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Abstract

What explains contemporary variation in state capacity across African states? Recent research has focused on the possible role played by colonial and precolonial institutions. This paper investigates the way in which colonial and precolonial institutions interacted to affect the public legitimacy and coercive capacity of African states on independence. A coherent configuration of historical institutions, precolonial centralisation combined with colonial indirect rule through traditionally legitimate rulers, contrasts with the incoherent and comparatively illegitimate configurations of precolonial decentralisation with traditional rule and precolonial centralisation with colonial nontraditional or direct rule. The paper tests the theoretical expectations in a historical instrumental-variables framework.

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1 Introduction

State capacity is an important concept in political science and development economics. It refers, at minimum, to a state's ability to maintain its territorial monopoly on the legitimation of force within fixed borders, and more generally, to the capability of the state's administrative apparatus to carry out its core tasks. High-capacity states are thought to enjoy better governance, lower risk of civil war (Fearon & Laitin 2003), lower expropriation risk (Acemoglu & Robinson 2012), and thus better development outcomes (Besley & Persson 2009). At the other extreme, state failure is associated with violence, insecurity of property, and lack of public goods provision (Rotberg 2004, Bates 2008), though in some cases anarchy may lead to better outcomes than despotism (Leeson 2007).

Africa is a particularly salient region for studying state capacity, given a widespread belief that low state capacity has held back development in much of the continent. Herbst (2014 [2000]) has argued that low population density in precolonial sub-Saharan Africa prevented states from controlling territory effectively and establishing fixed borders. Furthermore, since colonialism came late to Africa and some colonialists, particularly the British, tried to preserve some of the outward forms of traditional governance, the social memory of precolonial institutions plausibly influenced African societies at independence. Alesina, Easterly & Matuszeski (2011) find that artificial borders, particularly those that divide ethnic groups, reduce GDP per capita. Besley & Persson (2009) argue, following Tilly (1985, 1990), that external war provides an impetus for states to build capacity, and the extraordinary cooperation among African states against secessionist and irredentist movements that Herbst (2014 [2000]) documents has prevented

interstate war and kept alive low-capacity states. Rulers with short time horizons have looted the fisc and let infrastructure collapse (Bates 2008). The explanations for low state capacity in much of Africa are as multitudinous as they are plausible.

We argue that precolonial and colonial institutions, combined with artificiality of borders, provide the most fundamental explanation of the phenomenon, working through public legitimacy. Lack of external war certainly has to do with Westphalian and Geneva norms, but perhaps more importantly with the artificiality of borders. Every African state knows that it is vulnerable to ethnic separatism once the principle has conceded, and so they all resist it.[1] Rulers are more likely to have short time horizons when they are perceived as illegitimate and are unaccountable to a broad popular base. Finally, artificiality of borders itself usually came about because of either precolonial lack of centralisation or colonial unwillingness to rely on traditional institutions.

Our hypothesis draws heavily on recent work on precolonial centralisation and colonial indirect rule (Richens 2009, Hjort 2010, Gerring, Ziblatt, Van Gorp & Arévalo 2011, Hariri 2012, Hariri 2015, Wucherpfennig, Hunziker & Cederman 2016). Our distinctive contribution is to maintain that colonial indirect rule through traditional rulers had beneficial consequences for contemporary state capacity when joined to precolonial centralisation. This particular institutional configuration was admittedly quite rare in sub-Saharan Africa. Nevertheless, this finding may help to reconcile conflicting results on indirect rule across colonial and post-colonial contexts (e.g. Lange

[1] The only, partial exception came when some non-Muslim states recognised a Christian Ibo secession in the wake of a Muslim Hausa-Fulani takeover of the Nigerian state and anti-Ibo pogroms (Biafra).

2004, Richens 2009, Iyer 2010, Acemoglu, Chavas, Osafo-Kwaako & Robinson 2014, Ali, Fjeldstad, Jiang & Shifa 2015).

2 Precolonial and Colonial Institutions

2.1 Precolonial Centralisation

The ability of the precolonial state to project power varied with the geography. In particular, where fertile valleys permitted settled agriculture, the value of land was high, and institutions to maintain control of that territory developed.

The Neolithic Revolution in agriculture affected some parts of Africa more than others, and where the wave of agriculture lapped, states eventually popped up, as in the Mediterranean and south Asia. Following the literature, we refer to this early statehood as *precolonial centralisation*. This term is potentially misleading, as 'centralised' precolonial institutions were of significantly smaller territorial scale than modern states and did not generally possess fixed borders. In the context of southeast Asian monarchies, Scott (2009) uses the image of concentric circles of authority radiating out from a royal core, a suitable conceptualisation for many early African states as well.

Kjær (2009) attributes the variation in contemporary local government extractive capacity in Uganda to varying levels of generalised trust, which in turn varies with pre-colonial centralisation. All three districts belonging to the Ankole kingdom, a centralised administrative unit with a tradition of organised tax collection, have high extractive capacity today. Looking more closely at two districts, Iganga and Mbarara, she finds that the two districts differ significantly in generalised trust and these differences can be traced to the level of pre-colonial centralisation. Iganga is located in Eastern Uganda in the administrative unit of Busoga, a district with no prior history of

centralised institutions and organised tax collection, but amalgamated by the British from several smaller kingdoms. In the Western areas, on the other hand, where Mbarara is located, the kingdom of Ankole was a well-established centralised monarchy with a certain unity and social cohesion that has remained even after the kingship was abolished by the first Obote regime in 1967. Kjær further notes that British indirect rule was beneficial for the Mbarara district where they relied on the pre-existing administrative unit of the Ankole kingdom. Conversely, in Eastern areas, the British had to impose a system of taxation that was more closely administered. This animated a stronger resistance against central government measures and a lack of continuity between colonial and post-colonial political institutions.

2.2 Direct and Indirect Rule

When colonialism came to Africa in the late 19th century, the European powers generally resorted to indirect rule due to its cost advantages. That is, they relied heavily on native intermediary rulers rather than sending Europeans to administer their African possessions directly. However, the degree to which colonial powers relied on *traditional* authorities did indeed vary substantially; the British were more likely than the French to use traditional boundaries and authorities (Crowder 1964, Wucherpfennig, Hunziker & Cederman 2016). Ali et al. (2015) interpret British traditionalism as part of a 'divide and rule' strategy and link British colonial history in sub-Saharan Africa to present-day state incapacity. Some scholars assume that traditional authorities were uniformly illegitimate, unaccountable, and despotic (Acemoglu et al. 2014), and that democracy was possible in Africa only where colonisers imported it (Hariri 2012). However, at independence, new African rulers were generally *less* legitimate than traditional authorities,

as evidenced by popular movements (often suppressed) in favour of tribal and royal institutions in Zambia, Uganda, Ghana, and Botswana.

Moreover, newly independent African states required native experience with governance, and the disruptions occasioned by nontraditional rule could well have destroyed substantial cultural and human capital.

Crowder (1964, p. 198) describes British colonial practice in Africa as follows:

> 'The relation between the British political officer and the chief was in general that of an adviser who only in extreme circumstances interfered with the chief and the native authority under him. However, where chiefs governed small political units, and in particular where their traditional executive authority was questionable, the political officer found himself interfering in native authority affairs more frequently than ideally he should . . . Indeed, in the earliest inter-war period many emirs and chiefs ruled as "sole native authorities," a position which gave them for practical purposes more power than they had in pre-colonial days, where they were either subject to control by a council or liable to deposition if they became too unpopular. They were permitted to administer traditional justice, which, in the case of certain emirs, included trying cases of murder for which the death sentence, subject to confirmation by the Governor, could be passed. They administered political units that corresponded to those they would have administered before the arrival of the colonial power. They were elected to office by traditional methods of selection, and only in the case of the election of a patently unsuitable candidate to office, would the colonial power refuse recognition. There was thus a minimal undermining of the traditional sources of authority.'

By contrast, the usual French practice made the chiefs politically subordinate to their political officers, tended to break up traditional governance units, and selected native rulers themselves rather than through traditional means. The only exception in Africa was the late-colonized (1912) Morocco, which not only retained legal sovereignty but (unlike Tunisia) de facto autonomy as well. The French colonial governor of Morocco, Hubert Lyautey, protected traditional Muslim education (Segalla 2009, 23) and the political power of the sultan (Gilson Miller 2013, 91).

Even for the British, indirect rule required nontraditional rulers where there was no history of precolonial statehood, as in Sierra Leone (Acemoglu et al. 2014,

25) and Eastern Nigeria (Crowder 1964, 199). These rulers had no popular legitimacy, and the combination of illegitimate rule and weak European influence made for weak state capacity after independence. When the precolonial society was highly decentralised, colonial direct rule at least brought in European expertise and comparatively liberal legislation, though as we have noted, direct rule was rare in Africa.

Now, where traditional institutions persisted through the colonial period, the new rulers of independent African states often saw them as a political threat and tried to abolish them (Acemoglu et al. 2014, 20–24). For this reason, Acemoglu et al. (2014) doubt indirect rule had any positive legacy for African governance even where it recognised traditional, legitimate rulers. Moreover, Ali et al. (2015) find that British governance led to stronger substate ethnic affiliations and weaker state identities. In a recent working paper, Broich, Szirmai & Thomsson (2015) find that precolonial centralisation is associated with state capacity only in the 1996–2014 period, not earlier. It could be that the cultural capital fed by precolonial centralisation could

resurface only after the highly nationalistic centralisers of the initial post-independence period faded from the scene. Additionally, 'divide and rule' could have gradually undermined newly independent African states even as it allowed for stronger elite-society links within ethnic communities. For these reasons, we hypothesize that the indirect rule–precolonial centralisation configuration benefited state capacity most strongly at the moment of independence, not throughout the postcolonial period.

Previous work has generally found a negative effect of indirect rule on growth (Lange 2004, Lange 2009b, Richens 2009). Lange uses customary court cases as a share of all court cases as a measure of indirect rule, while Richens uses European administrators per capita. Richens further finds that the positive effect of 'close administration' on growth disappears in countries that were politically centralised prior to colonisation.

Another body of work, however, suggests possible benefits to indirect rule under some circumstances. The reason has to do with the role of political legitimacy in building state capacity. Englebert (2000) argues that African states fail to build capacity to the extent that they conflict with precolonial institutions. He constructs measures of vertical and horizontal legitimacy, where vertical legitimacy has to do with social consensus over the rules of the political game and horizontal legitimacy has to do with social consensus over the spatial scope of the political community. Legitimacy may affect the willingness of the population to cooperate with public authorities and the expense the latter must incur in inducing compliance where voluntary cooperation falls off. In a global study, Alesina, Easterly & Matuszeski (2011) find that two measures of border artificiality are negatively related to GDP per capita. One of their measures, ethnic partition across boundaries, is essentially equivalent to Englebert's (2000) measure of horizontal legitimacy.

Although concerned with the economic success, and not state capacity per se, several scholars have attributed the success of Botswana to its pre-colonial institutions (Robinson, Acemoglu & Johnson 2003, Hjort 2010) and the limited impact of British colonialism. The Tswana kingdoms that dominated pre-colonial Botswana had developed relatively participatory processes and property rights, institutions that are vital to economic development. Due to the limited British interest in Botswana, colonial rule was relatively limited, which allowed the pre- colonial institutions of the Tswana to continue into post-independence Botswana. Admittedly, the story is not entirely about institutional continuity. In the later years of colonialism, a tribal succession crisis and an irredentist threat from South Africa provoked the British to build a centralised administration that diminished the power of traditional chiefs (Lange 2009a). This process ultimately obtained legitimacy for most Botswanans, however, because the British allowed the most popular chief, the formerly exiled Seretse Khama, to win national power (Lange 2009a, 13).

If legitimacy is crucial to capacity-building, indirect rule by traditional elites can promote capacity-building by enhancing legitimacy. In Africa, we would expect this process to function only where a centralised precolonial state existed, and the coloniser had not simply made up new authorities to whom to delegate power. Hechter (2000) goes so far as to claim that indirect rule eliminates nationalism by making the cultural unit and the governance unit congruent. Even if it does not eliminate nationalism altogether, indirect rule has the potential to reduce significantly public opposition to the central state – or, in this case, colonial power. After independence, almost all African states centralised power, thus foregoing these potential benefits of internal indirect rule. Yet we expect indirect rule by traditional elites to have had benefits for state capacity in the long run, when self-governing territories had

a precolonial state.

2.3 State Capacity

A state's capacity has to do with its ability to effectively achieve its own goals. Those goals may be benign or malign. The Soviet Union under Brezhnev had fairly high state capacity, but the goals of the state were not necessarily congruent with social welfare. By contrast, Ayubi (1995, pp. 447–49) says that Middle Eastern states are typically 'fierce' (violent) or 'hard' (autonomous) but not 'strong.' He gives the U.K. as an example of a relatively soft, non-fierce, yet strong state.

At minimum, state capacity requires the ability of the state to maintain a territorial monopoly on the legitimation of the use of force, that is, the minimum criterion for existence as a state. In addition, the ability of the state to enforce its will, however determined, is central to the concept. Since all states require revenue (indeed, some models of the state see it as revenue-maximizing), the ability of the state to acquire revenue, especially when the revenue base is more difficult to reach, is an essential component of state capacity (Brennan & Buchanan 1980, Levi 1988, Olson 1993, Thies 2004). We narrowly construe state capacity in this paper, because the relationship between state capacity and outcomes such as development, civil war, democracy, and so on should be left open to empirical investigation, not stipulated a priori. These variables should not be considered constitutive of state capacity.

Hendrix (2010) conceives of state capacity as having three dimensions: mili- tary capacity, bureaucratic/administrative capacity, and the quality and coher- ence of political institutions. Using principal factor analysis, he finds that the most statistically predictive dimension of state capacity appears to

reflect bureaucratic and administrative capacity, while the other two important dimensions capture 'rentier-autocraticness' and 'neopatrimoniality' (273).

A new project from Hanson & Sigman (2013) treats state capacity along the dimensions of extractive, coercive, and administrative capacity. The three concepts are related to each other, in that obtaining revenue requires coercion, and administrative competence helps build the capacities to coerce and extract.

In the African context, Herbst (2014 [2000]) proposes the density of national road networks as a good proxy for the state's ability to project force throughout its territory. But we find that road density correlates poorly with other state capacity variables. Its correlation with relative political extraction, defined in the 'Sample Selection and Data' section below, at the first available post- independence year for 46 African countries is -0.02. At the most recent available year, that correlation is still a mere 0.23. Another unsatisfactory indicator of state capacity for our purposes is Ottervik's (2013) measure of tax compliance, which is the inverse of model-derived estimates of the 'shadow economy' as a percentage of GDP. The size of the shadow economy is driven not just by state capacity but by economic policies, such as exchange and price controls. In contemporary Africa, tax compliance correlates with relative political extraction at a mere 0.26 and even more weakly with direct tax to GDP ratio and road density.

3 Hypotheses and Data

3.1 Expectations

We expect indirect rule by traditional elites to have increased state

capacity in independent African states only when those territories contained centralised states before colonisation. Because, apart from French Morocco, only the British practiced this form of indirect rule in Africa, we hypothesize a positive relationship between British colonial legacy (or Morocco or the noncolonies of Ethiopia and Liberia) and post-independence and contemporary state capacity, when conjoined to precolonial statehood. Other measures of indirect rule have taken into account customary court cases (Lange 2004) or number of colonial administrators (Richens 2009), but our theory suggests that it is not the extent of indirect rule that preserves precolonial centralisation, but the reliance on traditional rulers and boundaries, which occurred only under British colonialism, non-colonisation, or French rule in Morocco.

This is not to say that British colonial rule was uniformly positive. It was likely to be harmful where traditional state structures did not exist, as in Sierra Leone, but also wherever colonial interests demanded extractive policies (Acemoglu, Johnson & Robinson 2001). On average, we expect British rule to have preserved more state capacity than other colonial sovereigns where there was a centralised precolonial polity.

We investigate both post-independence and contemporary state capacity for two reasons. First, as already discussed, post-independence African governments often had tenuous linkages with civil society and traditional forms of governance. The abrupt, revolutionary change independence typically represented may have divorced new African states from the infrastructural capital of the past. Yet over time, previous results suggest, we should expect more success in capacity-building in those places where precolonial state capacity might have been preserved through traditional colonial or noncolonial rule (Broich, Szirmai & Thomsson 2015). Second,

most African economic data have been in a pitiable condition until quite recently. Huge measurement error in the 1960s data could prevent reliable findings.

We also investigate change in state capacity from 1990 to the most recent available date. Prior to 1990, foreign aid, helping to prop up weak African rulers, was motivated more by Cold War rivalries than development concerns, but these priorities have changed since then. As a result, weak African states have had to wean themselves from unconditional aid and attempt to build capacity to make use of rigorously conditioned aid (Dunning 2004). Pre-existing social infrastructure may have affected African states' ability to adjust to the new politics of aid and build up capacity.

The statistical models take the following general form:

$$Capacity = \alpha + \beta_1 Centralisation + \beta_2 Traditional\ rule + \gamma\ Centralisation * Traditional\ rule + \delta\ Controls. \quad (1)$$

The key expectations are that $\beta 1 + \gamma > 0$ and that $\gamma > 0$.

In addition, we build models instrumenting for precolonial centralisation with the TseTse Suitability Index, which Alsan (2015) has found strongly negatively predicts precolonial centralisation through the mechanism of reducing historical agricultural surplus. We assume that traditional indirect rule is exogenous, while centralisation is endogenous.

3.2 Sample Selection and Data

Our analysis covers African states that had precolonial populations in the post-independence (mostly 1960–1965) and contemporary (2010) periods.[2]

[2] The requirement of 'precolonial population' excludes countries such as Mauritius that were settled during colonialism.

To ensure sufficient statistical power, we include the supra-Saharan states of North Africa and the settler state of South Africa but also investigate their differences from the rest of sub-Saharan Africa.

To measure state capacity, we use two institutional variables and three fiscal variables. The institutional variables are a dummy for anarchy, conceived as central government collapse, at any point since independence and a count of years of anarchy since independence. The measure of anarchy comes from the Polity IV Project (regime code '-77'). Somalia has experienced the most years of anarchy, followed by Congo Kinshasa, Liberia and Ivory Coast (six each), Chad, Sierra Leone, Burundi, Libya and Ethiopia (two each), and finally Angola, Guinea-Bissau, Lesotho, Mali, and Uganda with one each.

The fiscal variables are the Arbetman-Rabinowitz, Kugler, Abdollahian, Kang, Nelson & Tammen (2012) measure of *relative political extraction*, which is a model-derived ratio of actual revenues to potential revenues, excluding minerals and trade taxation, and is averaged for five-year periods; direct taxation to GDP ratio, also excluding resource and trade taxes (Mansour 2014), augmented with data from the World Bank's World Development Indicators; and Mansour's measure of non-resource taxation to GDP ratio, which is only available for 35 countries. Relative political extraction correlates with direct tax to GDP ratio at 0.33 in 1990 and 0.54 in 2010 and with nonresource tax ratio at 0.48 in 1990 and 0.67 in 2010. Libya is lowest on relative political extraction in 2010, Lesotho highest, and Liberia is missing. South Africa is highest on 2010 direct tax to GDP ratio, Somalia lowest (zero), and Libya is missing.[3] Direct taxation to GDP ratio is unavailable for the 1960s. Again, we also look at the change in each of the

[3] Somalia was missing in the original data. We assigned a value of zero due to the absence of a government.

fiscal variables from 1990 to 2010 as dependent variables.

The first independent variable, precolonial centralisation, comes from Gen- naioli & Rainer (2007). They measure centralisation from Murdock's (1967) ethnographic atlas of precolonial Africa, which gives 'jurisdictional hierarchy' scores by ethnic group. These ethnic group-level scores are aggregated to the country level using ethnic group percentages from the *Atlas Narodov Mira*. The variable takes on a value of 1 for Lesotho and 0 for Liberia, with other countries ranged between the two.[4]

The second independent variable is a dummy for traditional indirect rule. It is coded '1' for all British colonies (Olsson 2009). In addition, our theory suggests that countries that were never colonised should also display a positive relationship between precolonial centralisation and 1960s-era and contemporary state capacity. The advantages of British rule did not have to do with the British as such, but with the light touch we expect them to have used on traditional authorities. Therefore, we try including noncolonies in our estimations and score them as '1' on traditional indirect rule. Finally, Morocco is coded '1' here as well, for reasons already discussed. Figure 1 displays the range of country values on precolonial centralisation by traditional indirect rule. The median value of each distribution is indicated with a hollow diamond. Countries with a history of traditional indirect rule had slightly higher precolonial centralisation, but otherwise these distributions are quite similar.

[Figure 1 about here]

The instrument for centralisation, the TseTse Suitability Index (TSI),

[4] As noted in the Discussion section below, we believe that this is a serious miscoding of Liberia, as it ignores the important Americo-Liberian state.

ranges from -2.7 (South Africa) to 1.5 (Equatorial Guinea). The data were originally collected as raster data at the pixel level by Alsan (2015). We use the country scores calculated by Broich, Szirmai & Thomsson (2015) and augmented by averaging across districts (first) and ethnic groups (second), reported by Alsan. If the IV model is appropriately specified, we need not worry about omitted variable bias. Still, we consider the impact of various controls, such as absolute latitude, mean temperature, State Antiquity Index (Bockstette, Chanda & Putterman 2002, Putterman 2012), log population density in 1400, and Malaria Ecology Index (Alsan 2015).

4 Results and Discussion

4.1 Regression Estimates

For all tables below, we include a line testing the linear combination of coefficients on traditional indirect rule and precolonial centralisation. Specifically, we test $\beta_2 + 0.9\gamma = 0$, that is, the marginal effect of traditional indirect rule when centralisation equals 0.9, not quite the highest value on this variable but similar to the values for Malawi, Botswana, Libya, Zimbabwe, and Tunisia.

Table 1 presents IV estimations with anarchy dummy as the dependent variable. We use linear models and robust standard errors for all results reported here. Column 1 is a baseline model with no interaction between colonial status and precolonial centralisation, column 2 adds the interaction and is our preferred model, and columns 3 and 4 remove the Western settler states of Liberia and South Africa and the states of North Africa, respectively.

We see no evidence here that precolonial centralisation prevents anarchy, regardless of colonial status. These models simply cannot predict anarchy

well. Since anarchy always arises from civil war, variables that affect likelihood of civil war should also affect likelihood of anarchy (Fearon & Laitin 2003).

Table 1: D.V.: Anarchy (dummy)

	(1)	(2)	(3)	(4)
Centralisation	-0.0863	0.279	0.279	0.712
	(0.406)	(0.648)	(0.649)	(0.987)
Traditional	0.0123	0.360	0.0624	0.566
	(0.145)	(0.485)	(0.648)	(0.561)
Centr.*Noncolbrit		-0.603	-0.173	-1.007
		(0.841)	(1.043)	(1.119)
Constant	0.343	0.146	0.146	-0.0528
	(0.234)	(0.343)	(0.344)	(0.457)
Observations	47	47	45	42
$\beta_2 + 0.9\gamma$		-0.18	-0.09	-0.34
		(0.33)	(0.35)	(0.50)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 2: D.V.: Anarchy (count)

	(1)	(2)	(3)	(4)
Centralisation	-4.829*	-2.407	-2.407	-2.227
	(2.494)	(3.322)	(3.329)	(4.262)
Traditional	1.068	3.376	3.578	3.440
	(1.163)	(3.536)	(4.641)	(3.703)
Centr.*Trad.		-4.000	-4.375	-4.016
		(4.615)	(6.053)	(5.300)
Constant	3.709**	2.406	2.406	2.245
	(1.618)	(2.163)	(2.167)	(2.458)
Observations	47	47	45	42
$\beta_2 + 0.9\gamma$		-0.22	-0.36	-0.17
		(1.1)	(1.2)	(1.58)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 2 presents analogous results for count of anarchy years. Here we do indeed see evidence of a protective effect of precolonial centralisation, and this effect might be strengthened by traditional indirect rule, although the

standard errors are extremely large. The linear combination of the coefficients on centralisation and the interaction term is statistically significant (not reported in these tables), suggesting that precolonial centralisation reduces the number of years of anarchy when rule during the colonial period was traditional, but perhaps not otherwise. On the other hand, the linear combination of coefficients on traditional indirect rule and the interaction is not even close to significance, because traditional indirect rule looks harmful when centralisation is zero. The results change little with the exclusion of Liberia and South Africa and the supra-Saharan states.

Table 3: D.V.: Post-independence RPE

	(1)	(2)	(3)	(4)
Centralisation	-0.0325	0.933	0.933	1.137
	(0.407)	(0.827)	(0.828)	(1.236)
Traditional	0.0970	1.162*	1.167*	1.226*
	(0.162)	(0.620)	(0.652)	(0.713)
Centr.*Trad.		-1.779*	-1.788*	-1.975
		(0.980)	(1.027)	(1.338)
Constant	1.048***	0.529	0.529	0.494
	(0.246)	(0.440)	(0.440)	(0.573)
Observations	46	46	45	41
$\beta_2 + 0.9\gamma$		-0.44	-0.44	-0.55
		(0.35)	(0.36)	(0.58)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3 moves on to relative political extraction in the immediate post-independence period. Despite our expectation that it would be difficult to find strong relationships in this time period due to the poor quality of the data, we in fact find a strong relationship directly contrary to our expectations: in the immediate post-independence period, African states that had experienced traditional rule in the 19th and 20th centuries did not benefit at all from precolonial centralisation. In fact, state capacity was highest in those states that had traditional rule and the *least* amount of precolonial centralisation.

That particular result strengthens a bit when North Africa is dropped. These findings are consistent with a revolutionary model of state-building in the immediate post-independence period for sub-Saharan Africa.

Now, when we turn to the contemporary period (Table 4), the picture is strikingly different. Precolonial centralisation is strongly associated with present-day political extraction, and it is probable that the relationship is stronger for countries that experienced traditional indirect rule, but the interaction term is not statistically significant. These results are consistent with those from Broich, Szirmai & Thomsson (2015), who find that precolonial centralisation has become increasingly positive for bureaucratic quality over time–a different dependent variable, but one closely linked to state capacity. Perhaps as the shock of rapid independence has receded, pre-existing differences in institutional capital have reasserted themselves in sub-Saharan Africa.

Table 4: D.V.: 2010 RPE

	(1)	(2)	(3)	(4)
Centralisation	1.282**	0.887*	0.887*	0.955
	(0.531)	(0.493)	(0.493)	(0.652)
Traditional	-0.0910	-0.526	-0.664	-0.420
	(0.153)	(0.660)	(0.777)	(0.623)
Centr.*Trad.		0.727	0.961	0.517
		(0.988)	(1.177)	(1.045)
Constant	0.319	0.531*	0.531*	0.553
	(0.308)	(0.300)	(0.300)	(0.340)
Observations	46	46	45	41
$\beta_2 + 0.9\gamma$		0.13	0.20	0.05
		(0.29)	(0.35)	(0.38)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5 presents IV estimates with change in relative political extraction from 1990 to 2010 as the dependent variable, controlling for the starting level of the dependent variable. Precolonial centralisation is weakly associated with

state capacity-building over this period, but more strongly in the states with a history of traditional indirect rule. Still, the interaction term is not significant, and so we cannot be confident that traditional rule actually modifies the causal relationship.

Table 5: D.V.: Change RPE

	(1)	(2)	(3)	(4)
Centralisation	0.806	0.522	0.568	0.671
	(0.490)	(0.479)	(0.505)	(0.762)
Traditional	-0.0425	-0.419	-0.511	-0.398
	(0.128)	(0.574)	(0.729)	(0.570)
RPE 1990	-0.722***	-0.753***	-0.784***	-0.853***
	(0.153)	(0.147)	(0.170)	(0.171)
Centr.*Trad.		0.620	0.766	0.546
		(0.852)	(1.101)	(0.954)
Constant	0.274	0.460*	0.469*	0.528*
	(0.267)	(0.262)	(0.266)	(0.293)
Observations	46	46	45	41
$\beta_2 + 0.9\gamma$		0.14	0.18	0.09
		(0.25)	(0.31)	(0.35)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The picture is clearer with direct and nonresource taxation as dependent variables. In each case (contemporary levels and 1990–2010 changes), precolonial centralisation is statistically significant and positive before the interaction is added, loses significance when the interaction is added, and the interaction is reasonably large and positive but not statistically significant (Tables 6, 7, 8, and 9 – note that non-resource taxation is missing for all of North Africa and hence there is no column 4 for the latter two tables). However, traditional indirect rule is frequently statistically significant when tested at *Centralisation* = 0.9.

Table 6: D.V.: 2010 Direct Tax

	(1)	(2)	(3)	(4)
Centralisation	0.0822***	0.0498**	0.0498**	0.0439
	(0.0243)	(0.0227)	(0.0227)	(0.0287)
Traditional	0.0118	-0.0190	-0.0348	-0.0188
	(0.00936)	(0.0295)	(0.0297)	(0.0287)
Centr.*Trad.		0.0542	0.0698	0.0577
		(0.0428)	(0.0440)	(0.0452)
Constant	-0.00121	0.0157	0.0157	0.0187
	(0.0138)	(0.0126)	(0.0126)	(0.0144)
Observations	46	46	44	42
$\beta_2 + 0.9\gamma$		0.030**	0.028*	0.033*
		(0.014)	(0.015)	(0.017)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 7: D.V.: Change Direct Tax

	(1)	(2)	(3)	(4)
Centralization	0.0769**	0.0480**	0.0479**	0.0372*
	(0.0336)	(0.0210)	(0.0210)	(0.0211)
Traditional	0.00362	-0.0346	-0.0285	-0.0322
	(0.00850)	(0.0400)	(0.0414)	(0.0353)
Direct tax 1990	-0.567***	-0.647***	-0.643***	-0.613***
	(0.193)	(0.202)	(0.206)	(0.191)
Centr.*Trad.		0.0646	0.0549	0.0673
		(0.0562)	(0.0606)	(0.0519)
Constant	-0.0109	0.00574	0.00564	0.00910
	(0.0128)	(0.0107)	(0.0107)	(0.0109)
Observations	39	39	38	36
$\beta_2 + 0.9\gamma$		0.023	0.021	0.028*
		(0.015)	(0.017)	(0.015)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

We now turn to models of anarchy count and contemporary direct taxation with control variables. We focus on these dependent variables because they yield the strongest results for our hypothesised interactive relationship and we want to see how robust those results are to the inclusion of plausible controls. The control variables we use are absolute value of latitude, mean temperature, the Alesina, Easterly & Matuszeski (2011)

measure of 'fractal' borders (higher values mean less straight-linear borders), the Alesina et al. measure of ethnic partition across state borders, the State Antiquity Index for 1850 assuming 1% decay (Putterman 2012), Nunn's (2008) measure of population density in 1400, and the Malaria Ecology Index from Alsan (2015).

Table 8: D.V.: 2010 Non-Resource Tax

	(1)	(2)	(3)
Centralisation	0.231**	0.135	0.135
	(0.0872)	(0.107)	(0.107)
Traditional	0.000130	-0.0891	-0.120
	(0.0274)	(0.0992)	(0.115)
Centr.*Trad.		0.159	0.210
		(0.157)	(0.178)
Constant	0.0178	0.0636	0.0636
	(0.0441)	(0.0536)	(0.0537)
Observations	36	36	35
$\beta_2 + 0.9\gamma$		0.054	0.070
		(0.054)	(0.058)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 9: D.V.: Change Non-Resource Tax

	(1)	(2)	(3)
Centralisation	0.161*	0.156	0.153
	(0.0856)	(0.113)	(0.111)
Traditional	-0.0000581	-0.00535	-0.0400
	(0.0203)	(0.0710)	(0.0879)
Non-resource tax 1990	-0.520**	-0.525**	-0.572**
	(0.238)	(0.233)	(0.244)
Centr.*Trad.		0.00947	0.0677
		(0.120)	(0.142)
Constant	0.00138	0.00426	0.0105
	(0.0300)	(0.0467)	(0.0470)
Observations	35	35	34
$\beta_2 + 0.9\gamma$		0.003	0.021
		(0.045)	(0.049)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 10 shows how the results for anarchy count change with the addition

of various control variables, some of which further limit the sample due to missing data. None of the control variables is individually statistically significant, but the significance of the interaction term is somewhat sensitive and flips sign when the state antiquity index is added. State antiquity itself is positive, though not quite significant, suggesting that older states have more years of anarchy – an unexpected relationship.

Table 10: Anarchy (count) with controls)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Centralisation	-2.171	-2.706	-2.145	0.220	-6.099	-2.126	-6.162
	(4.418)	(3.716)	(3.462)	(2.396)	(5.678)	(3.547)	(6.468)
Centr.*Trad.	-4.052	-5.810*	-5.128	-7.069	0.141	-4.690	-4.315
	(4.680)	(3.233)	(5.153)	(4.230)	(5.700)	(5.372)	(4.672)
Traditional	3.400	4.231	4.023	5.137	0.542	3.824	3.373
	(3.582)	(2.860)	(3.740)	(3.222)	(3.727)	(4.023)	(3.422)
Latitude	-6.740						
	(75.13)						
Mean temp.		-144.7					
		(198.8)					
Fractal (log)			-42.97				
			(46.26)				
Partitioned				-9.754			
				(9.527)			
State antiquity					4.429		
					(3.504)		
Pop. density 1400						-236.4	
						(376.3)	
Malaria							-188.4
							(149.7)
Constant	2.364	6.121	3.634	1.237	3.755	2.327	6.798
	(2.232)	(7.095)	(2.698)	(1.531)	(3.168)	(2.237)	(5.609)
Observations	47	47	44	40	42	47	47
$\beta_2 + 0.9\gamma$	-0.25	-1.00	-0.59	-1.22	0.67	-0.40	-0.51
	(1.08)	(0.87)	(1.24)	(1.04)	(1.84)	(1.19)	(1.16)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 11 shows the results for contemporary direct taxation as a percentage of GDP with control variables. The coefficient on the interaction

term between traditional rule and precolonial centralisation is fairly stable. State antiquity is significant and negative, suggesting that older states have less direct taxation ratio and therefore lower state capacity – again unexpected. Traditional rule is almost always statistically significant and positive at a high value of centralisation.

4.2 Discussion

In summary, our statistical power seems too small to infer a definitive link between traditional indirect rule and the preservation of precolonial centralisation to the present, especially in light of the measurement error that inevitably afflicts both historical and contemporary African data. There does seem to be a link between traditional rule status and contemporary direct taxation ratio and its 1990–2010 change, conditional on precolonial centralisation, although we must be aware of the 'multiple test' problem when using several dependent variables to measure a concept. If there is an effect of traditional rule status on direct taxation, it is sizeable. The standard deviation of direct tax ratio is 0.0296, and thus traditional rule appears to add roughly a standard deviation of direct tax ratio to countries scoring 0.9 on centralisation across models in Tables 6 and 11.

The four African countries with the highest direct tax to GDP ratio in 2010 all had a British colonial heritage: South Africa, Lesotho, Zimbabwe, and Swaziland. These were also all highly centralised in the precolonial period. On the other hand, Somalia and Sudan, which also have a part-British colonial heritage, had the lowest direct tax to GDP ratio of all African countries. Moreover, Somalia was among the least centralised geographies in the

Table 11: Direct tax ratio 2010 with controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Centralisation	0.0535	0.0487*	0.0480**	0.0480**	0.0698*	0.0531**	0.0603
	(0.0481)	(0.0247)	(0.0210)	(0.0229)	(0.0365)	(0.0254)	(0.0362)
Centr.*Trad.	0.0534	0.0477	0.0603	0.0676	0.0300	0.0454	0.0549
	(0.0410)	(0.0516)	(0.0391)	(0.0439)	(0.0477)	(0.0497)	(0.0452)
Traditional	-0.0186	-0.0160	-0.0212	-0.0256	0.00384	-0.0135	-0.0188
	(0.0291)	(0.0331)	(0.0282)	(0.0311)	(0.0316)	(0.0331)	(0.0311)
Latitude	-0.104						
	(1.183)						
Mean temp.		-0.518					
		(2.000)					
Fractal (log)			0.402				
			(0.303)				
Partitioned				0.00632			
				(0.109)			
State antiquity					-0.0537***		
					(0.0171)		
Pop. density 1400						-3.175	
						(4.430)	
Malaria							0.517
							(0.975)
Constant	0.0151	0.0290	0.00455	0.0194	0.0119	0.0152	0.00348
	(0.0153)	(0.0569)	(0.0142)	(0.0132)	(0.0199)	(0.0129)	(0.0309)
Observations	46	46	43	39	41	46	46
$\beta_2 + 0.9\gamma$	0.029**	0.027	0.033**	0.035***	0.031**	0.027*	0.031*
	(0.013)	(0.017)	(0.013)	(0.013)	(0.015)	(0.016)	(0.015)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

precolonial era (Sudan was middling). At the extremes, then, the evidence suggests that British rule might have helped preserve precolonial (de)centralisation up to the present day.

But there are also outliers. Liberia today is above average on direct tax ratio despite having never been colonised and having possessed the lowest possible degree of centralisation prior to Americo-Liberian settlement. Perhaps Liberia's success today has something to do with centralisation under the Americo-Liberian settlement. On the other hand, Liberia's present-day success at state building contrasts sharply with its long and deadly civil wars in the 1980s, 1990s, and early 2000s, including six years of central government collapse. Kenya is a presently centralised former British colony that was relatively decentralised prior to colonisation. Moreover, a few countries without British colonial heritage have successfully built state capacity: Djibouti, Namibia, Tunisia, and Morocco, chiefly. Now, Morocco was uncharacteristically afforded traditional indirect rule due to its late colonisation and the ideology of the French delegate to the colony. And Namibia went through a long period of occupation under South Africa, which itself had a British colonial heritage.

5 Conclusion

Previous research has found a relationship between precolonial centralisation and bureaucratic quality in Africa. In this paper, we have for the first time confirmed such a relationship with direct tax share of GDP, years of anarchy, and other indicators of state capacity. In addition, when we condition precolonial centralisation on a history of traditional rule prior to the 1960s (either British or noncolonial, plus Morocco), we find that it is only in this latter group of countries that we can be confident that precolonial

centralisation boosts present-day state capacity (but not state capacity in the immediate post-independence period). However, nor can we be confident that traditional indirect rule is essential to the relationship in all these cases, although the expected relationship is found with the ratio of direct taxation revenues to GDP in 2010 and with change in that quantity between 1990 and 2010. These latter relationships are strongest in sub-Saharan Africa.

An examination of particular cases suggests that a more nuanced measure of traditional, indirect rule and a recoding of Liberia on precolonial centralisa- tion based on its post-1848 characteristics together would yield much sharper results supporting the basic theoretical expectations. Where France allowed its protectorates ample internal autonomy, those territories retained precolonial centralisation into the present. Still, we have chosen not to fit independent variable codings to the data we observe on the dependent variables and instead to rely wholly on the codings of others. Each case does, after all, have distinctive features, and it is perhaps possible to construct a special story to explain away any outliers in a dataset this small.

The results of our paper suggest that African states' precolonial institutional infrastructures may continue to reassert themselves as the shocks of indepen- dence and U.S.–Soviet rivalry fade. In the immediate post-independence period, precolonial centralisation was actually negatively related to state capacity. Over the past 25 years, the two variables have become increasingly positively corre- lated. If so, it will be good news for the states of Mauritania, Ethiopia, and Benin, territories featuring lower state capacity than would be expected given precolonial heritage.

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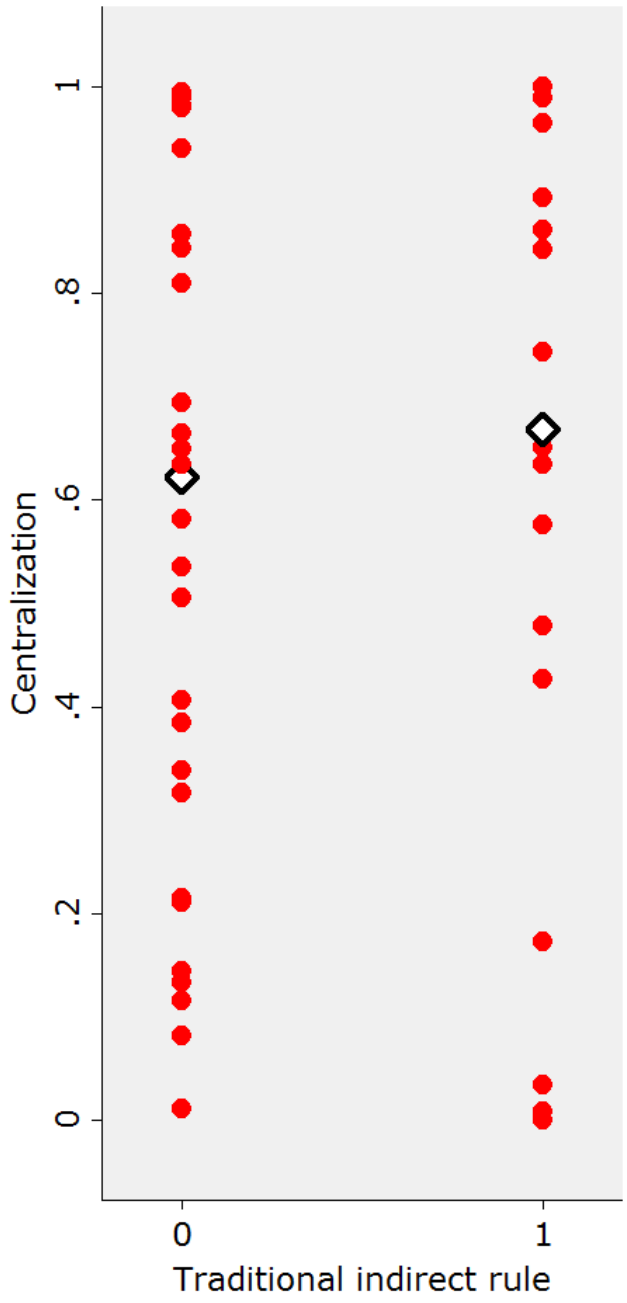

Figure 1: Precolonial Centralisation by Traditional Indirect Rule Status

Precolonial Centralisation, Traditional Indirect Rule, and State Capacity in Africa

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Abstract

What explains contemporary variation in state capacity across African states? Recent research has focused on the possible role played by colonial and precolonial institutions. This paper investigates the way in which colonial and precolonial institutions interacted to affect the public legitimacy and coercive capacity of African states on independence. A coherent configuration of historical institutions, precolonial centralisation combined with colonial indirect rule through traditionally legitimate rulers, contrasts with the incoherent and comparatively illegitimate configurations of precolonial decentralisation with traditional rule and precolonial centralisation with colonial nontraditional or direct rule. The paper tests the theoretical expectations in a historical instrumental-variables framework.

Keywords: state-building; state capacity; colonialism; economic history; political development

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1 Introduction

State capacity is an important concept in political science and development economics. It refers, at minimum, to a state's ability to maintain its territorial monopoly on the legitimation of force within fixed borders, and more generally, to the capability of the state's administrative apparatus to carry out its core tasks. High-capacity states are thought to enjoy better governance, lower risk of civil war (Fearon & Laitin 2003), lower expropriation risk (Acemoglu & Robinson 2012), and thus better development outcomes (Besley & Persson 2009). At the other extreme, state failure is associated with violence, insecurity of property, and lack of public goods provision (Rotberg 2004, Bates 2008), though in some cases anarchy may lead to better outcomes than despotism (Leeson 2007).

Africa is a particularly salient region for studying state capacity, given a widespread belief that low state capacity has held back development in much of the continent. Herbst (2014 [2000]) has argued that low population density in precolonial sub-Saharan Africa prevented states from controlling territory effectively and establishing fixed borders. Furthermore, since colonialism came late to Africa and some colonialists, particularly the British, tried to preserve some of the outward forms of traditional governance, the social memory of precolonial institutions plausibly influenced African societies at independence. Alesina, Easterly & Matuszeski (2011) find that artificial borders, particularly those that divide ethnic groups, reduce GDP per capita. Besley & Persson (2009) argue, following Tilly (1985, 1990), that external war provides an impetus for states to build capacity, and the extraordinary cooperation among African states against secessionist and irredentist movements that Herbst (2014 [2000]) documents has prevented

interstate war and kept alive low-capacity states. Rulers with short time horizons have looted the fisc and let infrastructure collapse (Bates 2008). The explanations for low state capacity in much of Africa are as multitudinous as they are plausible.

We argue that precolonial and colonial institutions, combined with artificiality of borders, provide the most fundamental explanation of the phenomenon, working through public legitimacy. Lack of external war certainly has to do with Westphalian and Geneva norms, but perhaps more importantly with the artificiality of borders. Every African state knows that it is vulnerable to ethnic separatism once the principle has conceded, and so they all resist it.[1] Rulers are more likely to have short time horizons when they are perceived as illegitimate and are unaccountable to a broad popular base. Finally, artificiality of borders itself usually came about because of either precolonial lack of centralisation or colonial unwillingness to rely on traditional institutions.

Our hypothesis draws heavily on recent work on precolonial centralisation and colonial indirect rule (Richens 2009, Hjort 2010, Gerring, Ziblatt, Van Gorp & Arévalo 2011, Hariri 2012, Hariri 2015, Wucherpfennig, Hunziker & Cederman 2016). Our distinctive contribution is to maintain that colonial indirect rule through traditional rulers had beneficial consequences for contemporary state capacity when joined to precolonial centralisation. This particular institutional configuration was admittedly quite rare in sub-Saharan Africa. Nevertheless, this finding may help to reconcile conflicting results on indirect rule across colonial and post-colonial contexts (e.g. Lange

[1] The only, partial exception came when some non-Muslim states recognised a Christian Ibo secession in the wake of a Muslim Hausa-Fulani takeover of the Nigerian state and anti-Ibo pogroms (Biafra).

2004, Richens 2009, Iyer 2010, Acemoglu, Chavas, Osafo-Kwaako & Robinson 2014, Ali, Fjeldstad, Jiang & Shifa 2015).

2 Precolonial and Colonial Institutions

2.1 Precolonial Centralisation

The ability of the precolonial state to project power varied with the geography. In particular, where fertile valleys permitted settled agriculture, the value of land was high, and institutions to maintain control of that territory developed.

The Neolithic Revolution in agriculture affected some parts of Africa more than others, and where the wave of agriculture lapped, states eventually popped up, as in the Mediterranean and south Asia. Following the literature, we refer to this early statehood as *precolonial centralisation*. This term is potentially misleading, as 'centralised' precolonial institutions were of significantly smaller territorial scale than modern states and did not generally possess fixed borders. In the context of southeast Asian monarchies, Scott (2009) uses the image of concentric circles of authority radiating out from a royal core, a suitable conceptualisation for many early African states as well.

Kjær (2009) attributes the variation in contemporary local government extractive capacity in Uganda to varying levels of generalised trust, which in turn varies with pre-colonial centralisation. All three districts belonging to the Ankole kingdom, a centralised administrative unit with a tradition of organised tax collection, have high extractive capacity today. Looking more closely at two districts, Iganga and Mbarara, she finds that the two districts differ significantly in generalised trust and these differences can be traced to the level of pre-colonial centralisation. Iganga is located in Eastern Uganda in the administrative unit of Busoga, a district with no prior history of

centralised institutions and organised tax collection, but amalgamated by the British from several smaller kingdoms. In the Western areas, on the other hand, where Mbarara is located, the kingdom of Ankole was a well-established centralised monarchy with a certain unity and social cohesion that has remained even after the kingship was abolished by the first Obote regime in 1967. Kjær further notes that British indirect rule was beneficial for the Mbarara district where they relied on the pre-existing administrative unit of the Ankole kingdom. Conversely, in Eastern areas, the British had to impose a system of taxation that was more closely administered. This animated a stronger resistance against central government measures and a lack of continuity between colonial and post-colonial political institutions.

2.2 Direct and Indirect Rule

When colonialism came to Africa in the late 19th century, the European powers generally resorted to indirect rule due to its cost advantages. That is, they relied heavily on native intermediary rulers rather than sending Europeans to administer their African possessions directly. However, the degree to which colonial powers relied on *traditional* authorities did indeed vary substantially; the British were more likely than the French to use traditional boundaries and authorities (Crowder 1964, Wucherpfennig, Hunziker & Cederman 2016). Ali et al. (2015) interpret British traditionalism as part of a 'divide and rule' strategy and link British colonial history in sub-Saharan Africa to present-day state incapacity. Some scholars assume that traditional authorities were uniformly illegitimate, unaccountable, and despotic (Acemoglu et al. 2014), and that democracy was possible in Africa only where colonisers imported it (Hariri 2012). However, at independence, new African rulers were generally *less* legitimate than traditional authorities,

as evidenced by popular movements (often suppressed) in favour of tribal and royal institutions in Zambia, Uganda, Ghana, and Botswana.

Moreover, newly independent African states required native experience with governance, and the disruptions occasioned by nontraditional rule could well have destroyed substantial cultural and human capital.

Crowder (1964, p. 198) describes British colonial practice in Africa as follows:

> 'The relation between the British political officer and the chief was in general that of an adviser who only in extreme circumstances interfered with the chief and the native authority under him. However, where chiefs governed small political units, and in particular where their traditional executive authority was questionable, the political officer found himself interfering in native authority affairs more frequently than ideally he should . . . Indeed, in the earliest inter-war period many emirs and chiefs ruled as "sole native authorities," a position which gave them for practical purposes more power than they had in pre-colonial days, where they were either subject to control by a council or liable to deposition if they became too unpopular. They were permitted to administer traditional justice, which, in the case of certain emirs, included trying cases of murder for which the death sentence, subject to confirmation by the Governor, could be passed. They administered political units that corresponded to those they would have administered before the arrival of the colonial power. They were elected to office by traditional methods of selection, and only in the case of the election of a patently unsuitable candidate to office, would the colonial power refuse recognition. There was thus a minimal undermining of the traditional sources of authority.'

By contrast, the usual French practice made the chiefs politically subordinate to their political officers, tended to break up traditional governance units, and selected native rulers themselves rather than through traditional means. The only exception in Africa was the late-colonized (1912) Morocco, which not only retained legal sovereignty but (unlike Tunisia) de facto autonomy as well. The French colonial governor of Morocco, Hubert Lyautey, protected traditional Muslim education (Segalla 2009, 23) and the political power of the sultan (Gilson Miller 2013, 91).

Even for the British, indirect rule required nontraditional rulers where there was no history of precolonial statehood, as in Sierra Leone (Acemoglu et al. 2014,

25) and Eastern Nigeria (Crowder 1964, 199). These rulers had no popular legitimacy, and the combination of illegitimate rule and weak European influence made for weak state capacity after independence. When the precolonial society was highly decentralised, colonial direct rule at least brought in European expertise and comparatively liberal legislation, though as we have noted, direct rule was rare in Africa.

Now, where traditional institutions persisted through the colonial period, the new rulers of independent African states often saw them as a political threat and tried to abolish them (Acemoglu et al. 2014, 20–24). For this reason, Acemoglu et al. (2014) doubt indirect rule had any positive legacy for African governance even where it recognised traditional, legitimate rulers. Moreover, Ali et al. (2015) find that British governance led to stronger substate ethnic affiliations and weaker state identities. In a recent working paper, Broich, Szirmai & Thomsson (2015) find that precolonial centralisation is associated with state capacity only in the 1996–2014 period, not earlier. It could be that the cultural capital fed by precolonial centralisation could

resurface only after the highly nationalistic centralisers of the initial post-independence period faded from the scene. Additionally, 'divide and rule' could have gradually undermined newly independent African states even as it allowed for stronger elite-society links within ethnic communities. For these reasons, we hypothesize that the indirect rule–precolonial centralisation configuration benefited state capacity most strongly at the moment of independence, not throughout the postcolonial period.

Previous work has generally found a negative effect of indirect rule on growth (Lange 2004, Lange 2009b, Richens 2009). Lange uses customary court cases as a share of all court cases as a measure of indirect rule, while Richens uses European administrators per capita. Richens further finds that the positive effect of 'close administration' on growth disappears in countries that were politically centralised prior to colonisation.

Another body of work, however, suggests possible benefits to indirect rule under some circumstances. The reason has to do with the role of political legitimacy in building state capacity. Englebert (2000) argues that African states fail to build capacity to the extent that they conflict with precolonial institutions. He constructs measures of vertical and horizontal legitimacy, where vertical legitimacy has to do with social consensus over the rules of the political game and horizontal legitimacy has to do with social consensus over the spatial scope of the political community. Legitimacy may affect the willingness of the population to cooperate with public authorities and the expense the latter must incur in inducing compliance where voluntary cooperation falls off. In a global study, Alesina, Easterly & Matuszeski (2011) find that two measures of border artificiality are negatively related to GDP per capita. One of their measures, ethnic partition across boundaries, is essentially equivalent to Englebert's (2000) measure of horizontal legitimacy.

Although concerned with the economic success, and not state capacity per se, several scholars have attributed the success of Botswana to its pre-colonial institutions (Robinson, Acemoglu & Johnson 2003, Hjort 2010) and the limited impact of British colonialism. The Tswana kingdoms that dominated pre-colonial Botswana had developed relatively participatory processes and property rights, institutions that are vital to economic development. Due to the limited British interest in Botswana, colonial rule was relatively limited, which allowed the pre- colonial institutions of the Tswana to continue into post-independence Botswana. Admittedly, the story is not entirely about institutional continuity. In the later years of colonialism, a tribal succession crisis and an irredentist threat from South Africa provoked the British to build a centralised administration that diminished the power of traditional chiefs (Lange 2009a). This process ultimately obtained legitimacy for most Botswanans, however, because the British allowed the most popular chief, the formerly exiled Seretse Khama, to win national power (Lange 2009a, 13).

If legitimacy is crucial to capacity-building, indirect rule by traditional elites can promote capacity-building by enhancing legitimacy. In Africa, we would expect this process to function only where a centralised precolonial state existed, and the coloniser had not simply made up new authorities to whom to delegate power. Hechter (2000) goes so far as to claim that indirect rule eliminates nationalism by making the cultural unit and the governance unit congruent. Even if it does not eliminate nationalism altogether, indirect rule has the potential to reduce significantly public opposition to the central state – or, in this case, colonial power. After independence, almost all African states centralised power, thus foregoing these potential benefits of internal indirect rule. Yet we expect indirect rule by traditional elites to have had benefits for state capacity in the long run, when self-governing territories had

a precolonial state.

2.3 State Capacity

A state's capacity has to do with its ability to effectively achieve its own goals. Those goals may be benign or malign. The Soviet Union under Brezhnev had fairly high state capacity, but the goals of the state were not necessarily congruent with social welfare. By contrast, Ayubi (1995, pp. 447–49) says that Middle Eastern states are typically 'fierce' (violent) or 'hard' (autonomous) but not 'strong.' He gives the U.K. as an example of a relatively soft, non-fierce, yet strong state.

At minimum, state capacity requires the ability of the state to maintain a territorial monopoly on the legitimation of the use of force, that is, the minimum criterion for existence as a state. In addition, the ability of the state to enforce its will, however determined, is central to the concept. Since all states require revenue (indeed, some models of the state see it as revenue-maximizing), the ability of the state to acquire revenue, especially when the revenue base is more difficult to reach, is an essential component of state capacity (Brennan & Buchanan 1980, Levi 1988, Olson 1993, Thies 2004). We narrowly construe state capacity in this paper, because the relationship between state capacity and outcomes such as development, civil war, democracy, and so on should be left open to empirical investigation, not stipulated a priori. These variables should not be considered constitutive of state capacity.

Hendrix (2010) conceives of state capacity as having three dimensions: mili- tary capacity, bureaucratic/administrative capacity, and the quality and coher- ence of political institutions. Using principal factor analysis, he finds that the most statistically predictive dimension of state capacity appears to

reflect bureaucratic and administrative capacity, while the other two important dimensions capture 'rentier-autocraticness' and 'neopatrimoniality' (273).

A new project from Hanson & Sigman (2013) treats state capacity along the dimensions of extractive, coercive, and administrative capacity. The three concepts are related to each other, in that obtaining revenue requires coercion, and administrative competence helps build the capacities to coerce and extract.

In the African context, Herbst (2014 [2000]) proposes the density of national road networks as a good proxy for the state's ability to project force throughout its territory. But we find that road density correlates poorly with other state capacity variables. Its correlation with relative political extraction, defined in the 'Sample Selection and Data' section below, at the first available post- independence year for 46 African countries is -0.02. At the most recent available year, that correlation is still a mere 0.23. Another unsatisfactory indicator of state capacity for our purposes is Ottervik's (2013) measure of tax compliance, which is the inverse of model-derived estimates of the 'shadow economy' as a percentage of GDP. The size of the shadow economy is driven not just by state capacity but by economic policies, such as exchange and price controls. In contemporary Africa, tax compliance correlates with relative political extraction at a mere 0.26 and even more weakly with direct tax to GDP ratio and road density.

3 Hypotheses and Data

3.1 Expectations

We expect indirect rule by traditional elites to have increased state

capacity in independent African states only when those territories contained centralised states before colonisation. Because, apart from French Morocco, only the British practiced this form of indirect rule in Africa, we hypothesize a positive relationship between British colonial legacy (or Morocco or the noncolonies of Ethiopia and Liberia) and post-independence and contemporary state capacity, when conjoined to precolonial statehood. Other measures of indirect rule have taken into account customary court cases (Lange 2004) or number of colonial administrators (Richens 2009), but our theory suggests that it is not the extent of indirect rule that preserves precolonial centralisation, but the reliance on traditional rulers and boundaries, which occurred only under British colonialism, non-colonisation, or French rule in Morocco.

This is not to say that British colonial rule was uniformly positive. It was likely to be harmful where traditional state structures did not exist, as in Sierra Leone, but also wherever colonial interests demanded extractive policies (Acemoglu, Johnson & Robinson 2001). On average, we expect British rule to have preserved more state capacity than other colonial sovereigns where there was a centralised precolonial polity.

We investigate both post-independence and contemporary state capacity for two reasons. First, as already discussed, post-independence African governments often had tenuous linkages with civil society and traditional forms of governance. The abrupt, revolutionary change independence typically represented may have divorced new African states from the infrastructural capital of the past. Yet over time, previous results suggest, we should expect more success in capacity-building in those places where precolonial state capacity might have been preserved through traditional colonial or noncolonial rule (Broich, Szirmai & Thomsson 2015). Second,

most African economic data have been in a pitiable condition until quite recently. Huge measurement error in the 1960s data could prevent reliable findings.

We also investigate change in state capacity from 1990 to the most recent available date. Prior to 1990, foreign aid, helping to prop up weak African rulers, was motivated more by Cold War rivalries than development concerns, but these priorities have changed since then. As a result, weak African states have had to wean themselves from unconditional aid and attempt to build capacity to make use of rigorously conditioned aid (Dunning 2004). Pre-existing social infrastructure may have affected African states' ability to adjust to the new politics of aid and build up capacity.

The statistical models take the following general form:

$$Capacity = \alpha + \beta_1 Centralisation + \beta_2 Traditional\ rule + \gamma\ Centralisation * Traditional\ rule + \delta\ Controls. \quad (1)$$

The key expectations are that $\beta 1 + \gamma > 0$ and that $\gamma > 0$.

In addition, we build models instrumenting for precolonial centralisation with the TseTse Suitability Index, which Alsan (2015) has found strongly negatively predicts precolonial centralisation through the mechanism of reducing historical agricultural surplus. We assume that traditional indirect rule is exogenous, while centralisation is endogenous.

3.2 Sample Selection and Data

Our analysis covers African states that had precolonial populations in the post-independence (mostly 1960–1965) and contemporary (2010) periods.[2]

[2] The requirement of 'precolonial population' excludes countries such as Mauritius that were settled during colonialism.

To ensure sufficient statistical power, we include the supra-Saharan states of North Africa and the settler state of South Africa but also investigate their differences from the rest of sub-Saharan Africa.

To measure state capacity, we use two institutional variables and three fiscal variables. The institutional variables are a dummy for anarchy, conceived as central government collapse, at any point since independence and a count of years of anarchy since independence. The measure of anarchy comes from the Polity IV Project (regime code '-77'). Somalia has experienced the most years of anarchy, followed by Congo Kinshasa, Liberia and Ivory Coast (six each), Chad, Sierra Leone, Burundi, Libya and Ethiopia (two each), and finally Angola, Guinea-Bissau, Lesotho, Mali, and Uganda with one each.

The fiscal variables are the Arbetman-Rabinowitz, Kugler, Abdollahian, Kang, Nelson & Tammen (2012) measure of *relative political extraction*, which is a model-derived ratio of actual revenues to potential revenues, excluding minerals and trade taxation, and is averaged for five-year periods; direct taxation to GDP ratio, also excluding resource and trade taxes (Mansour 2014), augmented with data from the World Bank's World Development Indicators; and Mansour's measure of non-resource taxation to GDP ratio, which is only available for 35 countries. Relative political extraction correlates with direct tax to GDP ratio at 0.33 in 1990 and 0.54 in 2010 and with nonresource tax ratio at 0.48 in 1990 and 0.67 in 2010. Libya is lowest on relative political extraction in 2010, Lesotho highest, and Liberia is missing. South Africa is highest on 2010 direct tax to GDP ratio, Somalia lowest (zero), and Libya is missing.[3] Direct taxation to GDP ratio is unavailable for the 1960s. Again, we also look at the change in each of the

[3] Somalia was missing in the original data. We assigned a value of zero due to the absence of a government.

fiscal variables from 1990 to 2010 as dependent variables.

The first independent variable, precolonial centralisation, comes from Gen- naioli & Rainer (2007). They measure centralisation from Murdock's (1967) ethnographic atlas of precolonial Africa, which gives 'jurisdictional hierarchy' scores by ethnic group. These ethnic group-level scores are aggregated to the country level using ethnic group percentages from the *Atlas Narodov Mira*. The variable takes on a value of 1 for Lesotho and 0 for Liberia, with other countries ranged between the two.[4]

The second independent variable is a dummy for traditional indirect rule. It is coded '1' for all British colonies (Olsson 2009). In addition, our theory suggests that countries that were never colonised should also display a positive relationship between precolonial centralisation and 1960s-era and contemporary state capacity. The advantages of British rule did not have to do with the British as such, but with the light touch we expect them to have used on traditional authorities. Therefore, we try including noncolonies in our estimations and score them as '1' on traditional indirect rule. Finally, Morocco is coded '1' here as well, for reasons already discussed. Figure 1 displays the range of country values on precolonial centralisation by traditional indirect rule. The median value of each distribution is indicated with a hollow diamond. Countries with a history of traditional indirect rule had slightly higher precolonial centralisation, but otherwise these distributions are quite similar.

[Figure 1 about here]

The instrument for centralisation, the TseTse Suitability Index (TSI),

[4] As noted in the Discussion section below, we believe that this is a serious miscoding of Liberia, as it ignores the important Americo-Liberian state.

ranges from -2.7 (South Africa) to 1.5 (Equatorial Guinea). The data were originally collected as raster data at the pixel level by Alsan (2015). We use the country scores calculated by Broich, Szirmai & Thomsson (2015) and augmented by averaging across districts (first) and ethnic groups (second), reported by Alsan. If the IV model is appropriately specified, we need not worry about omitted variable bias. Still, we consider the impact of various controls, such as absolute latitude, mean temperature, State Antiquity Index (Bockstette, Chanda & Putterman 2002, Putterman 2012), log population density in 1400, and Malaria Ecology Index (Alsan 2015).

4 Results and Discussion

4.1 Regression Estimates

For all tables below, we include a line testing the linear combination of coefficients on traditional indirect rule and precolonial centralisation. Specifically, we test $\beta_2 + 0.9\gamma = 0$, that is, the marginal effect of traditional indirect rule when centralisation equals 0.9, not quite the highest value on this variable but similar to the values for Malawi, Botswana, Libya, Zimbabwe, and Tunisia.

Table 1 presents IV estimations with anarchy dummy as the dependent variable. We use linear models and robust standard errors for all results reported here. Column 1 is a baseline model with no interaction between colonial status and precolonial centralisation, column 2 adds the interaction and is our preferred model, and columns 3 and 4 remove the Western settler states of Liberia and South Africa and the states of North Africa, respectively.

We see no evidence here that precolonial centralisation prevents anarchy, regardless of colonial status. These models simply cannot predict anarchy

well. Since anarchy always arises from civil war, variables that affect likelihood of civil war should also affect likelihood of anarchy (Fearon & Laitin 2003).

Table 1: D.V.: Anarchy (dummy)

	(1)	(2)	(3)	(4)
Centralisation	-0.0863	0.279	0.279	0.712
	(0.406)	(0.648)	(0.649)	(0.987)
Traditional	0.0123	0.360	0.0624	0.566
	(0.145)	(0.485)	(0.648)	(0.561)
Centr.*Noncolbrit		-0.603	-0.173	-1.007
		(0.841)	(1.043)	(1.119)
Constant	0.343	0.146	0.146	-0.0528
	(0.234)	(0.343)	(0.344)	(0.457)
Observations	47	47	45	42
$\beta_2 + 0.9\gamma$		-0.18	-0.09	-0.34
		(0.33)	(0.35)	(0.50)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 2: D.V.: Anarchy (count)

	(1)	(2)	(3)	(4)
Centralisation	-4.829*	-2.407	-2.407	-2.227
	(2.494)	(3.322)	(3.329)	(4.262)
Traditional	1.068	3.376	3.578	3.440
	(1.163)	(3.536)	(4.641)	(3.703)
Centr.*Trad.		-4.000	-4.375	-4.016
		(4.615)	(6.053)	(5.300)
Constant	3.709**	2.406	2.406	2.245
	(1.618)	(2.163)	(2.167)	(2.458)
Observations	47	47	45	42
$\beta_2 + 0.9\gamma$		-0.22	-0.36	-0.17
		(1.1)	(1.2)	(1.58)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 2 presents analogous results for count of anarchy years. Here we do indeed see evidence of a protective effect of precolonial centralisation, and this effect might be strengthened by traditional indirect rule, although the

standard errors are extremely large. The linear combination of the coefficients on centralisation and the interaction term is statistically significant (not reported in these tables), suggesting that precolonial centralisation reduces the number of years of anarchy when rule during the colonial period was traditional, but perhaps not otherwise. On the other hand, the linear combination of coefficients on traditional indirect rule and the interaction is not even close to significance, because traditional indirect rule looks harmful when centralisation is zero. The results change little with the exclusion of Liberia and South Africa and the supra-Saharan states.

Table 3: D.V.: Post-independence RPE

	(1)	(2)	(3)	(4)
Centralisation	-0.0325	0.933	0.933	1.137
	(0.407)	(0.827)	(0.828)	(1.236)
Traditional	0.0970	1.162*	1.167*	1.226*
	(0.162)	(0.620)	(0.652)	(0.713)
Centr.*Trad.		-1.779*	-1.788*	-1.975
		(0.980)	(1.027)	(1.338)
Constant	1.048***	0.529	0.529	0.494
	(0.246)	(0.440)	(0.440)	(0.573)
Observations	46	46	45	41
$\beta_2 + 0.9\gamma$		-0.44	-0.44	-0.55
		(0.35)	(0.36)	(0.58)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3 moves on to relative political extraction in the immediate post-independence period. Despite our expectation that it would be difficult to find strong relationships in this time period due to the poor quality of the data, we in fact find a strong relationship directly contrary to our expectations: in the immediate post-independence period, African states that had experienced traditional rule in the 19th and 20th centuries did not benefit at all from precolonial centralisation. In fact, state capacity was highest in those states that had traditional rule and the *least* amount of precolonial centralisation.

That particular result strengthens a bit when North Africa is dropped. These findings are consistent with a revolutionary model of state-building in the immediate post-independence period for sub-Saharan Africa.

Now, when we turn to the contemporary period (Table 4), the picture is strikingly different. Precolonial centralisation is strongly associated with present-day political extraction, and it is probable that the relationship is stronger for countries that experienced traditional indirect rule, but the interaction term is not statistically significant. These results are consistent with those from Broich, Szirmai & Thomsson (2015), who find that precolonial centralisation has become increasingly positive for bureaucratic quality over time–a different dependent variable, but one closely linked to state capacity. Perhaps as the shock of rapid independence has receded, pre-existing differences in institutional capital have reasserted themselves in sub-Saharan Africa.

Table 4: D.V.: 2010 RPE

	(1)	(2)	(3)	(4)
Centralisation	1.282**	0.887*	0.887*	0.955
	(0.531)	(0.493)	(0.493)	(0.652)
Traditional	-0.0910	-0.526	-0.664	-0.420
	(0.153)	(0.660)	(0.777)	(0.623)
Centr.*Trad.		0.727	0.961	0.517
		(0.988)	(1.177)	(1.045)
Constant	0.319	0.531*	0.531*	0.553
	(0.308)	(0.300)	(0.300)	(0.340)
Observations	46	46	45	41
$\beta_2 + 0.9\gamma$		0.13	0.20	0.05
		(0.29)	(0.35)	(0.38)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5 presents IV estimates with change in relative political extraction from 1990 to 2010 as the dependent variable, controlling for the starting level of the dependent variable. Precolonial centralisation is weakly associated with

state capacity-building over this period, but more strongly in the states with a history of traditional indirect rule. Still, the interaction term is not significant, and so we cannot be confident that traditional rule actually modifies the causal relationship.

Table 5: D.V.: Change RPE

	(1)	(2)	(3)	(4)
Centralisation	0.806	0.522	0.568	0.671
	(0.490)	(0.479)	(0.505)	(0.762)
Traditional	-0.0425	-0.419	-0.511	-0.398
	(0.128)	(0.574)	(0.729)	(0.570)
RPE 1990	-0.722***	-0.753***	-0.784***	-0.853***
	(0.153)	(0.147)	(0.170)	(0.171)
Centr.*Trad.		0.620	0.766	0.546
		(0.852)	(1.101)	(0.954)
Constant	0.274	0.460*	0.469*	0.528*
	(0.267)	(0.262)	(0.266)	(0.293)
Observations	46	46	45	41
$\beta_2 + 0.9\gamma$		0.14	0.18	0.09
		(0.25)	(0.31)	(0.35)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The picture is clearer with direct and nonresource taxation as dependent variables. In each case (contemporary levels and 1990–2010 changes), precolonial centralisation is statistically significant and positive before the interaction is added, loses significance when the interaction is added, and the interaction is reasonably large and positive but not statistically significant (Tables 6, 7, 8, and 9 – note that non-resource taxation is missing for all of North Africa and hence there is no column 4 for the latter two tables). However, traditional indirect rule is frequently statistically significant when tested at *Centralisation* = 0.9.

Table 6: D.V.: 2010 Direct Tax

	(1)	(2)	(3)	(4)
Centralisation	0.0822***	0.0498**	0.0498**	0.0439
	(0.0243)	(0.0227)	(0.0227)	(0.0287)
Traditional	0.0118	-0.0190	-0.0348	-0.0188
	(0.00936)	(0.0295)	(0.0297)	(0.0287)
Centr.*Trad.		0.0542	0.0698	0.0577
		(0.0428)	(0.0440)	(0.0452)
Constant	-0.00121	0.0157	0.0157	0.0187
	(0.0138)	(0.0126)	(0.0126)	(0.0144)
Observations	46	46	44	42
$\beta_2 + 0.9\gamma$		0.030**	0.028*	0.033*
		(0.014)	(0.015)	(0.017)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 7: D.V.: Change Direct Tax

	(1)	(2)	(3)	(4)
Centralization	0.0769**	0.0480**	0.0479**	0.0372*
	(0.0336)	(0.0210)	(0.0210)	(0.0211)
Traditional	0.00362	-0.0346	-0.0285	-0.0322
	(0.00850)	(0.0400)	(0.0414)	(0.0353)
Direct tax 1990	-0.567***	-0.647***	-0.643***	-0.613***
	(0.193)	(0.202)	(0.206)	(0.191)
Centr.*Trad.		0.0646	0.0549	0.0673
		(0.0562)	(0.0606)	(0.0519)
Constant	-0.0109	0.00574	0.00564	0.00910
	(0.0128)	(0.0107)	(0.0107)	(0.0109)
Observations	39	39	38	36
$\beta_2 + 0.9\gamma$		0.023	0.021	0.028*
		(0.015)	(0.017)	(0.015)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

We now turn to models of anarchy count and contemporary direct taxation with control variables. We focus on these dependent variables because they yield the strongest results for our hypothesised interactive relationship and we want to see how robust those results are to the inclusion of plausible controls. The control variables we use are absolute value of latitude, mean temperature, the Alesina, Easterly & Matuszeski (2011)

measure of 'fractal' borders (higher values mean less straight-linear borders), the Alesina et al. measure of ethnic partition across state borders, the State Antiquity Index for 1850 assuming 1% decay (Putterman 2012), Nunn's (2008) measure of population density in 1400, and the Malaria Ecology Index from Alsan (2015).

Table 8: D.V.: 2010 Non-Resource Tax

	(1)	(2)	(3)
Centralisation	0.231**	0.135	0.135
	(0.0872)	(0.107)	(0.107)
Traditional	0.000130	-0.0891	-0.120
	(0.0274)	(0.0992)	(0.115)
Centr.*Trad.		0.159	0.210
		(0.157)	(0.178)
Constant	0.0178	0.0636	0.0636
	(0.0441)	(0.0536)	(0.0537)
Observations	36	36	35
$\beta_2 + 0.9\gamma$		0.054	0.070
		(0.054)	(0.058)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 9: D.V.: Change Non-Resource Tax

	(1)	(2)	(3)
Centralisation	0.161*	0.156	0.153
	(0.0856)	(0.113)	(0.111)
Traditional	-0.0000581	-0.00535	-0.0400
	(0.0203)	(0.0710)	(0.0879)
Non-resource tax 1990	-0.520**	-0.525**	-0.572**
	(0.238)	(0.233)	(0.244)
Centr.*Trad.		0.00947	0.0677
		(0.120)	(0.142)
Constant	0.00138	0.00426	0.0105
	(0.0300)	(0.0467)	(0.0470)
Observations	35	35	34
$\beta_2 + 0.9\gamma$		0.003	0.021
		(0.045)	(0.049)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 10 shows how the results for anarchy count change with the addition

of various control variables, some of which further limit the sample due to missing data. None of the control variables is individually statistically significant, but the significance of the interaction term is somewhat sensitive and flips sign when the state antiquity index is added. State antiquity itself is positive, though not quite significant, suggesting that older states have more years of anarchy – an unexpected relationship.

Table 10: Anarchy (count) with controls)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Centralisation	-2.171	-2.706	-2.145	0.220	-6.099	-2.126	-6.162
	(4.418)	(3.716)	(3.462)	(2.396)	(5.678)	(3.547)	(6.468)
Centr.*Trad.	-4.052	-5.810*	-5.128	-7.069	0.141	-4.690	-4.315
	(4.680)	(3.233)	(5.153)	(4.230)	(5.700)	(5.372)	(4.672)
Traditional	3.400	4.231	4.023	5.137	0.542	3.824	3.373
	(3.582)	(2.860)	(3.740)	(3.222)	(3.727)	(4.023)	(3.422)
Latitude	-6.740						
	(75.13)						
Mean temp.		-144.7					
		(198.8)					
Fractal (log)			-42.97				
			(46.26)				
Partitioned				-9.754			
				(9.527)			
State antiquity					4.429		
					(3.504)		
Pop. density 1400						-236.4	
						(376.3)	
Malaria							-188.4
							(149.7)
Constant	2.364	6.121	3.634	1.237	3.755	2.327	6.798
	(2.232)	(7.095)	(2.698)	(1.531)	(3.168)	(2.237)	(5.609)
Observations	47	47	44	40	42	47	47
$\beta_2 + 0.9\gamma$	-0.25	-1.00	-0.59	-1.22	0.67	-0.40	-0.51
	(1.08)	(0.87)	(1.24)	(1.04)	(1.84)	(1.19)	(1.16)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 11 shows the results for contemporary direct taxation as a percentage of GDP with control variables. The coefficient on the interaction

term between traditional rule and precolonial centralisation is fairly stable. State antiquity is significant and negative, suggesting that older states have less direct taxation ratio and therefore lower state capacity – again unexpected. Traditional rule is almost always statistically significant and positive at a high value of centralisation.

4.2 Discussion

In summary, our statistical power seems too small to infer a definitive link between traditional indirect rule and the preservation of precolonial centralisation to the present, especially in light of the measurement error that inevitably afflicts both historical and contemporary African data. There does seem to be a link between traditional rule status and contemporary direct taxation ratio and its 1990–2010 change, conditional on precolonial centralisation, although we must be aware of the 'multiple test' problem when using several dependent variables to measure a concept. If there is an effect of traditional rule status on direct taxation, it is sizeable. The standard deviation of direct tax ratio is 0.0296, and thus traditional rule appears to add roughly a standard deviation of direct tax ratio to countries scoring 0.9 on centralisation across models in Tables 6 and 11.

The four African countries with the highest direct tax to GDP ratio in 2010 all had a British colonial heritage: South Africa, Lesotho, Zimbabwe, and Swaziland. These were also all highly centralised in the precolonial period. On the other hand, Somalia and Sudan, which also have a part-British colonial heritage, had the lowest direct tax to GDP ratio of all African countries. Moreover, Somalia was among the least centralised geographies in the

Table 11: Direct tax ratio 2010 with controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Centralisation	0.0535	0.0487*	0.0480**	0.0480**	0.0698*	0.0531**	0.0603
	(0.0481)	(0.0247)	(0.0210)	(0.0229)	(0.0365)	(0.0254)	(0.0362)
Centr.*Trad.	0.0534	0.0477	0.0603	0.0676	0.0300	0.0454	0.0549
	(0.0410)	(0.0516)	(0.0391)	(0.0439)	(0.0477)	(0.0497)	(0.0452)
Traditional	-0.0186	-0.0160	-0.0212	-0.0256	0.00384	-0.0135	-0.0188
	(0.0291)	(0.0331)	(0.0282)	(0.0311)	(0.0316)	(0.0331)	(0.0311)
Latitude	-0.104						
	(1.183)						
Mean temp.		-0.518					
		(2.000)					
Fractal (log)			0.402				
			(0.303)				
Partitioned				0.00632			
				(0.109)			
State antiquity					-0.0537***		
					(0.0171)		
Pop. density 1400						-3.175	
						(4.430)	
Malaria							0.517
							(0.975)
Constant	0.0151	0.0290	0.00455	0.0194	0.0119	0.0152	0.00348
	(0.0153)	(0.0569)	(0.0142)	(0.0132)	(0.0199)	(0.0129)	(0.0309)
Observations	46	46	43	39	41	46	46
$\beta_2 + 0.9\gamma$	0.029**	0.027	0.033**	0.035***	0.031**	0.027*	0.031*
	(0.013)	(0.017)	(0.013)	(0.013)	(0.015)	(0.016)	(0.015)

Robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

precolonial era (Sudan was middling). At the extremes, then, the evidence suggests that British rule might have helped preserve precolonial (de)centralisation up to the present day.

But there are also outliers. Liberia today is above average on direct tax ratio despite having never been colonised and having possessed the lowest possible degree of centralisation prior to Americo-Liberian settlement. Perhaps Liberia's success today has something to do with centralisation under the Americo-Liberian settlement. On the other hand, Liberia's present-day success at state building contrasts sharply with its long and deadly civil wars in the 1980s, 1990s, and early 2000s, including six years of central government collapse. Kenya is a presently centralised former British colony that was relatively decentralised prior to colonisation. Moreover, a few countries without British colonial heritage have successfully built state capacity: Djibouti, Namibia, Tunisia, and Morocco, chiefly. Now, Morocco was uncharacteristically afforded traditional indirect rule due to its late colonisation and the ideology of the French delegate to the colony. And Namibia went through a long period of occupation under South Africa, which itself had a British colonial heritage.

5 Conclusion

Previous research has found a relationship between precolonial centralisation and bureaucratic quality in Africa. In this paper, we have for the first time confirmed such a relationship with direct tax share of GDP, years of anarchy, and other indicators of state capacity. In addition, when we condition precolonial centralisation on a history of traditional rule prior to the 1960s (either British or noncolonial, plus Morocco), we find that it is only in this latter group of countries that we can be confident that precolonial

centralisation boosts present-day state capacity (but not state capacity in the immediate post-independence period). However, nor can we be confident that traditional indirect rule is essential to the relationship in all these cases, although the expected relationship is found with the ratio of direct taxation revenues to GDP in 2010 and with change in that quantity between 1990 and 2010. These latter relationships are strongest in sub-Saharan Africa.

An examination of particular cases suggests that a more nuanced measure of traditional, indirect rule and a recoding of Liberia on precolonial centralisa- tion based on its post-1848 characteristics together would yield much sharper results supporting the basic theoretical expectations. Where France allowed its protectorates ample internal autonomy, those territories retained precolonial centralisation into the present. Still, we have chosen not to fit independent variable codings to the data we observe on the dependent variables and instead to rely wholly on the codings of others. Each case does, after all, have distinctive features, and it is perhaps possible to construct a special story to explain away any outliers in a dataset this small.

The results of our paper suggest that African states' precolonial institutional infrastructures may continue to reassert themselves as the shocks of indepen- dence and U.S.–Soviet rivalry fade. In the immediate post-independence period, precolonial centralisation was actually negatively related to state capacity. Over the past 25 years, the two variables have become increasingly positively corre- lated. If so, it will be good news for the states of Mauritania, Ethiopia, and Benin, territories featuring lower state capacity than would be expected given precolonial heritage.

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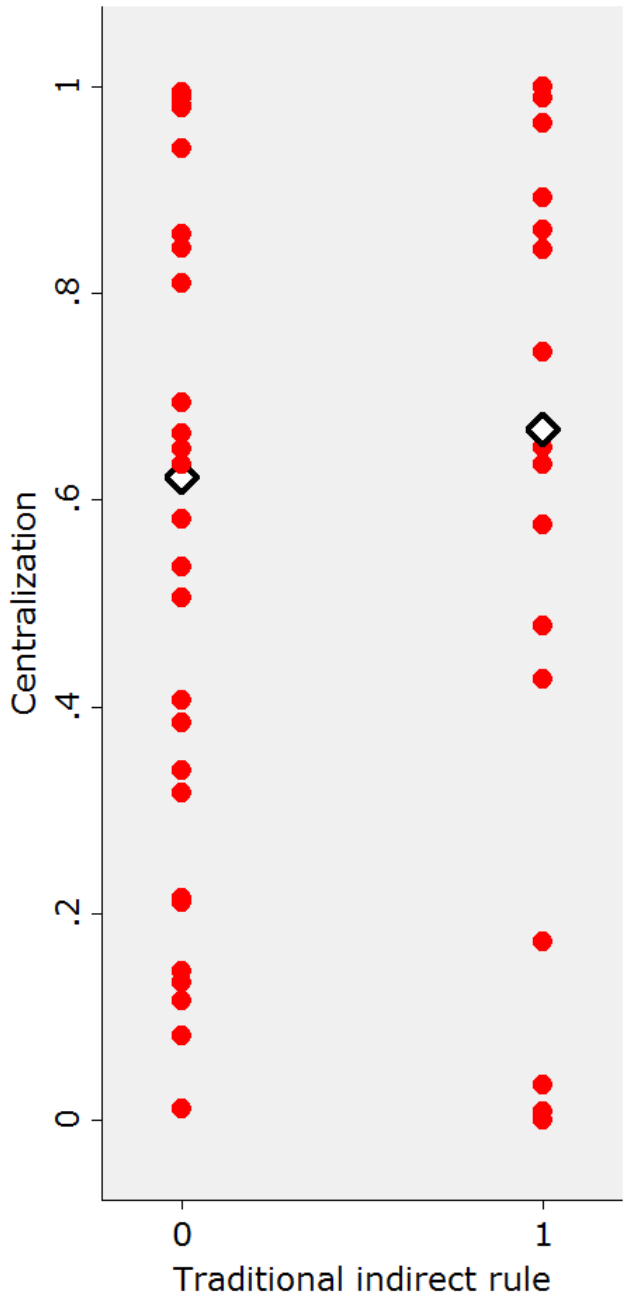

Figure 1: Precolonial Centralisation by Traditional Indirect Rule Status