

**DE-COMPRESSING HISTORY?
PRE-COLONIAL INSTITUTIONS AND LOCAL GOVERNMENT
FINANCE IN BRITISH COLONIAL AFRICA¹**

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Abstract

This paper contributes to a growing literature linking pre-colonial institutions and current development in Africa. Research in this area attributes correlations between pre-colonial institutions and current development to ‘indirect rule’, in which colonial rule depended on pre-colonial African regimes. However, the structure and practice of indirect rule varied widely. This paper uses a new data set of local government revenue and expenditure to establish a more precise connection between indigenous states, colonial institutions, and contemporary development outcomes. These data are paired with anthropological records on pre-colonial states to assess the extent to which the fiscal capacity of local government units reflected pre-colonial state centralization. Finally, it suggests mechanisms by which late colonial local governments may have influenced post-independence development outcomes.

Key words: Indirect rule, pre-colonial centralization, local governments, taxation

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1. Introduction

According to a recent economic history of the continent, Africa remains ‘the development challenge of our time’ (Akyeampong et al 2014: 1). Part of tackling this challenge has been the study of African institutions, past and present, and their legacies for economic development. While most work on African institutions has focused on the colonial and post-independence eras in the twentieth century, recent research has drawn from anthropological studies of African societies to look beyond the colonial period and study the legacies of indigenous pre-colonial structures. Using measures of pre-colonial institutional quality, this work has shown correlations with current indicators of income or development (Gennaioli and Rainer 2007; Michalopoulos and Papaioannou 2013; Alsan 2015; Bandyopadhyay and Green forthcoming).

Such work has represented a welcome shift away from emphasis on the importance of the (relatively brief) period of colonial rule. However, it has also been controversial, for two reasons. One is that the measures of pre-colonial institutional quality used by these authors were often compiled during the colonial period itself, following a long period of economic and political upheaval for most of sub-Saharan Africa. Questions are therefore raised about how reliably these measures report on the pre-colonial past. The second point of controversy has been the question of mechanism through which pre-colonial institutions affected long run development. If we accept that measures of indigenous institutional quality reflect the period before colonial rule, it is not clear to which extent these institutions remained intact and or unchanged throughout the colonial period. The colonial period, however brief, saw the creation of new national boundaries and the imposition of foreign legal superstructures which have largely survived the transition to independence. This period was also character-

ized by considerable economic and social turmoil: urbanization, migration, war, and economic growth all had serious implications for the structure of African societies (Berman and Lonsdale 1992). How did these developments affect pre-colonial institutions? And how did these institutions adapt and change during the colonial period?

This paper addresses these critiques through an examination of a neglected set of institutions in the late colonial period, namely local governments, which were referred to by contemporaries as ‘native authorities’.² Explanations for the lasting effects of pre-colonial institutions often make reference to ‘indirect rule’, i.e. the practice of incorporating African regimes into colonial administrations. Native authorities were established and formalized under policies of indirect rule. Like most historical narratives, this one is complex. Many local studies of indirect rule have shown that it was a highly imprecise term, and that there was wide variation both between and within colonies in its structure and implementation. The main aim of this paper is to ‘decompress’ history by illustrating the link between the structure of pre-colonial states and the native authorities which provided the backbone of British colonial rule in Africa, and were often inherited by African governments after independence.³

To do this, the paper draws on new fiscal data for native authorities across four former British colonies: Nigeria, Ghana, Kenya and Malawi. At the national level, studies of fiscal systems have revealed the aims and capacities of colonial institutions in Africa (Frankema and van Waijenburg 2014; Gardner 2012; Mkandawire 2010). Local government finances have, however, been largely neglected by this literature (for an exception see Gardner 2012). And yet the structure and capacities of local governments have important implications for later development outcomes (Acemoglu, Reed and Robinson 2014; Baldwin forthcoming; Boone 2003). The paper ex-

² This paper follows the practice of Mamdani (1996) in subsequently relying on the good sense of the reader to place this phrase in its appropriate historical context.

³ Inspiration for the title comes from Austin (2008a)

plores the link between fiscal outcomes at local level in the late colonial period and the structure of pre-colonial states for the four countries, while also keeping in mind the influence of economic and political change through the colonial period. We find a statistically significant relationship between pre-colonial centralization and local authority revenue per capita, even controlling for economic and geographical factors. Some of the latter are also important: export production and the presence of railways are also significantly correlated with revenue per capita. We also suggest mechanisms by which local government capacity in the colonial period could influence later development patterns.

The paper proceeds as follows. Section 2 reviews in more detail the literature on the economic legacies of pre-colonial states, focusing particularly on the transmission mechanisms identified by current work. Section 3 provides a brief history of how pre-colonial structures were integrated into colonial governments, assessing whether reference to indirect rule is sufficient explanation for the links between pre-colonial institutions and later development outcomes. The next section (4) uses a new database of local government revenue to provide a snapshot of native authorities in the late colonial period. Section 5 presents the empirical analysis linking pre-colonial regimes and later economic change to local fiscal outcomes. In section 6, we present some preliminary speculations on the links between colonial local government capacity and later patterns of economic development. Section 7 concludes.

2. Pre-colonial institutions and current development outcomes

Michalopoulos and Papaioannou (2015) describe a divergence in research on Africa in recent years, between economics and history. Economics research has focused on

national institutions and outcomes, while historians have emphasized the limited reach of the nation-state and the importance of sub-national and parallel institutions. This gap has created space for two of the key topics which have emerged recently in the study of African institutions. One is the role of ethnic or ethnolinguistic fragmentation. The other is the continuing influence of pre-colonial structures. The aim of this section is to provide a brief review of this literature and the new questions it has raised.

The development of states – particularly, national states on a European model – has, historically, been a struggle in sub-Saharan Africa. There are a number of possible explanations. One is the region’s comparatively low population density, which, according to Herbst (2000) and Austin (2008b), made it difficult for pre-colonial rulers to establish a solid tax base. In a context of abundant land, unhappy constituents could ‘vote with their feet’ if tax burdens grew too heavy. Low population density also influenced the structure of African states. Even such large states were often highly decentralized in structure, and relied on tribute links between a ruler based frequently along an existing trade route, and subordinate elites in other locations. These, too, could also defect and African states were often vulnerable to fragmentation (Frankema 2015: 282).

These conclusions are speculative and remain the subject of debate (Fenske 2013; Osafo-Kwaako and Robinson 2013). Assessments of pre-colonial Africa are hampered by limitations in the surviving evidence on the structure and capacity of pre-colonial states. Evidence from case studies challenge or at least complicate the conclusions of the ‘factor endowments’ approach to African institutions described above. For example, Heywood and Thornton (1988) use travellers’ accounts on cen-

tral Angola in the nineteenth century to argue that at least some pre-colonial states had effective fiscal systems.

The main source for quantitative studies of pre-colonial political structure and its legacies comes from the Ethnographic Atlas compiled by Murdock (1967).⁴ The Atlas, which is based on material previously published in the journal *Ethnology*, contains a wealth of ethnographic information on 485 African societies, with variables ranging from those related to political structure to social stratification and modes of agricultural production. The sources underlying the Atlas are diverse and based on ethnographic readings from the Yale Library and Murdock's personal collection of monographs and articles. The actual time period for which societies are included is dependent on the earliest period for which Murdock could find satisfactory data. For most African societies this was generally the first quarter of the twentieth century. Murdock focused on the earliest date for which information was available to avoid cultural effects of contact with Europeans as much as possible (Murdock and White 1969).

The most widely used indicator from the Atlas is a measurement of the degree of political centralization. This variable measures the jurisdictional hierarchy or political authority beyond the local community and ranges from stateless societies (no levels beyond the community) via petty chiefdoms and larger chiefdoms to states and large states. Societies are commonly said to be politically centralized when they are organized in at least petty chiefdoms.

To measure the influence of pre-colonial institutions on long-term development, these data are correlated with a variety of current measures of economic and political development. Gennaoli and Rainer (2007), for example, show a correlation

⁴ Gray (1999) published an corrected and digitalized version of the Ethnographic Atlas which we use for our analysis.

between the share of national population belonging to more centralized ethnic groups and the later provision of public goods. The mechanism for this, they argue, was through the accountability of local chiefs to colonial and post-independence central governments. A key weakness of this study, however, is that the unit of analysis is at the national rather than sub-national level. This problem has been addressed by later work. Michaelopoulos and Papaïannou (2013) find a link between luminosity data, which allows for the measurement of development outcomes at sub-national level, and the degree of pre-colonial centralization, even controlling for geography and other features of pre-colonial societies. Bandyopadhyay and Green (forthcoming) use a case study of Uganda to argue that pre-colonial centralization is linked to post-independence development outcomes at the local level, but that this is not due to better provision of public goods but rather to the persistence of regional inequalities from the pre-colonial period to the present day.

Other hints can be found as to the lasting implications of pre-colonial institutions. Michaelopoulos and Papaïannou (2014), extending their earlier study, examine the level of development among ethnic groups partitioned by colonial boundaries and find little difference between them, despite in some cases considerable differences between neighbouring states in the quality of national institutions. Based on this analysis, they suggest that informal ethnic norms dating back to the precolonial period are more important in shaping development outcomes than formal rules implemented by the central state. They also find considerable within-country variation, with the influence of ethnic institutions stronger in regions farther away from capital cities.

While this literature establishes that the structure and capacity of pre-colonial states have influenced African political and economic development up to the present, the question which remains is how. Michaelopoulos and Papaïannou (2013: 149) sug-

gest that ‘future research should shed light on the mechanisms via which ethnic institutional and cultural traits shape economic performance’. To do this requires understanding how pre-colonial institutions adapted to the political and economic turmoil of the nineteenth and twentieth centuries. This includes the way in which indigenous institutions were incorporated within the structure of colonial and then post-independence states. It also includes the impact of colonial-era economic changes which have also shaped economies and societies in Africa, including (but not limited to): 1) the introduction of new cash crops like cocoa in Ghana (Austin 2014); 2) the construction of railways (Jedwab and Moradi forthcoming; Jedwab, Kerby and Moradi forthcoming); 3) and the arrival of European settlers (Mosley 1983). This paper contributes to these debates using data on the structure and capacities of native authorities in the colonial period. The next two sections review the history of how pre-colonial states became native authorities, a process which varied both between and within colonies and presents some descriptive statistics on native authority areas in the four colonies studied in detail here.

3. From pre-colonial to colonial: Complexities of ‘indirect rule’

Our Old Mother Indirect Rule

Liked, disliked and Misunderstood;

Though didst play thy part well,

Laying solid foundations for days ahead;

We shall not forget thee whate’er we do.

N. U. Akpan, *Epitaph to indirect rule* (quoted in Hicks 1961: 81)

The most obvious explanation for the continued influence of pre-colonial regimes through the colonial period might be policies of ‘indirect rule’, in which colonial governments relied on cooperation from African rulers to extend their authority. Such an explanation is often implicit in the literature referenced above. Gennaioli and Rainer (2007) note that ‘the impact of precolonial institutions was enhanced by the weakness of the colonial and post-colonial national state’. Michalopoulos and Papaioannou (2003), citing Mamdani (1996), argue that ‘European colonizers in several occasions strengthened tribal chiefs and kings via their doctrine of indirect rule’.

On the face of it, this explanation seems sensible. A substantial literature has demonstrated that colonial governments were under-staffed and under-resourced, and could not hope to control directly the vast territories they claimed (Gardner 2012; Frankema 2011; Kirk-Greene 1980; Richens 2009). Unfortunately, the simple phrase ‘indirect rule’ masks a political landscape of enormous complexity and nuance. Both historians and contemporaries have debated the aims, implementation and legacies of indirect rule for different parts of the continent, generating a substantial literature. Contemporaries noted that the practice of indirect rule depended on the structure of the African societies encountered by colonial officials. Historians have gone further, arguing that British officials, whether intentionally or not, changed African societies to suit their own interests and often based on mistaken information or miscommunication. For their part, African elites used connections to the colonial state to entrench their own positions and remove the checks and balances which had previously constrained their behavior (Crowder and Ikime 1970). It was this change, in particular, that motivated Mamdani’s (1996) description of British rule as ‘decentralized despotism’. At the same time, both Africans and colonial officials struggled to cope with the implications of large-scale social and economic change for traditional institutions.

The structure of native administrations depended on two overlapping political processes. The first was the establishment of relationships between early colonial administrators and African elites. Such relationships were first codified in 'Native Authority' ordinances passed by colonial administrations at various points in the nineteenth and early twentieth centuries. Often, this meant the recognition of an individual chief as 'native authority', sometimes removing the traditional councils which had previously played an important part in indigenous governance (Hicks 1961: 87).

This process was not always straightforward. Identifying the appropriate chief was a task fraught with difficulty for colonial governments with little knowledge of African societies. Willis (1993) notes that the historiography of indirect rule has emphasized its role in the 'creation' of tribes. In some cases, chiefs were not found from amongst existing hierarchies but appointed by colonial officials. In Nyasaland, for example, early colonial administrators claimed that due to social disintegration linked to the slave trade 'there were very few Chiefs who could be of great assistance to it' (Hailey 1953: v 2, 25). Under the District Administration (Native) Ordinance of 1912, headmen were appointed on a district level but not necessarily drawn from amongst pre-colonial rulers. Another example is the warrant chiefs system in Eastern Nigeria. Afigbo (1967: 683-6) chronicles the creation in the nineteenth century of the Court of Equity, on which African merchants sat alongside European commercial agents. This was abolished when the British government established a protectorate over the Oil Rivers region in 1885, but paved the way for what became the warrant chief system and ultimately the foundation for native authorities in the region. Hicks (1961: 103) described the warrant chief system as 'on the whole a sad failure', because 'in some cases the wrong men (noisy ruffians) were chosen; everywhere they were completely alien to indigenous traditions.'

Where there were more highly centralized states, the process was less complex but still not as simple as official histories would suggest. Again, there was considerable local variance which is illustrated by research on individual localities. In a detailed study of native administration in the Sokoto Emirate, Northern Nigeria, Tibenderana (1988) observes that British officials often intervened in succession disputes and sometimes allowed emirs less autonomy than suggested by official policy, ultimately undermining the authority of the Sokoto sultan. In contrast, Salamone (1980) argues in the case of Yauri Emirate that ‘colonial administrators misunderstood the old one and created a new one that was far more centralized than the old emirates have been... Indigenous rulers reinterpreted the old system to their advantage and were active partners with administrative officers in the working misunderstanding that marked colonial rule’.

In short, it is difficult to generalize about the early patterns of indirect rule. Willis (1993), in a detailed examination of Bonde in Tanganyika argues that local conditions were important in shaping its structure, something with the literature on ‘creation’ of tribes has not always acknowledged. Instead, indirect rule meant different things in different places. In his detailed study of native administration in the post-war period, Lord Hailey intentionally avoided using the phrase, arguing that it had ‘no claim to precision’.

The second political process was the effort to transform ‘native authorities’ into local governments along a quasi-British model. From the inter-war period, there was an increasing emphasis in official British policy on the need for decentralization and the strengthening of local governments. Legislation was passed which standardized the structure of native authorities and gave them a number of new responsibilities and powers (Gardner 2012). This process introduced further variety as it was more

successful in some areas than in others, with important implications for later development.

There were two key motivations for this new policy. The best articulation came from a 1947 dispatch from Sir Arthur Creech Jones, then colonial secretary, to the governors of African colonies. It stressed that the main reasons for developing local authorities in Africa were (1) the important role these might play in economic development initiatives, and; 2) their potential as a 'training ground' in government for African administrators (Lucas 1963: 195). Part of these reforms involved the re-introduction of councils, with which native authorities were expected to consult on public policies. Councils could take various forms: in some cases, councilors were members of chiefly families. In others, however, they were appointed by the colonial administration or elected. The latter two methods were designed, in part, to ensure that younger, educated Africans could play a role in native authority governance (Gardner 2012: 163). This was in part to build a group of African politicians and administrators which could counter the urban elite voicing ever-louder demands for self-government, and in part to improve the capacity of native authorities commensurate with expanding responsibilities (Lucas 1963). As Crowder and Ikime (1970: xxiv-v) put it, 'chiefs chosen for their legitimacy rather than ability, became less and less capable of running the bureaucratic structures of local government units which in the case of Kano [in Northern Nigeria] were almost as complex as those of an English County council'. In practice, this complexity meant that the 'new educated African elite had to be employed.'

There were from the outset serious contradictions in this formula. William Ormsby-Gore, reviewing a book on the principles of native administration by Donald

Cameron (then governor of Nigeria), outlined (perhaps unintentionally) the challenges which these efforts would encounter:

The sphere of native administration is the sphere of local government. In form it must be based on indigenous and inherited traditions. Its form and functions must be evolutionary and not static. It must have the sanction of popular acceptance. It must be moulded and modified by the advice – another important word – of British officers, who shall each and all be under the control and direction of a central government (Ormsby-Gore 1935: 284).

As colonial secretary from 1936-38, Ormsby-Gore would begin to grapple with the difficulties of maintaining links to ‘inherited tradition’ while at the same time increasing the ‘modern’ responsibilities of native authorities. Writing after the war, Hinden (1950: 32) doubted the prospects of this policy, noting that ‘local government in Africa is, in reality, “tribal government”’, with different social functions than British local governments. ‘Yet it is on these very tribal authorities that the status and powers of local administration are now increasingly being devolved. They are expected to organize a whole range of social services and an equitable taxation system, and to run a Treasury on European lines. In some areas the traditional native institutions have proved quite ineffective for these purposes’.

One of the most persistent conflicts was between educated Africans and traditional rulers. Margery Perham wrote as early as 1935 that ‘it has been urged that primitive society, from its nature, cannot be preserved in the modern world except by questionable artificial measures, and that most Africans who are educated enough to understand the position of their people to-day reject the control of conservative chiefs’ (Perham 1935: 13). Clashes between the educated elite, both rural and urban, became increasingly frequent as pressure for decolonization gathered pace. Nationalist politi-

cians as well as some local councilors viewed chiefs as ‘lackeys of the colonial regime’ (Crowder and Ikime 1970: xxiii).

By the late colonial period, therefore, what had been created through indirect rule in its various guises was an amalgam of native administrations of different sizes, structures and capacities, with varying connections to the pre-colonial past. In most parts of Africa, what Hicks (1961: 81) refers to as the ‘mature native authority system’, comprised of ‘the native court, the native treasury, and the native authority’ had been put in place. However, the transition from native authority to local government remained incomplete. Tensions between elected or ‘progressive’ councils and traditional rulers remained, laying the foundations for what has been called ‘parallel’ government in post-independence Africa, with elected local officials serving sometimes uneasily beside traditional rulers (Eggen 2011). The next section will provide the first quantitative analysis of the native authority system, focusing particularly on the capacity of the native treasuries.

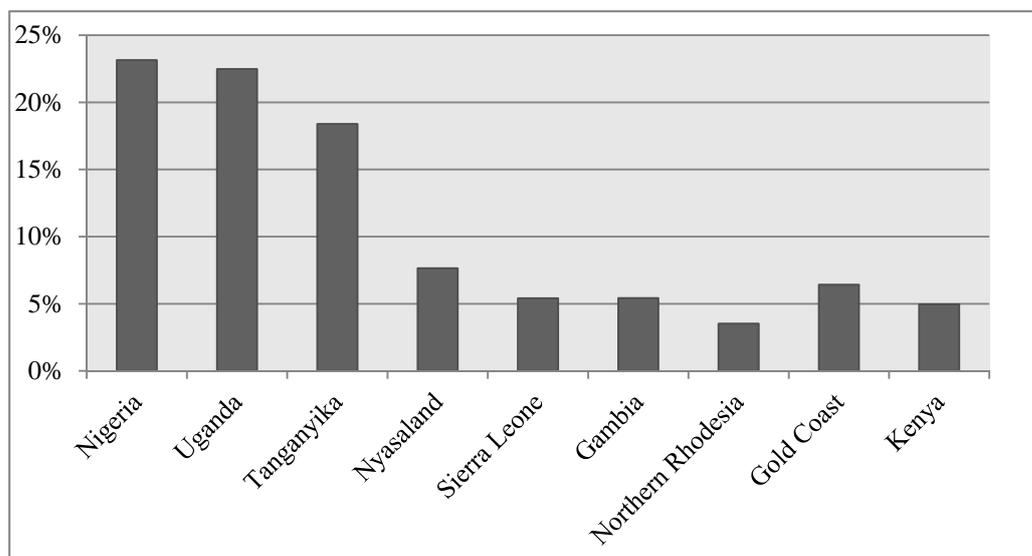
4. Native Authorities in the late colonial period

This paper draws on a new dataset providing a snapshot of native authorities in the late colonial period. Two factors influenced the selection of this time period. First, it allows us to capture the capacity of native authorities after the two political processes outlined in the previous section had largely reached their end, reflecting the changes of the nineteenth and twentieth centuries. Second, it takes advantage of the revived interest of colonial administrations and imperial government in the development of local authorities. Up to World War II, information on native administration was generally reported to colonial administrations by district officers, but these reports lacked

a standard format and were often aggregated by province. Data become more prevalent and more detailed in the late colonial period. Heightened imperial interest also prompted demands for a comparative picture. The highest-profile of these emerged from Lord Hailey's *African Survey*. From the data collected for the survey, a preliminary report on native administration was published in 1942, which was then followed by a longer report in 1953. Hailey's reports provide a wealth of information on the structure and functions of local authorities throughout sub-Saharan Africa, as well as their relationships to colonial administrations. We also use the primary records used in Hailey's research, now held by the National Archives, to supplement data compiled by individual colonies. These new sources enable us to collect data at the level of individual local authorities rather than at the more aggregated level of the district or colony, illustrating the degree of within-country variation as well as variation between colonies. This section presents these data in summary form, illustrating the state of native authorities at the end of the colonial period.

The first thing to note is the degree of variation between colonies in the extent to which the processes outlined above had progressed by the end of the colonial period. One way to measure this is through the degree of fiscal decentralization, shown in Figure 1. The level of fiscal decentralization varied from less than 5 per cent of revenue collected by native authorities in Northern Rhodesia to close to 25 per cent in the case of Nigeria. This variation reflected differences in the relationship between native authorities and central government – in some, minimal powers and responsibilities had been transferred – but also the capacities of local governments to take on these powers. To explain this further, however, requires understanding the great variety of institutions which existed within each colony.

Fig 1 Local Government Revenue as a Share of Central Government Revenue, 1957



Source: Gardner (2015)

Variation within colonies was equally, if not more, important than variation between them. The most basic way in which native authorities differed was in terms of their size. Crowder and Ikime (1970: xiii) note that the British preoccupation with legitimacy for chiefs meant that they were ‘willing to tolerate great variety in the size and shape of their Native Authorities’. The individual personalities and beliefs of colonial governors could also have an impact; in Eastern Nigeria, for example, Governor Cameron believed that the appropriate level for the native authority was the village. Hicks (1961: 105) argues that his policies led to ‘a wild fragmentation of the Native Authorities in the east... The cost of restoring the clan organization to its former position was the establishment of Native Treasuries whose jurisdictions were too small and finances too meager to be able to play an effective part in local government organization and development’. Our data confirms this impression. Table 1 gives population data for native treasury areas in Kenya, the Gold Coast, Nigeria and Nyasaland

around 1950.⁵ To start, it shows that the size of local government jurisdictions varied enormously between and within colonies.

Table 1 Population of native treasury areas⁶

	Number of native treasuries	Mean	Standard deviation	Min	Max
Nigeria	226	153,796	311,439	3,273	2,882,414
Gold Coast	92	46,083	73,571	1,587	459,972
Kenya	26	171,873	169,959	15,341	633,568
Nyasaland	14	158,492	65,692	61,101	302,250

Source: See appendix

The largest native treasury in the sample in terms of population was Kano. The smallest was the Ehuren Division of Ashanti in the Gold Coast. Mean populations were broadly similar across Nigeria, Kenya and Nyasaland but much lower in the Gold Coast.

The wide variance in the populations of native authority areas was, in part, linked to the fact that internal boundaries were a source of considerable political tension. Falola (2010: 7) documents a range of small conflicts over local authority boundaries, noting that in many cases ‘once some members of a group within an administrative unit believe that they are not getting enough, they demand an autonomous unit. The colonial government had to create various districts and reorganize local governments to meet the pressures’. Smaller authorities often united to form a single treasury; however, they also could break away from a larger group.

⁵ Detailed population censuses are often unavailable for African countries before World War II, and become more accurate after the war. See Frankema and Jerven (2014).

⁶ Native treasury, rather than native authority, populations are shown here to facilitate use of the data on native authority finances below. In most cases, each native authority had its own treasury. However, some smaller native authorities federated under a single treasury. Minimum populations may therefore be even smaller if native authority data are used.

There were also considerable differences in the activities and capacities of native authorities. In this paper, we use government revenue as a proxy for local government capacity. As noted above, public revenue is widely used as an indicator of institutional capacity at the national level in studies of colonial Africa. Table 2 below gives data on revenue per capita for individual native treasuries. Again, there is a wide variance.

Table 2 Per capita revenue (pence)

	Number of native treasuries	Mean	Standard deviation	Min	Max
Nigeria	226	28	15	6	108
Gold Coast	92	72	52	10	304
Kenya	26	23	11	3	47
Nyasaland	14	10	6	4	27

Source: See appendix

Particularly notable is the much higher maximum levels of revenue per capita in Nigeria and the Gold Coast. Mean revenue per capita is also higher in the Gold Coast. This contrasts with relatively low numbers in Nyasaland. This variance is diminished, but not eliminated, if per capita totals are deflated using local wages, as in Table 3.

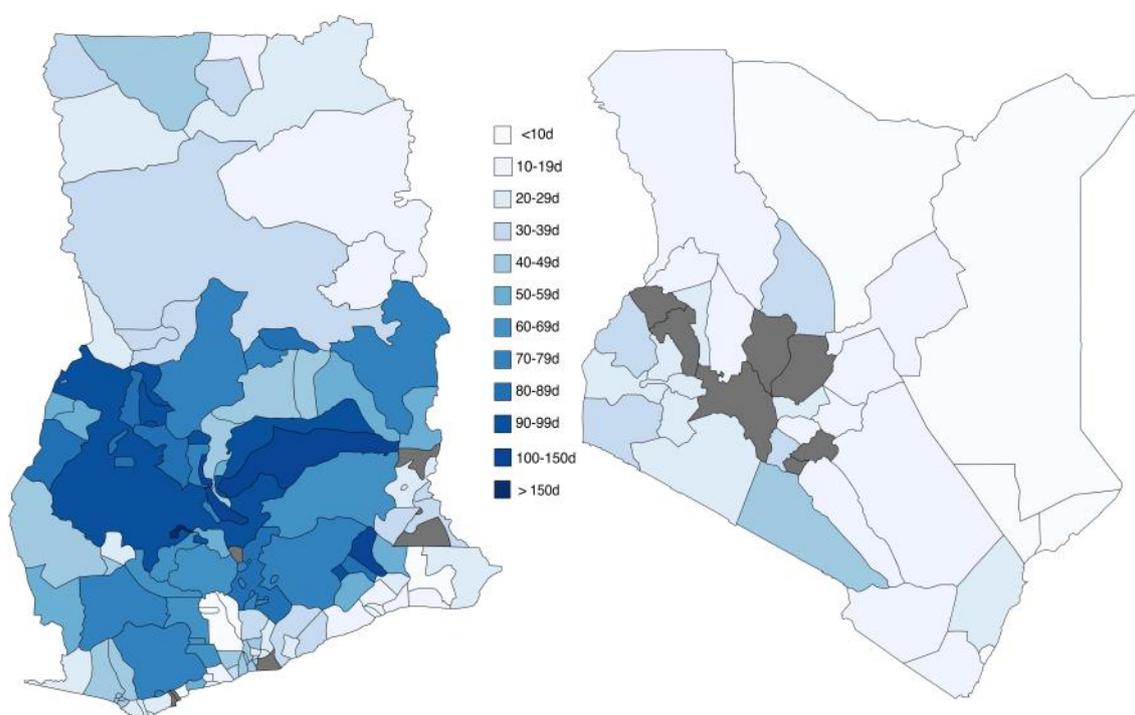
Table 3 Per capita revenue (number of days worked)

	Number of native treasuries	Mean	Standard deviation	Min	Max
Nigeria	226	0.9	0.5	0.2	3.6
Gold Coast	92	2.1	1.5	0.1	8.8
Kenya	26	0.8	0.4	0.1	1.7
Nyasaland	14	1.6	0.3	1.2	2.1

Source: Revenue data see appendix; wages from Frankema and van Waijenburg (2012).

This paper is also the first to map native authority areas. While there is a large literature on the historical legacies of national boundaries established during colonial rule (Herbst 2000; Green 2012), sub-national boundaries have been largely neglected. Figure 1 maps these data for the Gold Coast and Kenya.

Fig. 2 Revenue per capita by local authority area in Kenya and the Gold Coast



Source: See appendix

The two countries are mapped on the same scale, with darker shades indicating higher levels of nominal revenue per capita. Grey sections are either areas for which we have no data (in the Gold Coast) or for settler areas (Kenya) which had a separate system of local government for Europeans. A contrast is notable not only between the Gold Coast and Kenya as a whole but also between the central regions of the Gold Coast and the northern and coastal regions. The central region of the Gold Coast was domi-

nated by the Ashanti kingdom. The next section will investigate whether the degree of political centralization influenced the capacity of late colonial native authorities.

5. Analysis

How can we explain the variation in the capacity of native authorities in the late colonial period? The previous two sections have suggested several possible sources of variance in local government revenue. One is the structure of pre-colonial states. This effect could work one of two ways. On the one hand, more centralized African states might have been able to draw on existing fiscal systems in the collection of local rates later in the colonial period. On the other hand, existing historiography suggests that more centralized African states could often be more conservative in the adoption of new policies. The relative backwardness of Northern Nigeria, for example, is often attributed to the conservatism of the emirs (Tibenderana 1988). Beyond this, however, a number of other factors could increase revenue. Export earnings generated through the introduction of new crops or a reduction of transports costs could expand the tax base. Alternatively, for example access to formal education could increase willingness to fund local public services. This section will test the influence of these factors on the revenue per capita data from the previous section.

To determine pre-colonial state centralization for each native authority, we have used colonial maps of native authorities, and a map of the geographical location of indigenous societies which was originally created by Murdock (1959) and digitalized by Nunn (2011). Matching the colonial maps to the pre-colonial map allowed us assign societies to the various native authorities. We cross checked our findings with information from the Hailey reports on which groups were living in the area, and add-

ed groups when the Hailey report clearly indicated the importance of certain groups which we did not include based on the Murdock map.

Matching the societies on the pre-colonial map and those described in the Hailey reports to the societies included in the Atlas allowed us to determine the level of state centralization for each society. By averaging the level of state centralization for all groups living in a native authority we obtained the level of state centralization for each native authority. In those instances where the colonial boundary around the native authority area split groups between various native authorities, we used the level of state centralization for the divided groups in calculating state centralization for all areas of which they were a part.

The period of observation of societies included in the Atlas is mostly in the early 20th century, so during the first half of the colonial period. As mentioned above, this makes the data controversial as it is unclear to what extent these measures actually capture the situation before the colonial period. But given that we are interested in how indigenous societies played a role in the development of (local) colonial institutions, this period of observation might actually be to our advantage.

The reason is that the link between pre-colonial governments and colonial native authorities is not entirely straightforward. It was rare for pre-colonial regimes to be integrated into colonial governments in their original form and most experienced some change as the colonial period progressed. The establishment of colonial rule strengthened some indigenous authorities while weakening others and much depended on colonial officials' perceptions of African regimes. As these 'perceptions' developed during the same time period as in which the observations used in the Atlas were recorded, by using the Atlas for our analysis we perhaps capture part of the percep-

tions which were an important mediating factor for the inclusion of pre-colonial regimes into native authority rule.

Beyond pre-colonial state centralization there are a number of other factors that could increase per capita revenue collection. The first factor we explore is population density. A-priori the effect of population density on tax revenue is ambiguous. On the one hand it is argued that the collection of taxes is easier in areas with higher population density, as it reduces administrative costs and makes controlling for tax evasion easier (Ansari, 1982). Additionally, in the absence of more advanced statistics, population density is sometimes taken as a proxy for wealth in a society (Acemoglu et. al, 2002). As wealth increases the tax-base, it might enable a higher tax rate.

In contrast, Becker et al. (1999) argue that in poor mainly agricultural societies, with limited physical and human capital and simple technologies, a higher population density tends to lower per capita income and hence lower the tax-base. Higher population density could thus also lead to lower per capita taxes. This negative relation is confirmed by various empirical studies on recent tax collection in a number of African countries and other developing regions (Profeta and Scabrosetti, 2010; Addison and Levin, 2012; Dioda, 2012). For our analysis we collected population density estimates from the primary records on which the Hailey reports are based. In the instances for which these records do not provide population density figures at the native authority levels we used district level figures.

The second factor we included in our analysis is whether the population of native authorities engaged in export production. As export earnings generated through growing cash crops such as cocoa or cotton could expand the tax base, the presence of such activities is expected to increase the per capita tax rates. For information on export production in native authority areas, we again consulted the Hailey reports. For

various native authorities these reports estimate total production of crops, but unfortunately this is not consistently available for all native authorities. Instead we created a dummy variable which indicates whether native authorities engaged in production for the export market, without distinguishing between the various crops produced.

The third factor is closely related to cash crop production, namely access to the railroad. Cash crop production can only result in increased incomes if the produce can be marketed. For the access to markets, especially when markets were further away, railways were important (Jedwab and Moradi forthcoming; Jedwab, Kerby and Moradi forthcoming). To capture the access of native authority areas to railways, we created a dummy which indicates whether a railway line crossed a native authority area, using colonial maps from around the end of the colonial period. The potential importance of the railway line will of course only materialize if the train stations are actually close by, which means access to the train is easy. Given that train stations are very close together (sometimes only 5 kilometer apart), we believe the presence of the railway line in a native authority area is a good approximation of the presence of actual train stations.⁷

The final factor which we explore is the historical presence of missionaries in native authorities. Missionaries played a crucial role in the establishment of formal education in colonial Africa, as until 1940, around 90 percent of all formal education in colonial Africa was provided by missionaries (Woodberry, 2004; Frankema, 2012; Huillery, 2013; Nunn, 2014). As increased access to formal education could increase willingness to fund local public services, this suggests a positive relationship between historical missionary presence and the per capita tax rates. We obtain our data on historical presence of missionaries from the ‘Ethnographic Survey of Africa’ published

⁷ We intend to include actual train stations in the near future.

by Roome (1924) and digitized by Nunn (2014) and we created a missionary dummy which indicates the presence of a missionary station in native authority areas.

To understand what explains the variation in the capacity of native authorities in the late colonial period, we set up a simple OLS framework and include the control variables one by one (see table 4). The standard errors are clustered around population density. As discussed above, we at various instances impute the same population density value for more than one native authority based on district level density data, due to missing information for certain native authorities.

Table 4: Explaining fiscal capacity

	Revenue pc	Revenue pc	Revenue pc	Revenue pc
State centralization	4.856*** (1.85)	2.977* (1.75)	2.884* (1.75)	3.019* (1.66)
Population density	-0.044** (0.02)	-0.053** (0.02)	-0.052** (0.02)	-0.044* (0.02)
Export dummy		11.862*** (3.10)	11.615*** (3.08)	11.449*** (3.08)
Railroad			10.221** (4.48)	11.512** (4.48)
Missionary dummy				-10.165*** (3.39)
Constant	28.605*** (4.34)	25.340*** (4.34)	22.919*** (4.61)	26.630*** (4.36)
R2	0.06	0.1	0.13	0.17
N	193	193	193	193

The capacity of native authorities to collect taxes seems to be higher in those areas where indigenous societies had or deemed to have had more developed state structures.

This could be because more centralized African states might have been able to draw on existing fiscal systems in the collection of local rates (Heywood and Thornton, 1988). Population density is very strongly and consistently negatively related to fiscal capacity. This finding is in line with empirical studies that for the more recent period also find a negative relationship between fiscal capacity and population density (Profeta and Scabrosetti, 2010; Addison and Levin, 2012; Dioda, 2012). It appears that population density in the countries we study indeed lower the tax-base by depressing per capita income.

The presence of export production and access to the market via a connection to the railway line are both positively and strongly related to fiscal capacity. These effects are also likely to be indirect, and run via per capita income. Areas that are able to grow and market export crops might see income rise which expands the tax base of the native authorities. And finally, the historical presence of missionaries, which is associated with the establishment of formal education in the areas we study, negatively impacts fiscal capacity. This may be linked to local political conflicts between the educated elite and traditional rulers; where missionary influence was strongest, chiefs may have struggled to build a tax base.

6. Implications for development outcomes

The main aim of this paper has been to link pre-colonial centralization to late colonial local governments in order to identify the mechanism by which pre-colonial institutions might be linked to post-independence development outcomes. This section will offer some preliminary speculations about the ways in which local government capacity may have affected post-independence development. Two key mechanisms will be

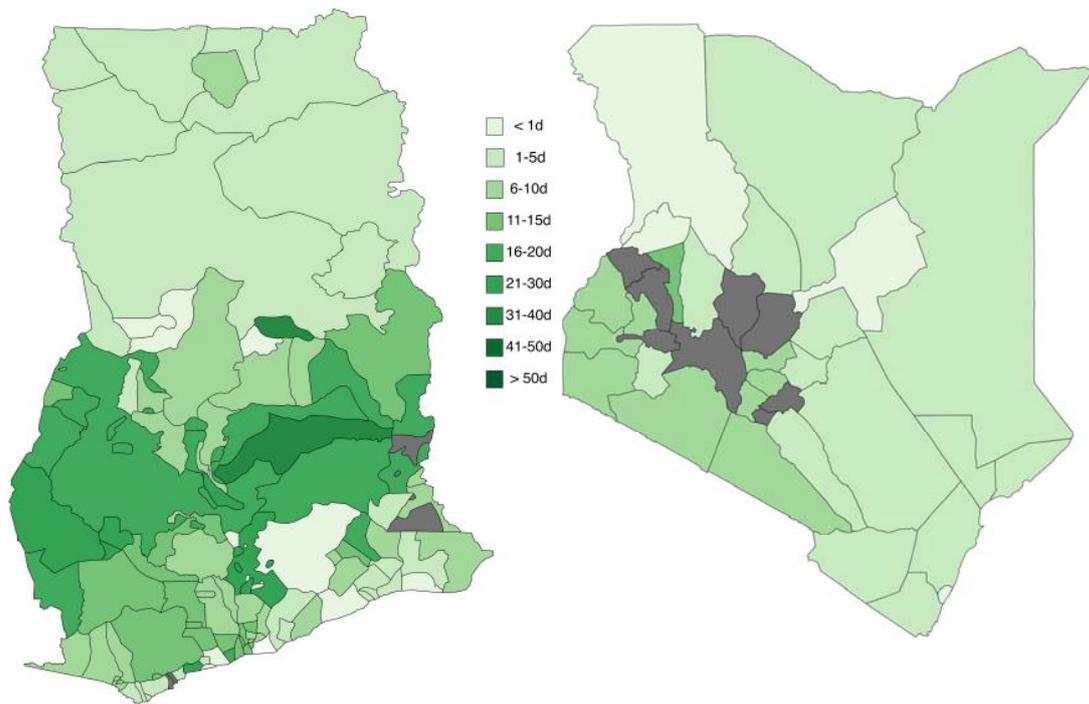
highlighted. One is the lasting effect of colonial-era investments in human capital. The second is through the administrative capacity of chiefs and local government institutions at independence.

Current research on the economic legacies of colonialism has stressed the importance of early investments in human capital, particularly education (Bolt and Bezemer 2009). Much of this literature focuses on national differences in the patterns of expenditure. Frankema (2012) argues that British attitudes towards missionary activity facilitated higher enrolment rates in British colonies as compared with French and Portuguese colonies in Africa, despite limited investment from the colonial government. This advantage was erased in later periods, when all colonial governments increased their spending on education. Yet, the wide distribution in educational attainment at the end of the colonial period remained persistent and explains much of the current variation in schooling rates between African (Bolt and Bezemer, 2009; Frankema, 2012). This finding is confirmed by Cogneau and Moradi (2014) who use the division of Togo between British and French administrations to examine the implications of different colonial policies on educational developments. They find a divergence in literacy between the two territories, which they attribute to different missionary activity during the colonial period.

Data limitations have meant that few studies have examined this at the sub-national level. One exception is Huillery (2009), which uses district-level data to show a relationship between colonial public investments and post-independence public investment. In her study, education was a particularly important influence. Iyer (2010) comes to similar conclusions for India, arguing that investments in the colonial period in the Indian princely states have persistent effects until today.

Native authority expenditure has not generally been included in studies of colonial public spending in Africa. However, anecdotal evidence suggests that native authorities particularly prioritized investments in human capital, especially education (Gardner 2012; Perham 1937).

Fig 3 Per capita spending on education by native treasury area



Source: See appendix

Those with greater resources could invest more in these items. Figure 3 shows nominal per capita spending on education by native authorities in Kenya and the Gold Coast. As above, the Ashanti region stands out for relative high spending on local education provision. Indeed if we regress educational spending per capita on fiscal capacity of native authorities, measured as total revenue per capita, for our sample of countries excluding Nigeria⁸ the relationship is strongly positive (see table 5 below).

⁸ So far we have not been able to locate disaggregated expenditure data for Nigerian native authorities.

Table 5: Native authority spending on education

	Education spending pc	Education spending pc	Education spending pc	Education spending pc	Education spending pc
Total revenue pc	0.213*** (0.05)				
State centralization		2.935** (0.99)	2.756** (0.93)	1.770* (0.93)	1.632* (0.94)
Population density		0.006 (0.01)	0.009* (0.01)	0.006 (0.01)	0.005 (0.01)
Missionary dummy			-3.136** (1.37)	-3.332** (1.29)	-3.302* * (1.26)
Export dummy				3.046** (1.16)	3.221*** (1.18)
Railroad				3.243** (1.49)	3.299** (1.44)
Tribe share					4.576* (2.37)
Constant	-1.533 (2.42)	-0.122 (2.49)	1.688 (2.42)	1.419 (2.58)	-1.714 (3.23)
r2	0.606	0.065	0.119	0.224	0.249
	124	94	94	94	94

If we look beyond fiscal capacity, other factors might also play a role. First, it seems that native authorities which are characterized by state structures spend more on education. Additionally, the historical presence of missionaries is negatively related to educational outlays at the local level. Given missionaries were important in the provision of formal education during the colonial period, it could be that where the missionaries were absent, local rulers felt more or were more responsible for the development of formal education.

Economic characteristics such as the production of cash crops and access to the railway line were positively related to educational spending, very similar to the results for fiscal capacity. In contrast, population density seems only marginally yet *positively* related to educational expenses.

Finally, we explore the influence of the diversity of indigenous societies which make up the population of the native authorities. There is a large literature looking at the effect of ethnic and linguistic diversity on welfare spending (for reviews see Alesina and La Ferrara 2005; Stichnoth and Van der Straeten, 2013). The effect of diversity on spending (or development) is not always straightforward. Based on game theoretical principles, the main argument is often that diversity leads to suboptimal public spending because it is more difficult to reach an optimal solution with many different players - both in terms of composition and amount of supply (Alesina et.al, 1992; Alesina and Drazen, 1991; Alesina and Rodrik, 1994; Alesina et al. 1999). We try to capture this by measuring the share of major tribe in each native authority based on relative populations shares given by the Hailey reports (Tribe share). We find that the larger the share of population belonging to the dominant tribe, the more the native authorities spend on education. It could thus be that where there are fewer players in the political field, native authorities were more inclined to invest in human capital.

Spending on education does not necessarily improve outcomes, and further research is needed to assess whether this expenditure influenced later patterns. Further, additional research is needed to understand how the factors outlined above interacted with one another. Northern Nigeria, for example, though home to highly centralized precolonial states, had relatively low investment in human capital during the colonial period and relatively poor outcomes thereafter. Tibenderana (1988) argues that this was linked to the terms of the emirates' relationships with the colonial government, which wanted to restrict provision of education to match likely employment opportunities in the area. Such nuances should be investigated. However, given the findings of earlier work on colonial-era education provision, it seems likely that the constitu-

ents of native authorities able to spend more on education, healthcare and local infrastructure may have had an advantage at the end of the colonial period.

A second channel by which contemporary development outcomes might be linked to colonial native authorities is through the persistence of local government capacity, either through formal or informal local institutions. Local government capacity may be particularly important in developing countries, where central governments have both low levels of capacity and limited reach beyond the capital (Caldeira et al 2012; Ndegwa 2002) – as is the case in African countries, according to Michalopoulos and Pappaioannou (2015). Put another way, Hinden (1950: 29) argued prior to decolonization that ‘the absence of a working administrative machine which stretches down to every town and village can easily be the rock on which self-government founders. The most perfect Education Act may be inscribed on the statute book, the most comprehensive system of health services may be blue-printed, but who is to carry them out and secure their benefits for every child and every sick person and every locality?’ Boone (2003) also suggests that different capacities of local governments have influenced the uneven impacts of reform efforts.

Beyond decentralization more generally remains the question of parallel government mentioned at the end of section 3. The continuing importance of chiefs even in the presence of other structures remains an important question in the literature on African political systems. In a forthcoming book, Baldwin finds that in Zambia in the twenty-first century, the presence of a chief facilitated investment in public services, particularly the construction of new projects. She argues that this finding is linked to the ability of chiefs to encourage local collective action. In earlier work, she has suggested that the delegation of power to chiefs was a conscious policy by post-independence governments rather than necessarily an indication of their weakness

(Baldwin 2014). Gennaioli and Rainer (2007) argue that one mechanism for their finding may be that ‘colonial and postcolonial governments could foster policy coordination and implementation’ in areas with more centralized government, ‘leading to faster adoption of European policies and technologies’. The example of northern Nigeria suggests caution about such a finding. However, this again suggests a need for further research on the changing institutions of the chieftaincy and local government over the colonial and post-independence periods to understand the implications for later development.

7. Conclusions

The main aim of this paper has been to ‘decompress’ history by investigating the ways in which pre-colonial states were incorporated within colonial administration. Understanding this process has been the missing piece in literature linking pre-colonial centralization to current development outcomes. Though such work frequently makes reference to colonial policies of ‘indirect rule’ as well as to the weakness of the colonial state to explain the relationship, the lack of precision in the phrase ‘indirect rule’ makes this unsatisfactory.

This paper uses a new database of public revenue and expenditure for late colonial local authorities in four African countries to show the factors which influenced local government capacity at the end of the colonial period. State centralization does indeed have a significant relationship with local revenue per capita. However, so do indicators of economic change during the colonial period such as access to railways and export markets. The presence of missionaries has a negative impact, suggesting

that the colonial political dynamics of African societies may have had an impact on later development outcomes.

The limited research on native authorities, particularly from a comparative perspective, means that a number of issues raised here require further investigation. One is the link between native authority spending in the colonial period and development outcomes in the present day. This is the subject of further work in this project. Another is the role of the structure and age of local authorities. Were elected councils better than appointed councils even if they prompted conflict within the native authority? The size of native authorities may also be important. Determining the optimal size of local authority areas remains a difficult problem in designing policies of political and fiscal decentralization. Finally, how did late colonial institutions change with decolonization? Future research will hopefully help answer these questions.

For now, the contribution of this paper is three-fold. First, it provides the first quantitative measurement of links between pre-colonial states and the structure of colonial institutions, grounding this discussion in the rich historiography of indirect rule. Second, it provides one of the few quantitative measures of institutional capacity in Africa at the sub-national level during the colonial period. Third, it indicates ways in which that capacity may be linked to post-independence development outcomes.

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Appendix: Sources of data

Data on central government finances in all cases collected from the colonial Blue Books before 1945 and the Financial Reports thereafter.

Sources of local government data and population data vary by colony, as below:

Gambia, Protectorate Treasuries progress Report 1945 (Bathurst 1955)

Gold Coast, Report on Local Government Finance (Accra 1952)

Kenya, Report on Native Affairs 1946-47 (Nairobi, 1949)

Nigeria, Native Treasury Estimates, 1947-8, in TNA CO 1019/41.

Northern Rhodesia, Annual Report on African Affairs for 1948 (Lusaka 1949)

Northern Rhodesia, Report of the Auditor General of the Federation on Accounts of the Northern Rhodesia Native Treasuries for the year ended 31st December 1957 (Lusaka 1958).

Nyasaland, 'Economic Statistics', in CO 1015/522; Provincial Annual Reports..

Tanganyika, The Development of Local Government in Tanganyika (Dar-es-Salaam, 1957)

Uganda, Annual Reports on the Kingdom of Buganda, Eastern Province, Western Province, Northern Province for the year ended 31st December 1947 (Entebbe 1949)

Population:

Gold Coast, Census of Population 1948: Report and Tables (Accra 1948)

Kenya, Report on Native Affairs 1946-47 (Nairobi, 1949)

Nigeria, Population Census 1952-3 (Lagos, 1955)

Nyasaland, 'Economic Statistics', in CO 1015/522.