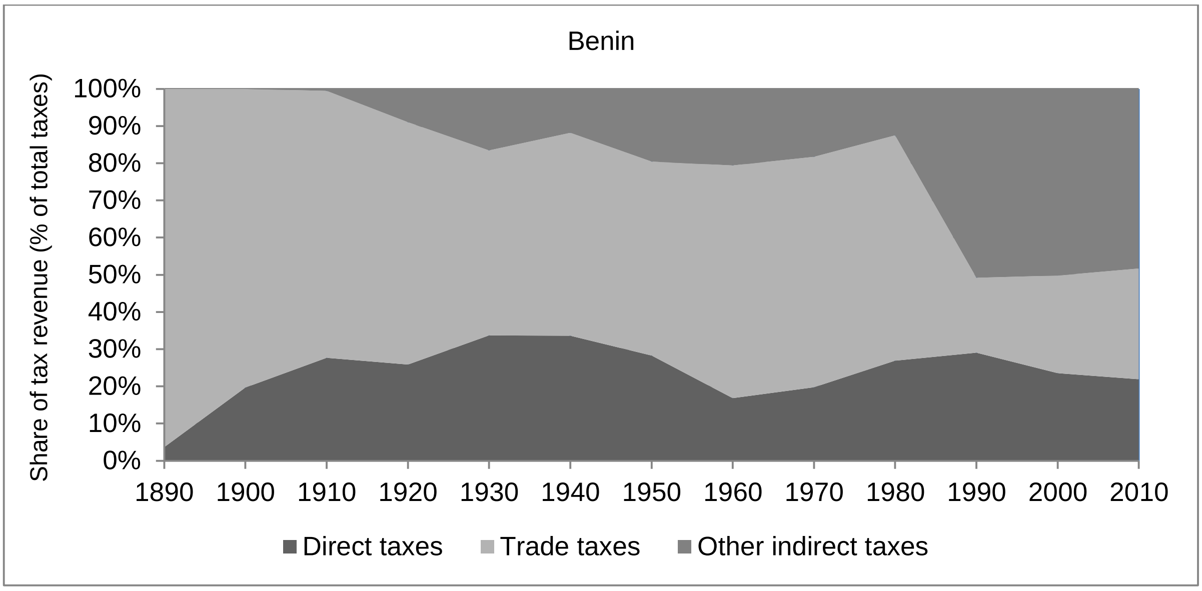

Source: See Section 4.

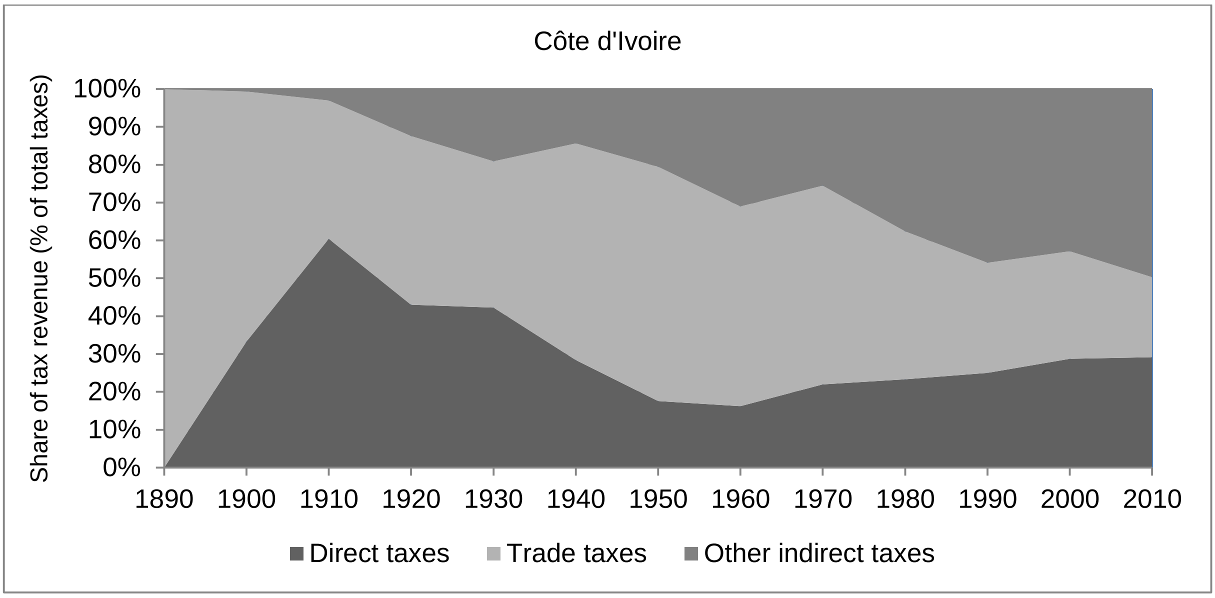
## 6 Conclusions

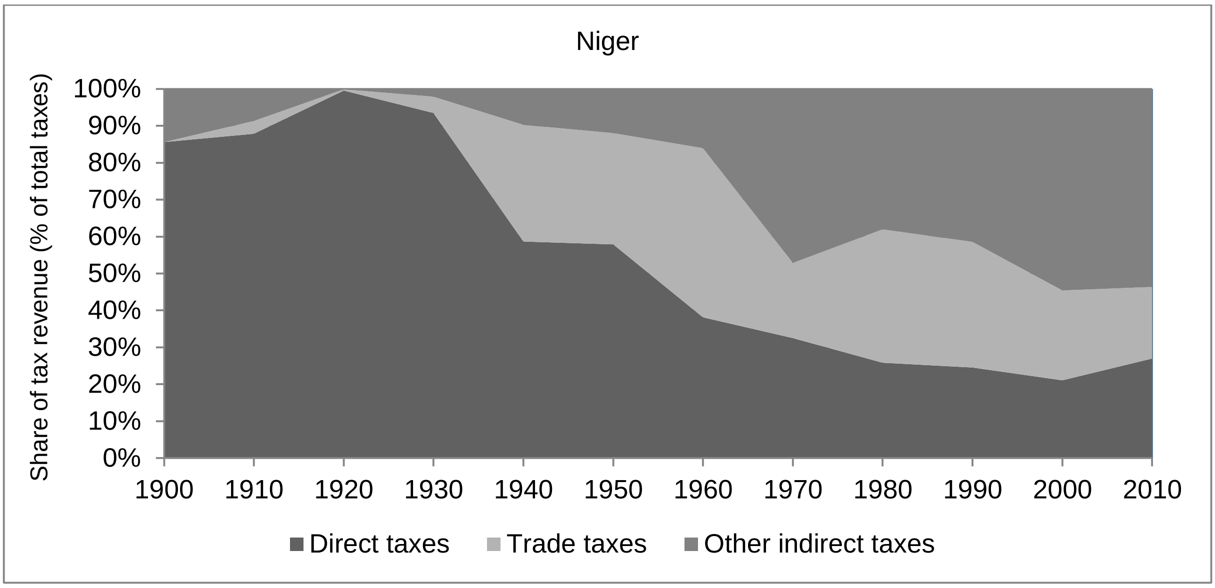
This study contributes to African fiscal history by a detailed comparison of the evolution of fiscal capacity in four countries in francophone West Africa – Benin, Côte d'Ivoire, Niger and Senegal - over both the colonial and independent periods. To some extent the expectations from the literature are confirmed. The wealthier colonies had absolute higher levels of fiscal capacity and this distribution persisted after independence. However, this study shows that this general pattern needs to be qualified.

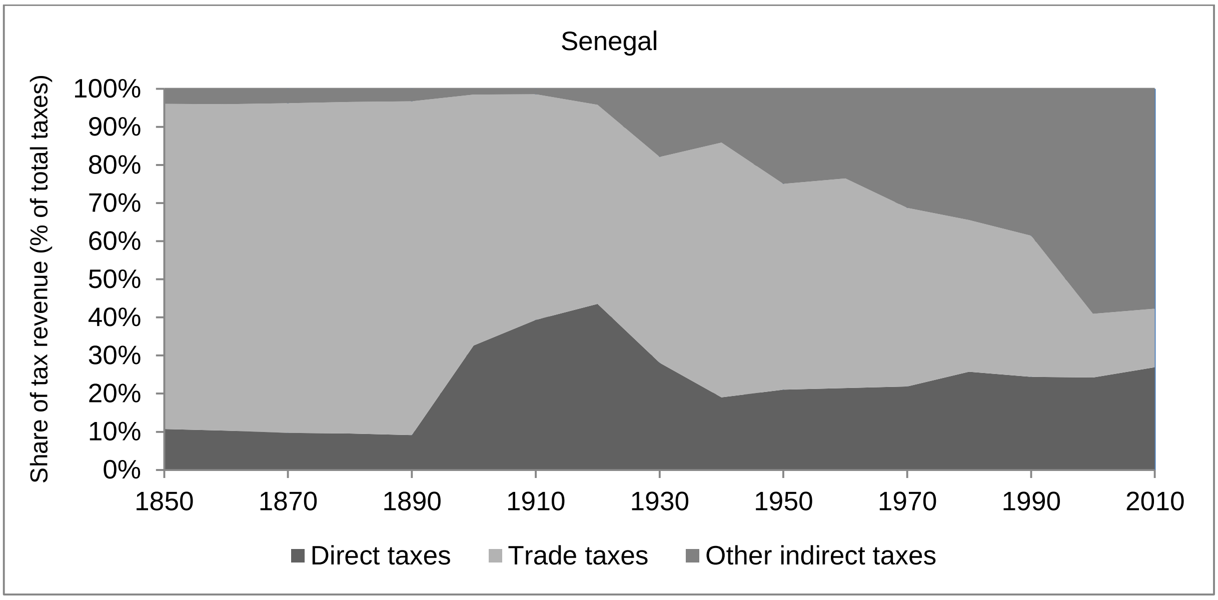
First, there were changes in relative positions in terms of fiscal capacity levels during the colonial period and after independence related to country specific factors, in particular as regards the long-term reversal of fortunes between Benin and Côte d'Ivoire. Second, these country specific factors give each country a unique fiscal pathway. Third, there has been convergence between the countries in recent decades in terms of both the tax ratio and the tax mix, which can be associated with regional integration efforts and international 'best-practice' in terms of taxation. As a consequence, even though some common patterns and persistence may be observed it is instead the unique fiscal pathways of the individual countries that stand out. These pathways can only be understood by analyzing how the underlying economic and political factors of each country develop over time. The importance of the colonial heritage in the development of fiscal capacity for individual countries should therefore not be overemphasized.

## Annex 1 Tax mix by country




Côte d'Ivoire
Share of tax revenue (% of total taxes)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
Direct taxes
Trade taxes
Other indirect taxes


Niger
Share of tax revenue (% of total taxes)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
Direct taxes
Trade taxes
Other indirect taxes


Senegal
Share of tax revenue (% of total taxes)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1850
1870
1890
1910
1930
1950
1970
1990
2010
Direct taxes
Trade taxes
Other indirect taxes

## Annex 2 Colonial fiscal sources

The table lists the main sources used and the main territorial changes that took place during the colonial period.

| Territory | Territories and years covered |
|---|---|
| **Senegal** | Colony of Senegal 1856-1904<br>Pays d'administration direct and pays du protectorat 1905-1936<br>Circonscription de Dakar et dépendences 1925-1937<br>Colony/territory of Senegal 1937-1958<br>Note: Until 1889 the colony of Senegal included French settlements on the South coast of West Africa and in Golf of Benin. Senegal itself reached its present borders around 1900 (Mbaye 1991: 29). The colony was divided into two administrative areas with separate budgets during between 1905 and 1936. Dakar had a separate budget between 1925 and 1937. In 1959-1960 Senegal formed a short-lived federation with Mali. |
| **Dahomey** | Colony/territory of Dahomey 1890-1955 |
| **Côte d'Ivoire** | Colony/territory of Côte d'Ivoire 1893-1958<br>Note: Large tracts of Upper Volta were incorporated with Côte d'Ivoire between 1933 and 1947, when the colony of Upper Volta was temporarily dismantled. |
| **Niger** | Territoire militaire 1904-1915<br>Colony/territory of Niger 1921-1958<br>Comment: Niger incorporated the eastern part of Upper Volta between 1933 and 1947. |
| **Federal level** | The Federation of French Africa had a separate budget between 1905 and 1958. Most trade taxes and other indirect taxes went to the federal budget. Some of these revenues were transferred back to the individual colonies. These transfers are not included in the fiscal capacity measures. Instead the trade taxes and transaction taxes (between 1942 and 1959) have been added back to the tax revenues of the individual colonies. |

## Annex 3 Colonial power purchasing parities

The construction of colonial PPPs was inspired by Frankema and van Waijenburg (2014). They base their PPP measures on the unweighted average of wages for four professions - indigenous school teacher, indigenous clerk, unskilled worker in government service and skilled construction worker – for six benchmark years. They use the same PPP for all French colonies based on the average wages of Dahomey, Sénégal, and Côte d'Ivoire. This method does not take into account price differences between the French colonies.

In this paper the PPPs are calculated based on the average of wages in two African groups – unskilled workers and indigenous clerks in government service.[24] The PPPs were calculated annually. The wages were collected from colonial budgets until 1936/1937. From 1937/1938 there are official minimum and skilled wages for Côte d'Ivoire and Senegal and from 1945/1946 for Benin and Niger. For Niger the wages levels have been estimated for most years of the 1915-1948 period based on the relationship to the wages in Côte d'Ivoire for a few base years. The same procedure was followed for Benin for the 1937-1948 period. Skilled wages in 1957-1960 for Benin, Côte d'Ivoire and Niger are based on Senegalese levels. After the Second World War the official minimum wages were in principle determined centrally to follow the living standards of African workers.

The calculated wage based inflation rates are remarkably similar to the French consumer price index that is sometimes used as a benchmark for inflation in French West Africa.[25] Table 3 compares the developments between 1903 and 1960. The wage index increased some 235 times in Côte d'Ivoire over that period, slightly more than in the other three colonies, and slightly less than in France. Figure 10 displays the whole series. The most important difference between France and its colonies was that war time inflation is more pronounced in France, in particular during the First World War. One explanation is that inflation pressures were less strong in the colonies than in the metropole, but differences in labour market institutions may also have played a role. Workers' rights were neglected in the colonies until the 1930's, before a string of labour reforms were introduced before and after the Second World War (Fall 2011; Cooper 1996).

**Table 3 Increase in minimum wage between 1904 and 1960 compared to French CPI**

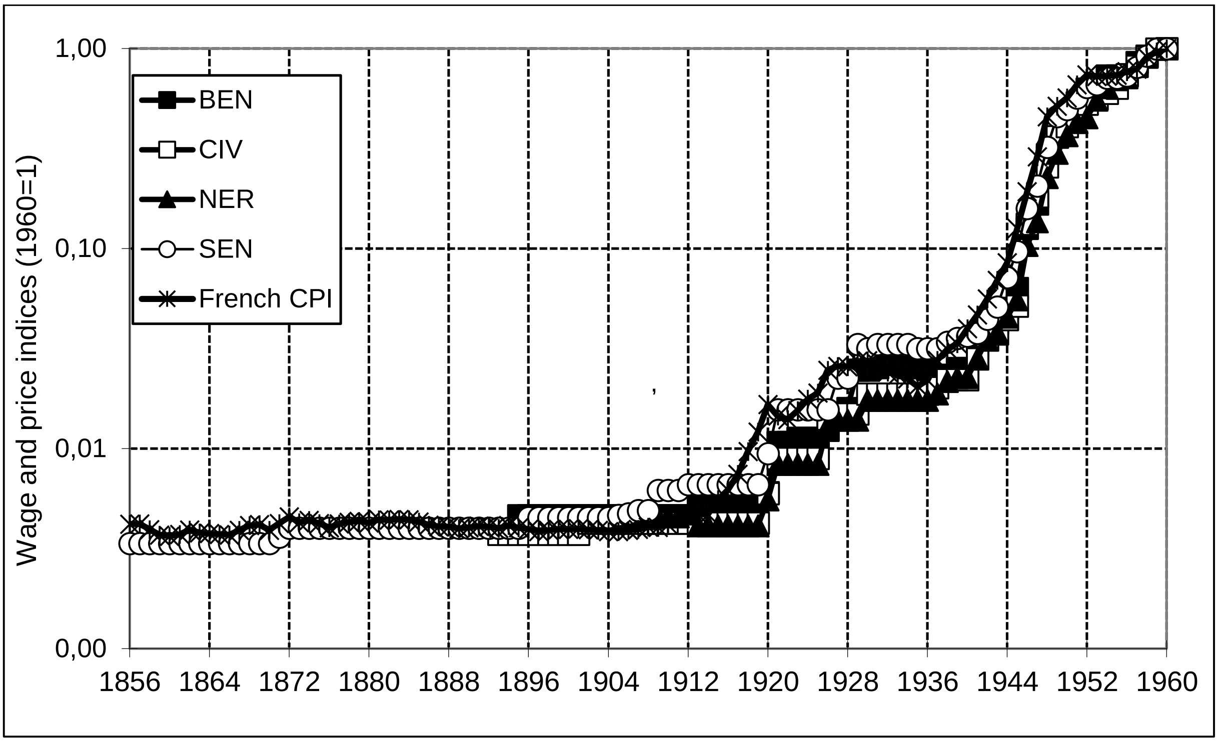
| | **1904/1960** |
|---|---|
| **Benin** | 215 |
| **Côte d'Ivoire** | 235 |
| **Niger** | 219 |
| **Senegal** | 221 |
| **French CPI** | 255 |

Source: Own calculations based on wages from colonial budgets. French CPI from Rouzet (2005: Tableau A.2) (1856-1889) and Piketty (2001: Tableau F-1) (1890-1960).

[24] For use of the minimum wage as a proxy for colonial price levels, see Frankema (2010; 2011). The limitation of only using the minimum wage is that it did not necessarily follow changes in prices very closely. For example, minimum wages were kept very low until the 1930s and converged strongly with skilled wage levels after the Second World War thanks to union activity and various types of labour legislation. See Cooper (1996) generally on the colonial labour market and Lakroum (1982) and Fall (2011) for a discussion of the history of labour and wages in Senegal.

[25] See e.g. Huillery (2014)

**Figure 10 Colonial PPPs for Benin, Côte d'Ivoire, Niger and Senegal and French CPI 1856-1960 (1960=1)**




Source: See Table 3

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