The Origins of Inequality in Sub-Saharan Africa

Abstract

Economic inequality can be conceived of on a number of scales, from the international to the regional and individual levels. Recent research has demonstrated that an important source of within country inequality is inequality *between* ethnic groups. However, it is also the case that inequality *within* groups varies significantly, and that this variation may affect political behaviour either directly or indirectly by conditioning the effect of between group inequality. Although between group inequality has been shown to be largely determined by disparities across groups in access to resources such as rivers, high quality soils, and minerals, in this paper we show that these kinds of disparities only partially explain levels of within group inequality. We argue that contemporary within group inequality in Africa is partly determined by a group's historical *stateness*. In particular, ethnic groups with highly centralized pre-colonial institutions tend to have lower levels of within-group inequality today. We develop two mechanisms explaining the relationship. First, ethnic groups with centralized pre-colonial institutions can more easily distribute public goods among their members. Second, highly organized ethnic groups have more within-group accountability. Both of these processes, we argue, lead to lower inequality. Using a dataset on more than 250 ethnic groups in sub-Saharan Africa, we find strong evidence in favor of our main hypothesis: ethnic groups with more centralized pre-colonial institutions are more equal today. We also test some of the implications of the two mechanisms we propose and find support for both mechanisms. This is the first study to demonstrate that early political institutions have shaped current levels of within group economic inequality in sub-Saharan Africa.

1. Introduction

Economic inequality can be conceived of on a number of scales, from the cross-national (Deaton 2013, Milanovic 2016) to the regional (Milanovic 2005, Ezcurra and Rodríguez-Pose 2013) and individual levels (Piketty 2014) (for overviews of this literature, see Neckerman and Torche 2007, Galbraith 2016). Recent research has demonstrated that an important source of within country inequality is inequality *between* ethnic groups (so-called *between group inequality* or BGI) (Alesina, Michalopoulos et al. 2016). For example, incomes in the United States vary substantially by racial and ethnic origins; according to 2015 census data, the median income of Asian Americans is almost double that of African Americans (Proctor, Semega et al. 2016). This kind of ethnic group stratification has long been held to be a major cause of ethnic voting and even ethnic conflict (Horowitz 1985).

However, it is also the case that *within* group inequality (WGI) varies significantly (Huber and Suryanarayan 2015, Kochhar and Cilluffo 2018), and that this variation may affect political behaviour either directly or indirectly by conditioning the effect of BGI (Houle 2015, Houle, Kenny et al. 2018, Bulutgil and Prasad 2019, Huber and Mayoral 2019); where WGI is elevated, the effect of BGI on ethnic group identification and ethnic voting is attenuated, and at the highest observed levels, disappears altogether (Higashijima and Houle 2018, Houle, Kenny et al. 2018). In short, examining levels of inter-group disparities without taking into account how wealth and income are distributed among group members results in an impoverished understanding of ethnic group political behavior. Nowhere is this issue more salient than in sub-Saharan Africa, where ethnic groups display large differences in their levels of both BGI and WGI (Higashijima and Houle 2018, Houle and Bodea 2017). This paper sets out to explain the deep institutional roots of contemporary WGI in the region.

BGI has been shown to be heavily determined by disparities across groups in access to resources such as rivers, high quality soils, and minerals (Alesina, Michalopoulos et al. 2016). In this paper we show that although resource disparities partially explain current levels of WGI in Africa, an ethnic group's historical political institutions also contribute to economic inequality among group members. Although political institutions are partially endogenous to the geographic conditions prevailing in and around an ethnic group's homeland, geography is not destiny. Rather, groups can and do settle on different institutional equilibria in the face of similar geographic and political ecologies (Fenske 2013, Osafo-Kwaako and Robinson 2013). Consistent with a growing literature, which demonstrates the persistent effects of historical institutions on current economic outcomes (Archibong 2015, 2018, 2019, Gennaioli and Rainer, 2007, Fenske 2014, Michalopoulos and Papaioannou 2015a, 2015b, 2020, Osafo-Kwaako and Robinson 2013), this paper theorizes that present-day WGI in Africa is partly explained by an ethnic group's historical *stateness*. Although the origin of the state has typically been positively associated with the emergence and persistence of socioeconomic inequality (Bates 1983, Boix 2015, Scott 2017), we argue that groups with historically more complex and hierarchical state institutions should tend to have *lower* current levels of inequality.

We propose that this apparent paradox prevails because modern day public goods provision and political elite accountability are likely to be higher among groups with historically more complex political organizations (Osafo-Kwaako and Robinson 2013). We further posit that at least some of this historical legacy effect is due to the role of tribal chiefs in sub-Saharan African political culture. Historical African states were not primarily bureaucratic-rational organizations, but traditional or patrimonial ones (Connah 2016, Ehret 2016). The disruptions of colonial rule and decolonization notwithstanding (Heldring and Robinson 2012), ethnic groups

that were governed by hierarchical chiefdoms or kingdoms prior to Western colonial rule have thus inherited a legacy of powerful traditional leaders and chiefs (Boone 2003, Herbst 2000, Vaughan 2003). We posit that these subnational institutions are in turn associated with lower levels of inequality within ethnic groups for at least two reasons. First, because of their close relationships with community members, traditional elites have the capacity to deliver local public goods (Baldwin 2019, Magaloni, Díaz-Cayeros, and Ruiz Euler 2019). Second, in spite of their undemocratic credentials, traditional leaders whose institutional origins go back before colonial rule are more accountable than weak, centrally appointed bureaucrats or even chiefs of more recently created lineages (Boone 2003: 92-137, Herbst 2000, Nathan 2019), thus mitigating—though not eliminating—corruption.

We test the effect of pre-colonial stateness on current inequality using survey data from the Afrobarometer and the Demographic and Health Surveys (DHS). These surveys provide information on the ethnicity of the respondents as well as information that can be used to estimate the wealth of each respondent. This enables us to develop a novel measure of within group inequality. We capture pre-colonial stateness using Murdock's Ethnographic Atlas (Murdock, 1967). We find strong evidence in favor of our main hypothesis: even controlling for geography and pre-colonial economic stratification, ethnic groups with more hierarchical historical political institutions have lower WGI today. Our findings provide further evidence of the long socioeconomic shadow cast by historical institutions (e.g., Archibong 2019, Acemoglu, Johnson, et al. 2001, Gennaioli and Rainer, 2007, Fenske 2014, Iyer 2010, Lee and Schultz, 2012, Michalopoulos and Papaioannou, 2015a, 2015b, 2020). We also test some of the implications of the two mechanisms we propose using respondent-level data from the Afrobarometer, and find support for both of them. Although these may not be the only

mechanisms at work, our findings are consistent with recent research on the effects that traditional leaders or chiefs play in developmental outcomes in present day Africa through their role in delivering public goods (Acemoglu, Reed et al. 2014, Baldwin 2019, Baldwin and Raffler 2017, Nathan 2019, Wilfahrt 2018a, 2018b).

2. Conceptual Framework

Although socioeconomic inequality was instrumental to the rise of the state (Bates 1983, Boix 2015, Scott 2017), we theorize that the redistributive role of the modern welfare state has disrupted this historical relationship (Lindert 2004, Scheve and Stasavage 2016). As a result, in the African context, a historical legacy of strong pre-colonial *stateness* should be associated with *lower* levels of economic inequality within groups today. Current nation states or sub-national territories that effectively provide public goods such as education and healthcare and that can effectively enforce the rule of law have lower inequality today. We theorize that pre-colonial African ethnic group stateness is associated with superior public goods provision and greater accountability, both of which should lower WGI.

States can be conceived of as institutions to which the authority to sanction behaviour in violation of group norms (e.g., the sanctity of property rights) is delegated (Dubreuil 2010). If small pre-state societies were adept at resisting the accumulation of wealth or power by particular individuals or clans (Boehm 2001), states in this sense became necessary with increases in population density (Turchin, Whitehouse et al. 2018); beyond a certain size, the decentralized enforcment of social norms becomes difficult to sustain. Vertical integration into administrative entities is the most efficient means of providing public goods in large populations

(Dubreuil 2010: 209), and the circumscription of growing populations thereby fosters the creation of hierarchical political institutions (Carneiro 1970; Johnson and Earle 2000).

In turn, however, even as early states provided some public goods in the sense of sanctioning norm violations, they also facilitated the development of socioeconomic stratification (Flannery and Marcus 2012, Boix 2015). This fact is unlikely to be coincidental. In fact, as Bates (1983: 27) suggests, the ability of ruling elites to extract economic rents may have been necessary to overcome the collective action problem entailed in the creation of centralized states in the first place. Early states, from the Fertile Crescent to China to India, were characterized by high levels of inequality as the political or "state" elite used their roles to appropriate economic surpluses (Johnson and Earle 2000, Mayshar 2018, Morris 2010, Scott 2017). Economic stratification and early state buidling may have had a mutually reinforcing relationship. Sub-Saharan Africa has been no exception to this general rule. The production of agricultural surpluses, population pressures, and inequality have been necessary, though not sufficient, conditions for the development of political complexity (Connah 2016, Ehret 2016, Vansina 2004). As data from the Ethnographic Atlas show, ethnic groups with more hierarchical pre-colonial states had higher levels of socioeconomic stratification than those with simple structures (Murdock, 1967).

In general, state development in Africa generally came late, as there remained extensive "open" territories into which expanding populations could move (Herbst 2000). Incumbent hunting-gathering groups could either be displaced or incorporated into gradually expanding agricultural societies as sources of wild produce and resources. The circumscription of populations that drove social complexity (i.e., hierarchy) in Nilotic Africa and the Fertile Crescent was largely absent south of the Sahara (Carneiro 1970, Vansina 2004). However,

variation in the size and strength of the state is not fully explained by geography (Fenske 2013). Dueppen (2014) notes that even circumscription does not *guarantee* the development of hierarchicaal state institutions. Rather, is it also affected by political agency and otherwise exogenous historical events. For example, some elites in control of territories with rich mineral deposits concentrate the gains among themselves, while other elites distribute those gains widely by financing and effectively providing public goods and mitigating corruption (Sarraf et al. 2001, Vaughan 2003). At the same time, some variation in the size and strength of the state is due to the outcome of wars, alliances, trade, disease, and the spread of religions among other factors that have only an imperfect link to geography.

Thus, even if most ethnic groups in sub-Saharan Africa had very simple political structures as Iberian contact with coastal regions began in the fifteenth century, there were some substantial kingdoms with high rates of urbanization and centralization, including the Kingdom of the Kongo and the Ashanti Kingdom, which arose where geography tended to limit expansion and where agriculture was amenable to the production of surpluses (Connah 2016, Ehret, 2016, Fauvelle 2018). Even within present day states such as Nigeria, there was substantial variation with typically simple egalitarian institutions in the south, but however, more expansive state-like structures in the Islamic north, existed, especially among the Hausa-Fulani (Ola 1975). It was certainly true, moreover, as trade, not least in slaves, expanded in the following centuries, a process that facilitated accumulation and administrative hierarchy in some states just as it retarded it in others (Oliver and Atmore 2001). Right up to the imperial "scramble" of the 1870s, African states, especially inland ones, retained a great deal of autonomy and institutional variation (Young 1994: 80-83).

We are far from the first to posit a connection between historical stateness and present-day governance outcomes in the African context (for a review, see Michalopoulos and Papaioannou 2020), with scholarship pointing to the legacy of traditional property rights regimes (Baldwin 2013, Herbst 2000, Lowes et al. 2017), fiscal capacity (Bolt and Gardner 2016), and social norms (Heldring 2016) as possible transmission mechanisms. We concentrate on an alternative set of mechanisms centered on the role of traditional rulers that our data allow us to test more directly, but there is no reason to see these processes as mutually exclusive. We propose that within present-day sub-Saharan African states, those ethnic groups with a legacy of pre-colonial stateness are better able to deliver on public goods to the members of their group and are likely to have lower levels of misappropriation of state resources (e.g., Gennailoli and Rainer 2006, 2007, Jedwab and Storeygard 2017, Phillips 2011; but see Bandyopadhyay and Green 2016). As a consequence, groups with high historical stateness should have lower WGI.

Although neglected by comparison with BGI, WGI is itself substantively important. Ethnic groups, not least in Africa, vary substantially in the degree to which resources are distributed among group members (Huber and Suryanarayan 2015, Kochhar and Cilluffo 2018). The effect of BGI on inter-group relations is conditional on WGI. At high levels, the effect of BGI dissapates and even disappears. As a result, groups with high WGI are much less likely to vote collectively as ethnic blocs (Houle, Kenny et al. 2018). There are several reasons why this may be the case. Low intra-group inequality (low WGI) increases group identification as class and ethnic categories are mutually reinforcing (Higashijima and Houle 2018), homogenizes the economic policy preferences of members group members, fosters denser social networks among group members, and facilitates ethnic mobilization by political entrepreneurs (Houle, Kenny et al. 2018).

The provision of public goods, including the effective rule of law, likely plays an important role in mitigating WGI. The demand for public goods such as education and health care in sub-Saharan Africa is high, and there is an expectation that government policy should seek to address these problems (Pew Research Center 2015). States also must provide justice and deliver on a range of other bureaucratic responsibilities. The balance among the types of public goods—i.e., education, healthcare, security—provided by the state probably matters (Wilfahrt 2018b, Archibong 2018, 2019), but in general, the better that government services are provided, the lower socioeconomic inequality should be among beneficiaries (Asaria, Ali, Doran, et al. 2016, Heckman 2011). It is important to note that the argument here applies to the ethnic group, not to the nation state. To the extent access to public goods is uneven across ethnic groups, say if a majority ethnic group controls the national government and provides patronage in an ethnically biased way, BGI may be unaffected or even increased by the provision of nominally public goods (Archibong 2018, Posner 2005). However, even if traditional leaders partially "privatize" public goods by favouring co-ethnics, the provision of services goods such as education and healthcare should lower WGI among the groups that receive them.

In the African context, because national states typically have low levels of capacity, the actual delivery of public goods depends very much on the quality of the local institutions and intermediaries who provide them, namely headmen, chiefs, and other tribal leaders (Baldwin 2019, Baldwin and Raffler 2017, Goldstein and Udry 2008, Henn 2018, Kramon 2019, de Kadt and Larreguy 2018, Phillips 2011, Wilfahrt 2018a, 2018b). Traditional leaders provide an informal complement to the to the formal institutions of the state (Helmke and Levitsky 2004). Research on Africa and elsewhere shows that traditional leaders vary substantially in their capacity and motivation to provide public goods (Magaloni et al. 2019). We follow recent

research in African political development in arguing that chiefs or traditional leaders whose lineage extends back in time before the colonial period—rather than to the colonial period itself—should be less subject to capture and have even greater formal and informal authority to positively impact the distribution of public goods (Baldwin 2019, Nathan 2019, Wilfahrt 2018b). In Nigeria, for instance, although the British often created chieftains where they did not previously exist, empowering warrant chiefs to perform the same functions, the latter lacked the legitimacy of established governing lineages elsewhere in the colony (Harniet-Sievers 1998). Historical stateness should thus affect the quality of local government through the prominent contemporary role played by traditional leaders.

Prior to the onset of colonial rule, local chiefs played the key role in the provision of public goods, not least through the coordination of local labour and the performance of judicial functions. Owing to the predominance of indirect over direct colonial rule in sub-Saharan Africa, on average even though chiefs' administrative roles were altered, they were not significantly diminished (Acemoglu, Reed et al. 2014, Chanock 1985, Geshiere 1993, Boone 2003, Mamdani 1996). Even with the benefit of imperial backing, chiefs were still at least partially accountable to their co-ethnics (Baldwin 2019). Where indigenous chieftains were weak or absent, colonial governments were less able to tax and spend, leaving behind a post-independence legacy of low institutional capacity (Bolt and Gardner 2016, Papaioannou and Dalrymple-Smith 2015). Moreover, in spite of the antipathy of many African nationalist leaders after independence, the role of traditional leaders in governance in contemporary Africa remains substantial (Koter 2016, Baldwin 2016, 2019). Boone (2003: 58), for example, notes that even in the case of Senegal, the elimination of the formal administrative role of cantonal chiefs "did not put an end…to their power as rural political leaders."

In asserting a relationship between pre-colonial institutional features and current economic outcomes, there is a risk of unduly concatenating a complex historical trajectory. Although empirically we put this historical richness aside, our approach is theoretically consistent with non-linear processes (Archibong 2019). We don't dispute, for instance, the disruptive and mostly damaging effects of colonial rule and the slave trade on traditional governing structures and indigenous welfare (Heldring and Robinson 2012, Nunn 2008, Nunn and Wantchekon 2011, Obikili 2016, Young 1994). However, even if pre-colonial stateness was associated with more extractive government during the colonial period (as chiefs exploited their intermediary roles to extract rents), this does not preclude it being associated with better public goods provision today (as both national governments and chiefs are jointly more accountable). Our contention is simply that pre-colonial institutions continue to matter even following the superposition of colonial institutions and policies (Michalopoulos and Papaioannou 2020). We next outline a number of mechanisms underlying this relationship.

First, we expect local leaders from historically more hierarchical ethnic states to have greater *capacity* to provide public goods. Previous research on sub-Saharan Africa has shown that prior to colonization ethnic groups with large states had highly developed bureaucracies capable of efficiently delivering public goods (Diamond 1997, Acemoglu and Robinson 2012, Michalopoulos and Papaioannou 2013, 2020). Moreover, the colonial era introduction of capitation taxes compelled traditional rulers to enhance their administrative capacity, even if they retained much of the surplus for private gain (Crawford 1996: 124-29). Other authors have found evidence that historical stateness remains associated today with generally superior bureaucratic and administrative capacity, even controlling for varied geographic inheritances (Fenske 2013, Archibong 2015). There is also direct cross-national evidence that historical stateness is

associated with higher levels of contemporary public goods provision (Gennaioli and Rainer 2006, 2007, Archibong 2015), which should in turn lower inequality.

Chiefs, in part because of their deep embeddedness in local communities, are better able to organize the delivery of local public goods, such as school or health center construction, especially where this requires the contribution of voluntary labor from residents (Baldwin 2019). Traditional leaders, in other words, have access to an informal organizational resource, which facilitates the delivery of local public goods. Contemporary localities without traditional leaders do not have the capacity to coordinate the implementation of nationally funded development projects. Additionally, evidence indicates that traditional chiefs play a significant role in disputes over resources, especially land (Goldstein and Udry, 2008, Baldwin 2013). There is also evidence that historical stateness is associated with more effective enforcement of property rights (Boone 2003). Equal access to the law, even if in traditional courts, should be associated with lower inequality (Bennett and Nikolaev 2016). We thus expect inequality to be lower among groups with historically higher levels of historical stateness.

Second, we expect local leaders from historically more hierarchical states to be more accountable (Michalopoulos and Papaioannou 2013) and hence to be less corrupted than appointed bureaucrats. Previous research has demonstrated that traditional chiefs may have a paradoxically positive role in the provision of responsive government in democratic Africa (Baldwin 2016, Baldwin and Raffler 2017, Carlson and Seim 2018, Nathan 2019, Papaioannou and Dalrymple-Smith 2015). Rather than being officially empowered as traditional intermediaries, chieftains have assumed a seminal role as loci of political competition and community formation (Vaughan 2000). Those traditional rulers who can draw on a more extensive historical tradition for their legitimacy are better able to fill this role. Nathan (2019),

for instance, argues that chiefs in Ghana whose lineage extends prior to colonial rule are more accountable to their co-ethnic clienteles than chiefs or leaders whose positions the British created during colonial rule.

The legitimacy of traditional leaders depends in part on the perception that they share the wealth rather than overtly monopolize it themselves (Acemoglu, Reed et al. 2014). There is evidence that the quality of public goods provision, at least for education and healthcare, is better in those places with traditional chieftains (Phillips 2011). Moreover, local chiefs have a significant influence on the political behaviour of their constituents in national elections (Koter 2013, de Kadt and Larreguy 2018). Local government has the major role in the delivery of public goods such as education and health spending. Such services, however, are often redirected as patronage to meet political objectives. Traditional leaders are often empowered as intermediaries or brokers in this context. However, we suggest that traditional leaders are likely to be more accountable—and hence deliver higher quality government—also in authoritarian systems when they can be effectively monitored from *above*. Although the logic is similar to that of Nathan (2019) we argue that this accountability mechanism does not rely solely on electoral incentives. Rather, to the extent that local traditional leaders are accountable to their superiors, public goods provision may also be enhanced. Thus, we expect it to operate also in non-democracies.

This role of upward accountability is critical to note in the African context where chieftains incorporated into colonial states became less accountable to commoners in their own groups (Ali et al. 2020, Archibong 2018, 2019), but who simultaneously became answerable to colonial administrations. For national political elites seeking to gain favour with their constituencies, delivering on local public goods through traditional leaders is good politics. Even in authoritarian systems, national leaders have an incentive to limit the rents obtained by local

elites (North, Wallis et al. 2012). Hence misgovernance should be lower where local leaders are more accountable to superiors, mitigating the principal agent problem. Historically more centralized groups had a higher degree of accountability of traditional local leaders to their superior chiefs or kings (Herbst 2000, Boone 2003, Gennaioli and Rainer 2006). Colonial rule likely made traditional chiefs less accountable to citizens (Ali et al 2020, Mamdani 1996, Palagashvili 2018), but local leaders remained dependent on patronage from above (Crowder and Ikime 1970). In the post-independence period, state centralization depended in part on the degree to which brokers' access to rents relied on centrally allocated privileges rather than autochthonous control over the local economy (Boone 2003: 90). More generally, while traditional leaders' brokerage position in national patronage networks does provide some opportunity for graft, their ability to engage in graft is mitigated in more centralized patronage networks (Ali et al 2020, Kenny 2015). Where central control over local leaders is higher, the latter can be sanctioned or even removed if they are seen by superiors to be engaging in the excessive extraction of rent. In contexts such as sub-Saharan Africa, where corruption is such a common source of wealth, this greater top-down accountability should lower inequality (Gupta et al. 1998, Gyimah-Brempong 2002, Dincer and Gunalp 2012).

These mechanisms need not be seen as mutually exclusive or exhaustive. Indeed, existing research points to additional channels through which the relationship between pre-colonial stateness and public goods provision might be sustained. Although our data does not allow us to test these mechanisms directly, for theoretical reasons, these channels would seem to be more context dependent. For example, according to Wilfahrt (2018a, 2018b), ethnic groups with stronger collective identities and more extensive horizontal linkages should have better public goods provision. She writes that "Areas home to precolonial kingdoms were endowed with

collective identities stretching across villages, but in historically acephalous areas—those lacking hierarchical precolonial political institutions—such cross-village ties are absent" (Wilfahrt 2018a: 240). In turn, public goods distribution should be superior among more state-like groups as they can better solve coordination and collective action problems (Wilfahrt 2018b). Although Wilfahrt's (2018a) causal mechanism is highly plausible for the Senegalese case she examines, it relies on the assumption of the ethnic congruence of local government units, which the first two mechanisms do not. Another alternative mechanism may be that traditionally stronger chieftains are better able to bargain with the national government for budgetary resources. However, as Archibong (2019) notes, the degree to which resources for public goods are distributed depends in part on the compliance of local governments with the national administration. In this sense, traditional local leaders are engaged in a two-level game, both with the national government above, and with their clients below. However, even if access to resources for public goods expenditure does not derive automatically from an ethnic group's relative political power vis a vis the national government, tribal leaders still face other incentives to provide these services.

3. Data

Our sample consists of all ethnicities reported by at least twenty respondents in the Afrobarometer and Demographic and Health Survey (DHS) rounds. Due to the availability of questions needed to construct our dependent variable, rounds one and two of Afrobarometer are excluded. For the DHS, we include all survey rounds for all years from sub-Saharan Africa. In total, these surveys leave us with ethnicities from 32 countries over the time-period of 1986—2017. Since there may be systematic differences between the Afrobarometer and the DHS, in

Table A3 of the online appendix we show that the results are unchanged when we included a dummy variable for the observations taken from the DHS.

While both the DHS and Afrobarometer surveys are representative samples at the national level, it may be a concern that they are not necessarily representative at the ethnicity level. To minimize this potential, we first only include ethnicities with at least 20 respondents (we alternatively increase this threshold to 40 respondents, and results do not change). Second, there is evidence that subsamples of specific ethnicities are indeed representative of the national population. Houle, Kenny, and Park (2019) find ethnic subsets of several cross-national surveys, including Afrobarometer, remain representative and do not over- or under-represent specific groups (e.g. based on wealth, gender, education, urban/rural divide, and so on).

In order to gain a measure of a group's pre-colonial stateness we take the ethnicities reported in the surveys and match them to Murdock's Ethnographic Atlas. Matching was done by consulting Nunn and Wantchekon (2011) and Olson (1996). Olson was further used to track alternative spellings and splintering of groups post-colonialism. Overall, we were able to match 280 ethnicities in 32 countries for more than 1,000 observations (Table A1 in the online appendix displays all country-years observed).

Our unit of analysis is survey-country-ethnicity. In this way, the same ethnicity in two separate countries constitutes two separate observations. This is both preferable and necessary as many control variables in our analysis relate to the modern government and context of the group.

3.1 Dependent Variable

Unfortunately, the Afrobarometer and the DHS do not have questions that directly capture the income of the respondents. Indeed, most African countries are relatively poor, and a

large fraction of their citizens do not have access to monetized income (Baldwin and Huber 2010; Bratton 2008). Using cash income would thus be inappropriate to capture inequality in these countries.

The Afrobarometer and the DHS, however, have questions about the ownership of a number of assets. Previous authors have employed these questions to construct measures of the wealth of the respondents as well as inequality within and between ethnic groups (e.g., Baldwin and Huber 2010; Dionne et al. 2014; Houle 2015). We follow the same approach. The DHS asks respondents whether they have the following goods: a refrigerator, a television, a radio, access to electricity, a bicycle, and a car. For each respondent, we create a variable ranging from 0 to 6, where 0 indicates that the individual does not possess any of these goods, and 6 that the person possesses them all. Similarly, the Afrobarometer asks respondents whether they own a radio, a television, and a motor vehicle. Using these questions, we construct an indicator ranging from 0 to 3.

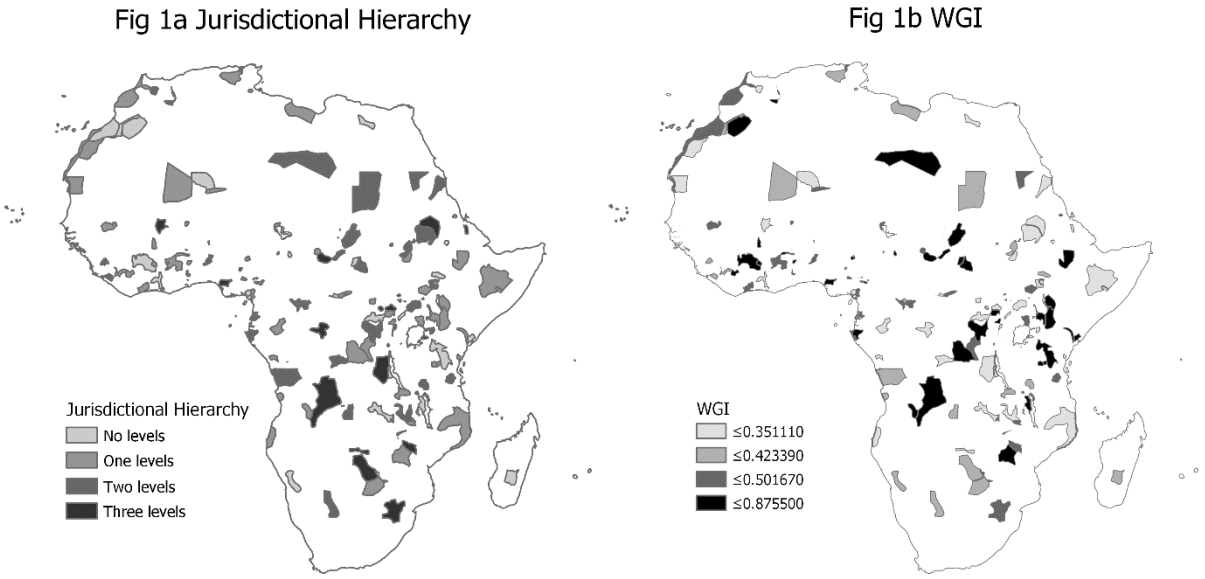
Once each respondent has an estimated wealth based on their asset ownership, it is fairly straightforward to calculate the level of inequality within that group. For each group, we calculate a Gini coefficient based on the distribution of asset-based wealth of all members of that group. We utilize the Stata package 'ineqdec0' to calculate these coefficients. For all countries, we calculate a Gini coefficient for each group separately. This leaves us with an overall measure of wealth inequality for each ethnic group that had at least 20 survey respondents. This measure of inequality serves as our dependent variable. We then merge our group-level independent variables to this group-level measure of inequality to formulate a test of our hypotheses.

3.2 Independent Variable

Our main independent variable of interest comes from Murdock's Ethnographic Atlas (1967) (from hereon "the Atlas") and measures precolonial tribal jurisdictional hierarchy beyond the local level. Based on Murdock's original map of 1959, the version of the Atlas georeferenced by Nunn (2008) yields 843 unique ethnic homelands in sub-Saharan Africa. The Atlas has been used frequently in recent research on the effects of pre-colonial institutional and socioeconomic factors on contemporary development (Fenske 2013, Michalopoulos and Papaioannou 2015a, Michalopoulos and Papaioannou 2015b, Nunn 2008, Nunn, Puga et al. 2012, Nunn and Wantchekon 2011; c.f., Paine 2019).

"Jurisdictional hierarchy" (or "Pre-Colonial Stateness") is an ordinal variable and ranges from 0—4, where zero indicates "stateless societies," one and two indicate "petty and larger paramount chiefdoms or their equivalent," and three and four indicate "large states." Recent cross-validation has shown this measure to be accurate in terms measuring political stateness of precolonial ethnicities (Michalopoulos and Papaioannou 2011). Overall, approximately 16% of observations fall in the "stateless" category, 43% are coded as 1, 26% a 2, and 15% a 3. No observed ethnicities were coded at the highest level of jurisdictional hierarchy. In Table A4 of the online appendix, we redo the analysis with a slightly different independent variable. Following Gennaioli and Rainer (2007), among others, we use a dummy variable ("Stateness") that takes the value one if an ethnic group has a score of at least two on "Jurisdictional hierarchy." Levels three and four in the Atlas are widely interpreted as referring to "states" (Paine 2019: 663).

Figure 1 Pre-colonial Stateness and Inequality



Notes: WGI refers to within-ethnic group inequality, measured as a Gini coefficient.

The geographical distribution of ethnic groups by country with their respective levels of pre-colonial stateness (jurisdictional hierarchy) and most recent inequality values included in our analysis are illustrated in Figure 1. The darker shaded areas in Fig 1a are country-ethnic groups with *higher* levels of jurisdictional hierarchy.[1] The darker shaded areas in Fig 1b are country-ethnic groups with *higher* levels of inequality.

3.3 Control Variables

We include several controls both at the group- and country-level in our analysis. First, in terms of economic variables, from the Atlas we include an index measuring reliance on hunting, gathering, or fishing (versus pastoralism or agriculture) as a proxy for precolonial inequality

[1] The jurisdictional hierarchy variable is only illustrated for the country-groups for which we have WGI data.

("Mode of Production"), calculated as the sum of the group's percent reliance on these three modes of production. The values refer to the deciles of reliance on each type of production; thus a 3 refers to roughly 30% reliance on hunting, gathering, and fishing, while an 8 would refer to roughly an 80% reliance, and so on. Work by Smith, Borgerhoff Mulder et al. (2010) and Boix (2015) has shown more reliance on these activities to be a strong indicator of inequality.[2] We further account for current per capita GDP of the country (logged).

Next, we include several geographical variables to account for differences in resources and factor endowments. First, a measure of terrain ruggedness from Nunn and Puga (2012), which measures variation in elevations throughout the area. More variation indicates higher difficulty in terms of land cultivation, hurting prospects of economic development. Similarly, we include measures of distance from the coast (Fenske 2014) and the proportion of soil that is suitable for agriculture in an ethnic homeland (Nunn and Puga 2012) to account for differing types of variation in factor endowments. Including these variables is particularly important since geographical factors may have influenced the development of pre-colonial states. For example, groups living in rich areas may have had more resources to dedicate to state development.

In countries with multiple ethnic groups, ethnicity likely plays a more salient role in politics, which may incite groups to adopt policies targeted at their own group, thus reducing their within-group inequality. Yet at the same time, ethnic diversity may also be correlated with stateness. For example, it is possible areas that were more diverse had more difficulty in terms of

[2] In addition, we control for pre-colonial "Class stratification" from the Atlas, which we convert into a binary variable (any/no stratification); however, we use this variable only in robustness tests due to greater missingness compared to the "Mode of production" variable (see Table A16 in the Online Appendix).

building up strong political institutions. Thus, we include a measure of ethno-linguistic fractionalization of the country. Since this variable does not vary within countries over time, it is omitted from the analysis when country fixed-effects are added.

We add further controls in additional models to ensure robustness. First, in addition to the measure of overall soil fertility, we utilize pixel-level soil quality measures from Michalopoulos and Papaioannou (2013). They report soil quality for pixel areas 0.125 degrees by 0.125 degrees, matched to the ethnicity occupying the area. We utilize variations in these sub-ethnic pixels to calculate Gini coefficients capturing disparity of soil quality for each ethnicity.

It has been shown that protestant missions specifically have aided in the development of the region. They are specifically associated with a heightened level of book printing (Eisenstein 1979, 403–23), an advocation of mass literacy (Woodberry 2012), and an increase in education and development leading to a stronger middle class (Lankina and Getachew 2012), thereby reducing within-group inequality. The locations of protestant missions, of course, may well be endogenous to pre-colonial institutions. Thus, we utilize spatial data (Nunn 2014) to map protestant missions to Murdock's ethnic boundaries, and include a control for the number of missions within each ethnic area.

Additionally, as a proxy for contemporary development, we include a measure of average luminosity for the ethnic group, taken from satellite imagery in 2007-2008. The measures are calculated for a roughly square-kilometer area, and aggregated to the ethnicity-level (Michalopoulos and Papaioannou 2013). We finally add a measure of overall ethnic group size, constructed using data from the Joshua Project.[3] Our results remain robust across all model specifications.

[3] https://joshuaproject.net.

In the online appendix, we show that the results are robust when we include year dummy variables (Table A5), a control variable for year (Table A6), control variables for both year and year squared (Table A7), and additional control variables for exposure to diseases (malaria and tsetse; Table A11), slave export (Table A12), population density (Table A13), geography (elevation and gold and diamond exploitation; Table A14), a country-level measure of inequality calculated based on luminosity (Table A15), and pre-colonial socioeconomic stratification (Table A16). Table A2 of the online appendix summarizes all variables included in the analysis.

4. Empirical Analysis

4.1 Main Analysis

Table 1 tests whether pre-colonial stateness is related to contemporary inequality using OLS. Model 1 runs the analysis without country fixed-effects. As expected, ethnic groups that had more hierarchical political institutions prior to colonization are more equal today. It is possible that country-specific factors that are not included in the estimation influence group inequality. In order to account for this possibility, model 2 includes country fixed-effects. Once again, groups with more hierarchical pre-colonial institutions have lower levels of inequality, and the association is statistically significant at the 1 percent level. The inclusion of country fixed-effects enables us to make sure that the results are not driven by country-specific factors, such as the nature of the country's colonial state or post-colonial state.

Figure 2 shows predicted Gini coefficients at different *Pre-Colonial Stateness* levels based on model 2. *Pre-Colonial Stateness* has four values: 1, 2, 3 and 4. A value of 1 ('No Levels') indicate "stateless societies," 2 ('One Levels') "petty and larger paramount chiefdoms or their equivalent," and 3 ('Two Levels') and 4 ('Three Levels') "large states." Increasing *Pre-*

Colonial Stateness from 1 to 3, for example, is associated with a reduction in the predicted Gini coefficient from 43.29 (95 percent confidence interval: 42.07- 44.51) to 41.17 (95 percent confidence interval: 40.58-41.77).

Model 3 adds additional control variables. In order to account for the wealth of the group, we control for the average level of luminosity of the ethnic homeland. We also control for the density of protestant missions within the ethnic homeland as well as the size of the group. Finally, we add a variable to account for the variation in soil quality within the ethnic homeland (*Soil Quality Gini*). These control variables are not included in the other models because of missing values. Results are unchanged.

A notable additional finding to emerge from the control variables is that *Soil Quality Gini* is positively associated with group inequality. This finding parallels the result of Alesina et al. (2016), according to which inequality in factor endowments *between* the ethnic homelands of *different* ethnic groups is among the main determinants of inequality *between* ethnic groups. To our knowledge, this is the first paper to show that the same applies to within group inequality: differences in factor endowment within ethnic homeland is associated with more group inequality. However, it is notable that even controlling for these uneven geographical inheritances, political institutional legacies continue to have a significant positive association with contemporary levels of within group inequality.

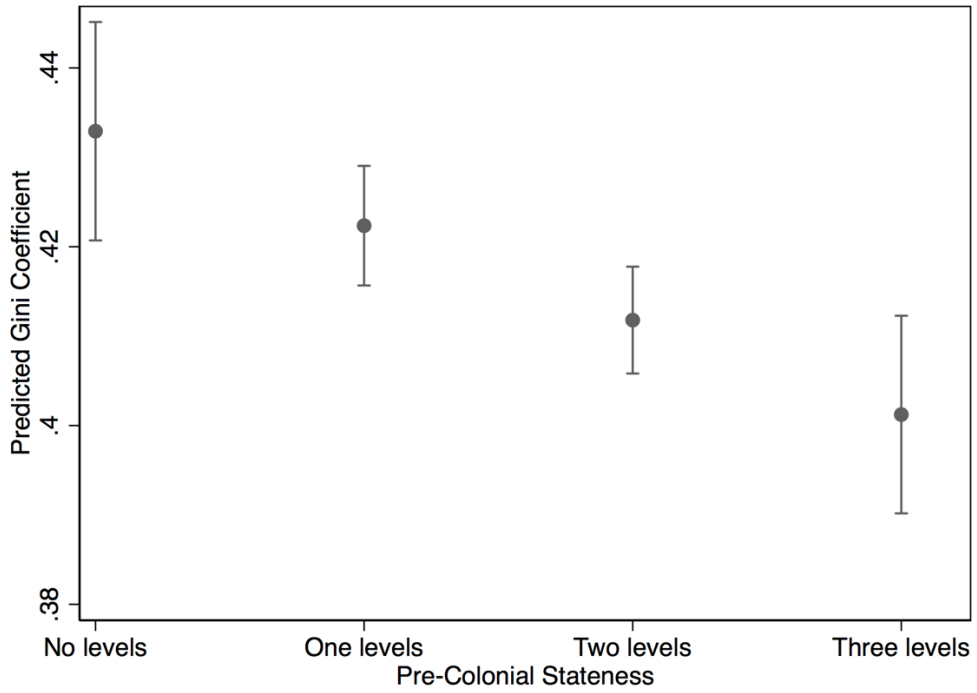
Table 1: Effect of Pre-Colonial Stateness on Group Inequality

	(1)	(2)	(3)
Pre-Colonial Stateness	-0.0108***	-0.0106***	-0.0135***
	(0.00372)	(0.00352)	(0.00415)
Mode of Production	0.00304	0.00427	0.00738**
	(0.00287)	(0.00301)	(0.00326)
Ruggedness	-6.92e-08	-1.12e-08	2.31e-08
	(6.37e-08)	(6.86e-08)	(8.66e-08)
Distance from the Coast	0.00296**	0.00822***	0.00716***
	(0.00125)	(0.00150)	(0.00180)
Soil Quality	-0.00101***	-0.00231***	-0.00147***
	(0.000206)	(0.000465)	(0.000504)
GDP pc (logged)	-0.0441***	-0.130***	-0.145***
	(0.00532)	(0.0210)	(0.0211)
Ethnic Fractionization	-0.119***		
	(0.0277)		
Mean Luminosity			-0.00475***
			(0.00116)
Soil Quality Gini			0.193***
			(0.0313)
Group Size			-0.113***
			(0.0341)
Protestant Mission Density			-0.000813
			(0.000659)
Country FEs	N	Y	Y
Observations	1,182	1,182	970
R-squared	0.155	0.381	0.389

Notes: All models are estimated with OLS. Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

It is also notable that in models with a full set of control variables (Table 1 (3), Table A16 (3)) our two proxies for pre-colonial socioeconomic inequality (*Mode of Production* and *Stratification*) are inversely related to current WGI (i.e., higher historical inequality is associated with lower current inequality), while the relationship between *Pre-Colonial Stateness* and WGI remains statistically significant. This supports our contention that current ethnic groups with low WGI were not historically more egalitarian.

Figure 2: Effect of Pre-Colonial Stateness on Predicted Inequality Level



Finally, one could argue that the effect of pre-colonial institutions may be contingent on the current political regime. In Table A10 of the online appendix, we redo Table 1 with an interaction term between pre-colonial stateness and a dummy variable for whether the regime was democratic at the time of the survey. The variable takes the value one if the Polity score of the country was at least six and zero if it was less than six. The interaction term is never significant, and thus the relationship is not contingent on regime type.

4.2 Testing the Mechanisms

This section tests some of the implications of the two mechanisms we presented above. All tests rely on the Afrobarometer because the relevant questions are not asked in the DHS. While in the main analysis the unit-of-analysis was the ethnic group-survey year, in the analyses presented in this section, the unit-of-analysis is the respondent-year. In order to account for systematic differences across countries, all models employ multilevel analysis. In models 1 and 2, the dependent variable is binary. Therefore, we use multilevel probit models. In models 3-7, the dependent variable is continuous and we use mixed-effects models. All questions employed to construct the variables used to test the mechanisms are listed in Table A9 of the online appendix.

According to the first mechanism, current ethnic groups with historically more hierarchical pre-colonial states have a higher capacity to distribute public goods, which in turn reduces within-group inequality. We test two implications of this mechanism. First, this mechanism suggests that traditional elites and institutions should play a bigger role in the distribution of public goods among ethnic groups with more hierarchical pre-colonial states. Models 1 and 2 employ questions from the fourth round of the Afrobarometer to test whether this is the case. To be clear, the data we use are *perceptions* of quality of public goods and quality of governance. In model 1, we use a question that asks respondent to identify who has primary responsibility for managing schools: the central government, the local government, traditional leaders, members of the community or none of them. We code a dummy variable, *Traditional Leaders Education*, that takes the value one if the respondent answers 'traditional leaders' and zero otherwise. The dependent variable in model 2, *Traditional Leaders Health*, is constructed in a similar manner, but instead of looking at whether traditional leaders manage education, it

captures whether they manage health clinics. As shown in the table, members of groups with more hierarchical pre-colonial institutions are more likely to answer that traditional leaders are responsible for managing schools and health clinics.

A second implication of the first mechanism is that members of groups with more hierarchical pre-colonial institutions should have access to more and better quality public goods. Model 3 looks at whether members of these groups receive more public goods. The dependent variable, *Interviewer Public Goods*, is constructed from a series of questions asked in rounds 3-6 of the Afrobarometer. These questions are answered by the *interviewers* of the Afrobarometer, not the interviewees. They ask whether the neighborhood inhabited by the respondents have the following: an electricity grid, a pipe water system, a sewage system, a post-office, a school, a police station, a health clinic, and paved roads. Each of these questions are recoded such that they take the value one if the respondent's neighborhood has these goods and zero otherwise. We then compute *Interviewer Public Goods* as the average of all questions. It thus ranges from 0 to 1, whether 1 means that the respondent's neighborhood has all the listed public goods. As shown in model 3 of Table 2, we do find that members of groups more hierarchical pre-colonial states have access to more public goods, and the effect is statistically significant.

Models 4 and 5 address the issue of the quality of public goods. Both models use rounds 3 and 5 of the Afrobarometer. The dependent variable in model 4, *Quality Schools*, captures diverse aspects related to the quality of schooling in the area inhabited by the respondents. The questions capture: whether schooling is affordable, whether schools lack textbooks and other supplies, the quality of the teachers, whether teachers often miss classes, whether classes are overcrowded, and the quality of school facilities. Again, we recoded all questions such that they range from 0 to 1, where 1 indicates that schools are of the highest quality.

The dependent variable used in model 5, *Quality Health*, is similar but captures the quality of health services. As shown in models 4 and 5 of Table 2, we find that members of groups with high *Pre-Colonial Stateness* values are more likely to have access to high quality education and health services.

Table 2: Tests of the Mechanisms

	Trad. Leaders Educ.	Trad. Leaders Health	Interviewer Public Goods	Quality Schools	Quality Health	Trad. Leaders Corruption	Quality Local Government
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Pre-Colonial Stateness	0.0746***	0.0616**	0.00386***	0.0111***	0.0156***	-0.00434**	0.00270**
	(0.0286)	(0.0304)	(0.00103)	(0.00228)	(0.00197)	(0.00192)	(0.00123)
Education	-0.0234*	-0.0232*	0.0210***	-0.00466***	-0.00132	0.00922***	-0.000564
	(0.0129)	(0.0140)	(0.000449)	(0.000994)	(0.000865)	(0.000836)	(0.000537)
Gender	0.0143	0.0271	0.0128***	0.0167***	0.0113***	-0.000238	0.0108***
	(0.0434)	(0.0467)	(0.00159)	(0.00344)	(0.00301)	(0.00298)	(0.00190)
Age	0.000658	0.000190	0.000236***	0.000388***	0.000340***	-4.95e-05	-4.89e-05
	(0.00157)	(0.00171)	(5.68e-05)	(0.000126)	(0.000108)	(0.000108)	(6.83e-05)
Urban	-0.190***	-0.203***	0.291***	-0.000647	-0.0213***	0.0331***	0.0251***
	(0.0518)	(0.0559)	(0.00176)	(0.00384)	(0.00334)	(0.00331)	(0.00211)
# Countries	19	19	26	25	25	26	26
Observations	15,709	15,677	79,957	27,098	32,665	35,874	78,209
Log Likelihood	-1919.421	-1615.911	7810.784	-3541.861	-2944.953	-4733.878	-5531.079

Notes: Models 1-2 are estimated using multilevel probit models and models 3-7 multilevel mixed-effects models. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

According to the second mechanism, more hierarchical pre-colonial institutions left a legacy of traditional leaders with greater upward and downward accountability, which creates incentives for these persons to make decisions that benefit the group as a whole. Leaders from such groups should also be less likely to indulge in corruption and be more likely to provide good governance. The literature has long demonstrated that corruption and the lack of accountability tends to increase inequality at the country-level (Gupta et al. 1998). This effect

should be even stronger within Africa where economic wealth is often accumulated through political power, as opposed than through the private sector, for example.

Model 6 of Table 2 tests the mechanism's most direct implication: traditional leaders of groups with hierarchical pre-colonial institutions should be perceived as being less corrupt. The dependent variable, *Traditional Leader Corruption*, is constructed from a question in rounds 4 and 6 of the Afrobarometer. It asks whether the respondents believe that traditional leaders are corrupt. We recoded the variable such that it lies between 0 and 1, where 1 indicates that the respondent believes that traditional leaders are highly corrupt. As expected, traditional leaders are perceived as less corrupt among members of groups with higher pre-colonial stateness.

One limitation with model 6 is that it covers only two rounds of the Afrobarometer. Model 7 presents another test that uses a large number of questions rounds 3-6 of the Afrobarometer to capture the quality of local governments. In sub-Saharan Africa, there is often a strong relationship between traditional leaders and local governments (Wilfahrt 2018a). Traditional leaders, for example, often sit on local government councils. We should thus expect *Pre-Colonial Stateness* to increase the quality of local governments.

The variable *Quality Local Government* is constructed from questions that ask whether local governments do a good job at: maintaining roads, keeping the community clean, collecting local taxes, making spending decisions, maintaining local markets, handling health standards in restaurants, collecting license fees, collecting rates on private houses, and handling the use of land. Each variable is coded such that it ranges between 0 and 1, where 1 indicates the highest local government quality. We then compute *Quality Local Government* as the mean of all the variables. As shown in model 7 of Table 2, we find that *Pre-Colonial Stateness* is associated

with higher quality of local governments. On balance, we thus find evidence in favor of both mechanisms.

5. Conclusion

This paper has shown that pre-colonial institutions have a strong association with group inequality in sub-Saharan Africa. In particular, groups that had highly organized political institutions prior to colonization became more equal after colonization than those that lacked such institutions. We proposed and found evidence for two mechanisms that could explain the relationship. First, ethnic groups with developed pre-colonial institutions can more easily distribute public goods among their members. Public good provision, in turn, reduces group inequality. Second, highly organized ethnic groups have more within-group accountability. Village chiefs, for example, are more likely to be accountable to higher level group authorities. This structure of accountability forces local leaders to make decisions that benefit group members as a whole instead of a small group of local elites. Accountability also reduces opportunities for corruption. Therefore, in groups with strong pre-colonial institutions, inequality between local elites and the rest of group members should be lower. Institutions are themselves partly a product of geography, but our evidence indicates that their longue durée socioeconomic effects go beyond simple environmental determinism.

Our findings have important implications for the active research agenda on the downstream political implications of ethnic group inequality. Previous research has shown that when within ethnic group inequality is low, but between group inequality is high, ethnic voting is higher (Houle et al. 2019), democracy is less stable (Houle 2015), and coups are more likely (Houle and Bodea 2017), but civil war less likely (Huber and Mayoral 2019). Our results thus

imply that pre-colonial institutions may have an indirect effect – operating through group inequality – on a range of critical outcomes of interest to political scientists and economists.

References

Acemoglu, D., Johnson, S. and Robinson, J.A., 2001. The colonial origins of comparative development: An empirical investigation. *American economic review*, 91(5), pp.1369-1401.

Acemoglu, D., Reed, T. and Robinson, J.A., 2014. Chiefs: Economic development and elite control of civil society in Sierra Leone. *Journal of Political Economy*, 122(2), pp.319-368.

Acemoglu, D., and Robinson, J.A., 2012. Why Nations Fail? The Origins of Power, Prosperity, and Poverty. New York: Crown Publishers.

Alesina, A., S. Michalopoulos and E. Papaioannou. 2016. "Ethnic inequality." *Journal of Political Economy* 124(2): 428-488.

Ali, M., O.H. Fjeldstad, and A.B. Shifa. 2020. "European colonization and the corruption of local elites: The case of chiefs in Africa." *Journal of Economic Behavior & Organization*, 179: 80-100.

Archibong, B. 2015. Where Local Kings Rule: Long-Term Impacts of Precolonial Institutions and Geography on Access to Public Infrastructure Services in Nigeria. Unpublished paper, Barnard College.

Archibong, B. 2018. “Historical origins of persistent inequality in Nigeria,” *Oxford Development Studies* 46(3): 325-47.

Archibong, B. 2019. “Explaining divergence in the long-term effects of precolonial centralization on access to public infrastructure services in Nigeria,” *World Development* 121: 123-40.

Asaria M, Ali S, Doran T, et al. 2016. “How a universal health system reduces inequalities: lessons from England,” *Journal of Epidemiological Community Health* 70:637-643.

Baldwin, K. 2016. The Paradox of Traditional Chiefs in Democratic Africa, New York: Cambridge University Press.

Baldwin, K. 2013. "Why Vote With the Chief? Political Connections and Public Goods Provision in Zambia." *American Journal of Political Science* 57(4): 794-809.

Baldwin, K. 2019. "Elected MPs, Traditional Chiefs, and Local Public Goods: Evidence on the Role of Leaders in Co-Production From Rural Zambia." *Comparative Political Studies*. 52(12): 1925-56

Baldwin, K. and J. D. Huber. 2010. “Economic Versus Cultural Differences: Forms of Ethnic Diversity and Public Goods Provision.” *American Political Science Review* 104(4): 644–62.

Baldwin, K. and P. Raffler. 2017. “Traditional Leaders, Service Delivery, and Electoral Accountability.” In *Decentralized Governance and Accountability: Academic Research*

and the Future of Donor Programming. J. Rodden and E. WIbbels. Cambridge University Press

Bandyopadhyay, S. and E. Green. 2016. "Precolonial Political Centralization and Contemporary Development in Uganda." *Economic Development and Cultural Change* 64 (3): 47.

Bates, R. H. 1983. Essays on the Political Economy of Rural Africa. University of California Press.

Bennett, D. L. and B. Nikolaev. 2016. "Factor Endowments, the Rule of Law and Structural Inequality." *Journal of Institutional Economics* 12(4): 773-795.

Boehm, C. 2009. Hierarchy in the Forest: The Evolution of Egalitarian Behavior. Harvard University Press.

Boix, C. 2015. Political Order and Inequality: Their Foundations and Their Consequences for Human Welfare. Cambridge University Press.

Bolt, J. and L. Gardner. 2016.. "De-compressing history? Pre-colonial Institutions and Local Government Finance in British Colonial Africa." *Journal of Economic History* 76(2): 632-632.

Boone, C. 2003. Political Topographies of the African State: Territorial Authority and Institutional Choice. Cambridge University Press.

Bratton, M. 2008. "Vote Buying and Violence in Nigerian Elections." *Electoral Studies* 27(4): 621-632.

Bulutgil, H. Z., & Prasad, N. 2019. Inequality and voting among deprived ethnic groups: evidence from India. *Journal of Elections, Public Opinion and Parties*, 1-23.

Carlson, E. and B. Seim. 2018. “Honor Among Chiefs: An Experiment on Monitoring and Diversion Among Traditional Leaders In Malawi.” *AIDDATA*. Working Paper 62.

Carneiro, R. L. 1970. "A Theory of the Origin of the State." *Science* 169: 733-738.

Chanock, M. 1985. Law, Custom, and Social Order: The Colonial Experience in Malawi and Zambia, Cambridge University Press.

Connah, G. 2016. African Civilizations: an Archaeological Perspective. Cambridge University Press.

Crowder, M. and O. Ikime. 1970. “West African Chiefs: Their Changing Status Under Colonial Rule and Independence.” *Africana Pub. Corp.*

de Kadt, Daniel and Horacio Larreguy. 2018. “Agents of the Regime? Traditional Leaders and Electoral Behavior in South Africa.” *Journal of Politics* 80(2): 382–399.

Deaton, A. 2013. The Great Escape: Health, Wealth, and the Origins Of Inequality. Princeton University Press.

Diamond, J. 1997. Guns, Germs, and Steel: The Fates of Human Societies. New York: W. W. Norton & Co.

Dincer, O. C. and B. Gunalp. 2012. "Corruption and Income Inequality in the United States." *Contemporary Economic Policy* 30(2): 283-292.

Dionne, K. Y., K. L. Inman, and G. R. Montinola. 2014. “Another Resource Curse? The Impact of Remittances on Political Participation.” *Afrobarometer.* Working Paper 145.

Dubreuil, B. 2010. Human Evolution and the Origins of Hierarchies: The State of Nature, New York: Cambridge University Press

Dueppen, S.A., 2014. Egalitarian revolution in the savanna: the origins of a West African political system. Routledge.

Ehret, C. 2016. The Civilizations of Africa: a History to 1800. Charlottesville: University Press of Virginia

Eisenstein, E. 1979. The Printing Press as an Agent of Change. Cambridge University Press.

Ezcurra, R. and A. Rodríguez-Pose. 2013. "Does Economic Globalization Affect Regional Inequality? A Cross-Country Analysis." *World Development* 52: 92-103.

Fauvelle, F. 2018. Golden Rhinoceros: Histories of the African Middle Ages, Princeton University Press

Fenske, J. 2013. "Does Land Abundance Explain African Institutions?" *The Economic Journal* 123(573): 1363-1390.

Fenske, J. 2014. “Ecology, Trade, and States in Pre-Colonial Africa**.**” *Journal of the European Economic Association* 12(3): 612–640.

Flannery, K. V. and J. Marcus 2012. The Creation of Inequality : How Our Prehistoric Ancestors Set the Stage for Monarchy, Slavery, and Empire. Harvard University Press.

Galbraith, J. K. 2016. Inequality: What Everyone Needs to Know. Oxford university press.

Gennaioli, N. and I. Rainer. 2006. “Precolonial Centralization and Institutional Quality in Africa.” In *Institutions and Norms in Economic Development*. M. Gradsetin and K. A. Konrad. MIT Press: 21-46.

Gennaioli, N. and I. Rainer. 2007. "The Modern Impact of Precolonial Centralization In Africa." *Journal of Economic Growth* 12(3): 185-234.

Geschiere, P., 1993. Chiefs and colonial rule in Cameroon: Inventing chieftaincy, French and British style. *Africa*, 63(2), pp.151-175.

Goldstein, M. and C. Udry. 2008. “The Profits of Power: Land Rights and Agricultural Investment in Ghana.” *Journal of Political Economy* 116 (6): 981–1022.

Gupta, S., H. Davoodi, and R. Alonso-Terme. 1998. “Does Corruption Affect Income Inequality and Poverty?” *Economics of Governance* (3)1: 23-45.

Gyimah-Brempong, K. 2002. "Corruption, Economic Growth, and Income Inequality in Africa." *Economics of Governance* 3(3): 183-209.

Harneit-sievers, A. 2011. “Igbo Traditional Rulers : Chieftaincy and the state in Southeastern Nigeria." *African Afairs* 33(1): 57-79.

Heckman, J.J., 2011. “The economics of inequality: The value of early childhood education.” *American Educator* 35(1): 31-35.

Heldring, L. 2016. 2016. “Violence and the State: Evidence from Rwanda’s ‘Decade of Atrocities.’” http://economics.mit.edu/files/12523.

Heldring, L. and J. A. Robinson. 2012. “Colonialism and Economic Development in Africa.” NBER Working Paper 18566.

Helmke, G, and S Levitsky. 2004. "Informal Institutions and Comparative Politics: A Research Agenda." *Perspectives on Politics* 2(04): 725-40.

Henn, S., 2018. “Complements or Substitutes: State Presence and the Power of Traditional Leaders,” unpublished paper, Harvard University

Herbst, J. I. 2000. States and Power in Africa: Comparative Lessons in Authority and Control. Princeton University Press.

Higashijima, M., & Houle, C. (2018). “Ethnic inequality and the strength of ethnic identities in sub-Saharan Africa.” *Political Behavior* 40(4), 909-932.

Horowitz, D. L. 1985. Ethnic Groups in Conflict. University of California Press.

Houle, C. 2015. "Ethnic Inequality and the Dismantling of Democracy: A Global Analysis." *World Politics* 67(03): 469-505.

Houle, C. and C. Bodea. 2017. "Ethnic Inequality and Coups in Sub-Saharan Africa." *Journal of Peace Research* 54(3): 382-396.

Houle, C., C. Park, and P. Kenny. 2019. “The Structure of Ethnic Inequality and Ethnic Voting.” *Journal of Politics* 81(1): 187-200.

Huber, J. D. and P. Suryanarayan. 2016. "Ethnic Inequality and the Ethnification of Political Parties: Evidence From India." *World Politics* 68(1): 149-188.

Iyer, L., 2010. Direct versus indirect colonial rule in India: Long-term consequences. *The Review of Economics and Statistics*, 92(4), pp.693-713.

Jedwab, R. and A. Storeygard. 2017. "Economic and Political Factors in Infrastructure Investment: Evidence from Railroads and Roads in Africa 1960–2015." https://pdfs.semanticscholar.org/ed3e/3e4e58c9bf98237cce89cebd16a12942aede.pdf

Johnson, A. and T. Earle. 2000. The Evolution of Human Societies: From Foraging Groups to Agrarian State. 2nd ed. Stanford University Press.

Joshua Project. https://joshuaproject.net.

Kenny, P. D., 2015. The origins of patronage politics: State building, centrifugalism, and decolonization. *British Journal of Political Science*, 45(1), pp.141-171.

Kochhar, R. and A. Cilluffo. 2018.. "Income Inequality in the U.S. Is Rising Most Rapidly Among Asians." *Pew Research Center.*

Koter, D. 2013. "King makers: Local Leaders and Ethnic Politics in Africa." *World Politics* 65(02): 187-232.

Koter, D. 2016. Beyond Ethnic Politics in Africa. Cambridge University Press.

Kramon, Eric. 2019. "Ethnic group institutions and electoral clientelism." Forthcoming, *Party Politics* 25(3), 435–447.

Lankina, T. and L. Getachew, 2012. "Mission or Empire? Word or Sword? The Human Capital Legacy in Post-Colonial Democratic Development." *American Journal of Political Science* 56(2): 465-483.

Lee, A. and K. Schultz, 2012. "Comparing British and French Colonial Legacies: A Discontinuity Analysis of Cameroon." *Quarterly Journal of Political Science*, 7: 1–46.

Lindert, P. H. 2004. Growing Public: Social Spending and Economic Growth Since the Eighteenth Century. Cambridge University Press.

Lowes, S., N. Nunn, J. A. Robinson, and J. L. Weigel. 2017. "The Evolution of Culture and Institutions: Evidence from the Kuba Kingdom." *Econometrica* 85 (4): 1065–91.

Lugard, F. 1922. The Dual Mandate in Tropical Africa.

Magaloni, B., Díaz-Cayeros, A. and Ruiz Euler, A., 2019. Public good provision and traditional governance in indigenous communities in Oaxaca, Mexico. *Comparative Political Studies* 52(12):1841-80.

Mamdani, M. 1996. Citizen and Subject: Contemporary Africa and the Legacy of Late Colonialism. Princeton University Press.

Mayshar, Joram, Omer Moav, Zvika Neeman and Luigi Pascali, 2018. "The Emergence of Hierarchies and States: Productivity vs. Appropriability," unpublished paper, Hebrew University of Jerusalem.

Michalopoulos, S. and E. Papaioannou. 2013. “Pre-Colonial Ethnic Institutions and Contemporary African Development.” *Econometrica* 81(1): 113-152.

Michalopoulos, S. and E. Papaioannou 2015a. "On the Ethnic Origins of African Development: Chiefs and Precolonial Political Centralization." *Academy of Management Perspectives* 29(1): 32-71.

Michalopoulos, S. and E. Papaioannou. 2015b. "Further Evidence on the Link Between Pre-colonial Political Centralization and Comparative Economic Development in Africa." *Economic Letters* 126: 57-62.

Michalopoulos, S. and E. Papaioannou. 2020. “Historical Legacies and African Development.” *Journal of Economic Literature* 58(1): 53-128

Milanovic, B. 2005. “Half a World: Regional Inequality in Five Great Federations.” *The World Bank.*

Milanovic, B. 2016. Global Inequality: A New Approach for the Age of Globalization, Harvard University Press.

Morris, I. 2010. Why the West Rules–For Now: The Patterns of History and What They Reveal About the Future. Profile Books.

Murdock, G. P. 1967. Ethnographic Atlas. University of Pittsburgh Press.

Nathan, Noah, 2019. “Electoral Consequences of Colonial Invention: Brokers, Chiefs, and Distribution in Northern Ghana”, *World Politics* 71(3): 417-56.

Neckerman, K. M. and F. Torche. 2007. "Inequality: Causes and Consequences." *Annual Review of Sociology* 33(1): 335-357.

North, D. C., J. J. Wallis, S. B. Webb and B. R. Weingast. 2012. In the Shadow of Violence: Politics, Economics, and the Problem of Development. Cambridge University Press.

Nunn N. "Gender and Missionary Influence in Colonial Africa." In *Africa's Development in Historical Perspective*. Akyeampong, E., R. Bates, N. Nunn, J.A. Robinson. Cambridge University Press: 489-512.

Nunn, N. 2008. "The Long-term Effects of Africa's Slave Trades." *The Quarterly Journal of Economics* 123(1): 139-176.

Nunn, N. and L. Wantchekon. 2011. "The Slave Trade and the Origins of Mistrust in Africa." *The American Economic Review* 101(7): 3221-3252.

Nunn, N., and D. Puga. 2012. "Ruggedness: The Blessing of Bad Geography in Africa." *The Review of Economics and Statistics* 94(1): 20-36.

Obikili, N. 2016. "The Impact of the Slave Trade on Literacy in West Africa: Evidence from the Colonial Era." *Journal of African Economies* 25(1): 1-27

Ola, O. 1975. "Indigenous Political Systems in Nigeria." *Nigeria Magazine* 115-116: 57-67.

Oliver, R. and A. Atmore. 2001. Medieval Africa, 1250-1800. Cambridge University Press

Olson, J. S. 1996. The Peoples of Africa: An Ethnographic Dictionary. Westport, Connecticut: Greenwood Press.

Paine, J. (2019). "Ethnic violence in Africa: Destructive legacies of pre-colonial states." *International Organization* 73(3), 645-683.

Palagashvili, L. 2018. "African Chiefs: Comparative Governance Under Colonial Rule." *Public Choice* 174(3-4): 277-300.

Pew Research Center, 2015. "Health care, education are top priorities in Sub-Saharan Africa," September 16, https://www.pewresearch.org/global/2015/09/16/health-care-education-are-top-priorities-in-sub-saharan-africa/

Phillips, J. 2011. "From Caliphate to the Clinic: Traditional Groups and the Provision of Public Goods in Nigeria." Unpublished working paper, Harvard University, https://doi.org/10.7910/DVN/WNWLRN

Piketty, T. 2014. Capital in the Twenty-first Century. Harvard University Press.

Posner, D. N. 2005. Institutions and Ethnic Politics in Africa. Cambridge University Press.

Proctor, B. D., J. L. Semega and M. A. Kollar. 2016. "Income and Poverty in the United States: 2015." *United States Census Bureau.*

Sarraf, M., M. Jiwanji. 2001. "Beating the Resource Curse: The Case of Botswana." Environment Department working paper, no. 83. Environmental economics series. World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/18304

Scheve, K. F. and D. Stasavage. 2016. Taxing the Rich: A History of Fiscal Fairness in the United States and Europe. Princeton University Press.

Scott, J. C. 2017. Against the Grain: A Deep History of the Earliest States. Yale University Press.

Smith, E. A., M. Borgerhoff Mulder, S. Bowles, M. Gurven, T. Hertz and M. K. Shenk. 2010. "Production Systems, Inheritance, and Inequality in Premodern Societies: Sonclusions." *Current Anthropology* 51(1): 85-94.

Turchin, P., H. Whitehouse, A. Korotayev, P. François, D. Hoyer, P. Peregrine, G. Feinman, C. Spencer, N. Kradin and T. E. Currie. 2018. "Evolutionary Pathways to Statehood: Old Theories and New Data." *SocArXiv*.

Vansina, J. 2004. How Societies are Born: Governance in West Central Africa Before 1600. University of Virginia Press.

Vaughan, O. 2000. Traditional Chiefs: Traditional Power in Modern Politics, 1890s-1990s. University of Rochester Press.

Vaughan, O. 2003. Chiefs, Power, And Social Change: Chiefship and Modern Politics in Botswana, 1880s - 1990s. Africa Research & Publications

Wilfahrt, M. 2018a. "Precolonial Legacies and Institutional Congruence in Public Goods Delivery: Evidence from Decentralized West Africa." *World Politics* 70(2): 239-274.

Wilfahrt, M. 2018b. “The politics of local government performance: Elite cohesion and cross-village constraints in decentralized Senegal.” *World Development* 103: 149-61.

Woodberry, R. D. 2012. “The Missionary Roots of Liberal Democracy.” *American Political Science Review* 106(02): 244–74.

Young, C. 1994. The African Colonial State in Comparative Perspective. Yale University Press.