Chiefs*

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Abstract

The lowest level of government in sub-Saharan Africa is often a cadre of chiefs who raise taxes, control the judicial system and allocate the most important scarce resource—land. Chiefs, warped by colonial indirect rule, are often accused of being despotic and inhibiting rural development. Yet others view them as responsive to villagers' demands and needs, and survey evidence suggests they maintain widespread support amongst rural people. In this paper we exploit the colonial history of Sierra Leone to investigate the impact of chiefs' power on economic development. At the end of the 19th century the British colonial government in Sierra Leone created an aristocracy, the ruling families, whose number was idiosyncratic across chieftaincies. Because a chief must come from one of these ruling families, chiefs are more powerful (face less competition) in places with fewer ruling families. We show that, consistent with the chiefs as despots view, places with fewer ruling families and more powerful chiefs have significantly worse development outcomes today—in particular, lower rates of literacy, school attainment and non-agricultural employment. But, consistent with the chiefs as representatives view, these powerful chiefs' authority is highly respected among villagers, and their villages have higher levels of "social capital," for example, greater popular participation in a variety of "civil society" organizations and forums that might potentially be used for keeping chiefs accountable. We argue that this seemingly-paradoxical juxtaposition reflects the capture of civil society organizations by chiefs. Instead of acting as a vehicle for disciplining chiefs, chiefs have structured these organizations to control society. In consequence, powerful chiefs' authority is more highly respected because of this control and because people need to rely on them for patronage.

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1 Introduction

Though much of the social science literature on African development has focused on lack of accountability at the national level as a potent source of bad governance in Africa (for example Bates, 1981, Sandbrook, 1985, Bayart, 1993, Young, 1994, Herbst, 2000, and the essays in Ndulu, O'Connell, Bates, Collier, Soludo eds., 2007). In a predominantly rural continent, where the central state lacks capacity, lack of accountability at the local level may be just as important. The bottom layer of government in most sub-Saharan African countries is occupied by chiefs, who raise taxes, control the judicial system and allocate land, the most important resource in rural areas.[1]

The preponderance of research on chiefs views them as unaccountable local despots, contributing to rural economic underdevelopment. This basis of this view is how colonial policies of indirect rule warped indigenous political institutions by removing key elements of accountability (e.g., Ashton, 1947, Gluckman, Mitchell and Barnes, 1949, and Hill, 1963) a situation which perpetuated itself after independence (Migdal, 1988, Berry, 1993, Boone, 1995, 2003, and Mamdani, 1996).[2] In Sierra Leone, predatory behavior by the chiefs is deemed so severe that it is argued to have been a major cause of the civil war that erupted in 1991 (e.g. Richards, 1996). Paradoxically, however, this chiefs as despots coexists with an alternative view that chiefs are largely responsive to local demands and needs. Logan (2009, 2011), for instance, sees traditional authority coexisting with popular support, and enjoying considerable support from rural people. In the AFRObarometer surveys, 58% of respondents agree that "the amount of influence traditional leaders have in governing your local community should increase". Only 8% felt it should decrease. 61% of respondents report considerable trust in traditional leaders, whereas only 51% report such trust in local government officials. Results are similar for perceived corruption.

[1] Logan (2011) illustrates this power of chiefs using AFRObarometer survey from Benin, Botswana, Burkina Faso, Ghana, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, Zimbabwe: despite many of these countries having introduced elected local governments, 50% of respondents report that traditional leaders have "some" or "a great deal" of influence in governing their local community. Traditional authorities are often the primary institution regulating matters of importance for local economic growth, raising taxes, mediating disputes and allocating land. They also have influence over many categories of expenditures on local public goods such as schools and the maintenance of infrastructure. In Ghana, Malawi, Zimbabwe, Lesotho, Zambia and Mali, more than 30% of respondents report that traditional leaders have the primary responsibility for allocating land. In Lesotho, Botswana, Ghana, Malawi, Kenya, Zimbabwe, Mali, Zambia, and Senegal, more than 30% of respondents report that traditional leaders have the primary responsibility for resolving local conflict.

[2] The influence of the chieftaincy certainly changed after independence, in some places being formally abolished (for instance in Tanzania, Hyden, 1980, Osafo-Kwako, 2011), in other places having its powers weakened and authority challenged (Rathbone, 2000, on Ghana). Nevertheless, the structure of the institution shaped by colonial policy has to a large extent persisted, and "traditional authorities" hold much authority over Africa's rural population today (see the essays in Crowder and Ikime, 1970).

Across Africa, it is the case that traditional leaders are broadly viewed as more trustworthy and less corrupt than other institutions at the local level. These broader results resonate with the case study literature from Sierra Leone (Fanthorpe 2001, 2005, Sawyer, 2008).

Despite their importance, the literature on the impact of chiefs on economic development is small. An important paper by Goldstein and Udry (2008) shows that connections to chiefs in Akwapim, Ghana are crucial in determining property rights to land and hence investment incentives in agriculture, though they themselves propose a relatively benign interpretation of the chiefs' actions. Lange (2009) uses data on the extent to which legal decisions were decided by chiefs as a measure of the intensity of indirect rule and found this negatively correlated with development outcomes at the national level.

In this paper, we use the history of chieftaincy in Sierra Leone to develop a plausibly exogenous source of variation in the power of chiefs across chieftaincies to investigate their impact on economic and social outcomes. In Sierra Leone, the institution of chieftaincy was transformed by British colonialism, which created the Paramount Chiefs.[3] These chiefs are elected for life by a Tribal Authority made up of local notables. Only individuals from the designated "ruling families" of a chieftaincy, the aristocracy created and given exclusive right to rule by the British at the initiation of the system in 1896, are eligible to become Paramount Chiefs. We argue that the number of ruling families is an arguably exogenous source of variation in the power of Paramount Chiefs.

To measure the power of chiefs, we conducted a survey in 2011 of oral historians and "encyclopedias" (the name given in Sierra Leone to elders who preserve the history of the chieftaincy) and elders in all of the ruling families of all 149 chieftaincies. We used the survey to re-construct the history of the chieftaincy for as far back as our respondents could recall. This included the names of the Paramount Chiefs, which ruling family they were from, and the dates they were elected. We also collected information on the origins of the chieftaincy and of each of the ruling families. We used (the unfortunately highly incomplete) archives of the Sierra Leone National Archive situated at Fourah Bay College, as well as Provincial Secretary archives in Kenema, the National Archives in London and available secondary sources to cross-check the results of our survey whenever possible.

We use these data to construct a Herfindahl index of power holding across ruling families as a proxy for the realized power of Paramount Chiefs in a chiefdom. Our index describes the extent

[3]British colonial authorities created and empowered similar aristocratic leaders in many other areas, even though the details varied between those with strong pre-colonial centralized states like Buganda (Low and Pratt, 1955) and the acephalous societies such as those in eastern Nigeria (see Afigbo's 1972 study of the British created Warrant Chiefs).

to which a chieftaincy has been dominated by a small subset of ruling families: It ranges from 1 if the Paramount Chief has always been from a single ruling family, and decreases as power holding becomes more distributed across different ruling families. Using this index, we show that areas where the British recognized fewer ruling families have a larger Herfindahl index, indicating that their chieftaincy has been dominated by a few— or even by just one—ruling families.

We are somewhat agnostic as to whether the Herfindahl or the number of ruling families should be thought of as the better measure of the power of chiefs. The number of ruling families is a natural determinant of the Herfindahl index and since chiefs are elected by members of the Tribal Authority, which is analogous to an electoral college. An increased number of families will mean there are more interest groups within this electoral college one must appease to be elected; satisfying a greater plurality of interests should be more difficult when there are more families, and so it should be more difficult to concentrate power in one family. In this sense, the Herfindahl is a measure of the *realized* concentration power within the chieftaincy. The number of families is a measure of the *potential* for concentration of power.

We argue, using historical case study and regression evidence, that number of ruling families in a chieftaincy is exogenous. In section 2.3, we study the history of the ruling families in a random sample of chieftaincies, documenting that their origins are highly heterogenous and idiosyncratic. We also show that the number of ruling families is uncorrelated with the level of development before the creation of Paramount Chiefs as measured by tax assessments per chieftaincy of the British colonial government in the late 1890s. It is also uncorrelated with a variety of other variables that might impact subsequent development, including distance to navigable rivers, distance to the railway and distance to coast.

If the Herfindahl is the preferred measure, however, then one has to deal with potential endoengeity, since one might be concerned that economic circumstances could make it easier for one family to usurp power after the number of families was fixed.[4] In this case, the appropriate strategy is to instrument for the Herfhindahl using the number of ruling families. In all our results, we present these instrumental variables results, as well as the reduced from, an OLS

[4]The number of ruling families in 1896 might also influence development outcomes today through channels other than the level of competition for the position of Paramount Chief. Nevertheless, there are no obvious other channels through which ruling families can influence education and employment when they do not hold the chieftaincy. The channels of influence of through the office of Paramount Chief, however, are well-defined, in particular through their control of the allocation of most of the valuable resources.

In the election for a new Paramount Chief in Sogbini chieftaincy which we attended in December 2009 the Bio family which had ruled the chieftaincy since 1896 were displaced by the Bayo family, the only other ruling family. The announcement of the result created a great deal of elation and when we asked a member of the family of the newly elected chief what they would get out of this elections, they replied "everything".

regression of outcomes on the number of ruling families, and discuss show that the results are similar, which ever index is used.

Our first set of results, focusing on economic outcomes, are in line with the chiefs as despots view: there is a significant negative correlation between the Herfindahl index on the one hand, and human capital variables, such as literacy and educational attainment, and also the proportion of people working outside of agriculture (which is a useful proxy for the economic development in view of the fact that there is no micro data on incomes in Sierra Leone) on the other. These results also hold— and in fact are stronger— when we instrument the Herfindahl with the number of ruling families, thus exploiting the potentially-exogenous variation from the history of a chieftaincy. Quantitatively, the effects aresubstantial: the difference between the mean of the lowest quartile of the Herfindahl index to the mean of highest quartile is associated with a 33% decline in literacy and a 75% decline in non-agricultural employment (i.e., over two percentage points from a base of 3%).

However, in contrast to the chief as despots view and consistent with the chiefs as legitimate governors view, we find that places with a higher Herfindahl index (and with fewer ruling families) have *more* favorable attitudes towards chiefs. In addition, we find that many measures of social capital, such as attendance of community meetings, participation in groups and the undertaking of collective actions, are also *higher* in places with more powerful chiefs.

This juxtaposition of results is a challenge both to the standard principal-agent approach dominant in political science and economics, which views the citizens as determining the incentives of politicians through checks and rewards (e.g., Persson, Roland and Tabellini, 1997, 2000), and to the literature on the political role of social capital, which argues that social capital manifesting itself in political participation by the citizens is crucial for good governance (Putnam, Leonardi and Nanetti, 1993, Bowles and Gintis, 2002). Though the earlier view that all social capital was good for governance was critiqued initially by Portes and Landolt (1996) and Portes (1998), who argued that social capital could take perverse forms (e.g., Hitler's Brownshirts). In response Putnam (2000) distinguished between 'bonding' social capital, which is good for a group but not necessarily for society, and 'bridging' social capital, which creates links across groups. The latter is unambiguously thought to improve governance outcomes, but in our data brinding social capital is higher when chiefs are more powerful and development outcomes worse.[5]

[5]This distinction interacts with another one between 'horizontal' and 'vertical' social capital. The former is measured by trust and cross-cutting relationships such as inter-group marriage, so it is closely related with bridging. The latter relates to the relationship between state and society and high levels of vertical social capital is typically associated with high levels of accountability. For instance Grootaert and van Bastelear (2002), though they point out in their introduction that social capital can create negative externalities (citing the Italian Mafia and the Interahamwe of Rwanda) argue that vertical/bridging social capital is associated with positive development

We argue, however, that this juxtaposition is not a coincidence. Institutions in many weakly-institutionalized polities, in contrast to the principal-agent approach to politics, are not designed to control politicians but are structured by them to further their power and their own control of society. In this, chiefs are the local equivalent of 'personal rule' at the national level as described by Jackson and Rosberg (1982, pp.17-19), who define personal rule as "a system of relations linking rulers ... with patrons, clients, supporters, and rivals, who constitute the 'system'.... The system is 'structured' ... not by institutions, but by the politicians themselves." Consistent with this pattern, we argue that chiefs facing limited competition do indeed act despotically, but they are able to do so in part because they use non-governmental organizations as a way of building and mobilizing support. Put differently, bridging social capital in villages with powerful chiefs is not a sign of a vibrant civil society disciplining politicians, but of a dysfunctional civil society captured by the chiefs.[6] This also helps explain why many people have posted attitudes towards the system in Sierra Leone: if civil society has been completely captured, citizens will still find it valuable to interact with the government. In places where chiefs are powerful, people will be more dependent on their patronage and favors and thus find it useful to make specific investments in the system, as also observed by Putnam et. al. (1993) in Southern Italy, where citizens are much more likely to visit the offices of local government officials; when they go, however, they are also much more likely to ask for favors, such as employment. Moreover, individuals will have an incentive to see this the capture of civil society perpetuated in the long run, which explains positive attitudes towards the system in Sierra Leone and most probably in the AFRObarometer data.[7]

Our findings do resonate with several studies of the political economy of Africa. In a seminal discussion Killick (1978) pointed out that it was incorrect to think of institutions controlling the actions of the state in Ghana since independence (in the light of the then-dominant paradigm in public choice, e.g., formalized by Becker, 1983). Rather in line with Jackson and Rosberg's and our discussion above, Nkrumah's government was the one who created the interest groups which it then controlled for its own benefit. Carter (2011) shows how in Congo Brazzaville

outcomes and all of the studies but one in the book emphasize the positive effects of social capital. Even papers which are very critical of the literature tend to massively emphasize the efficiency enhancing potential of social capital, e.g. Durlauf and Fafchamps (2005). One exception is Coletta and Cullen (2002), which argues that the genocides and civil wars in Cambodia and Rwanda were caused by the presence of strong bonding social capital and weak vertical/bridging social capital.

[6] As one chief from Kono district told us in reply to a question about whether he was able to influence the way people voted in elections: "if I say left they go left, if I say right they go right."

[7] In the election for a new Paramount Chief in Sogbini chieftaincy which we attended in December 2009 the Bayo family which had ruled the chieftaincy since 1896 were displaced by the Bio family, the only other ruling family. The announcement of the result created a great deal of elation and when we asked a member of the family of the newly elected chief what they would get out of this elections, they replied "everything".

the dictator Denis Sassou-Nguesso forces all the elites to join a Freemason's lodge he formed himself as a way of monitoring, which is consistent with our interpretation in the context of Sierra Leone. In fact, it seems that Sassou-Nguesso got this idea from Omar Bongo, former president of Gabon, who also founded a lodge and historically Masonic lodges played a very similar role in national politics in Sierra Leone (e.g. Cohen, 1981). Outside of Africa, the point of Collier and Collier's (1991) groundbreaking study of Latin American political economy is that the state created the interest groups and manipulated them, not the other way round. Finally, our paper is closely related to Anderson, Francois and Kotwal (2011) who show that in parts of western India where landownership is dominated by Maratha elites, development outcomes are worse, but social capital is higher. Their interpretation is similar to ours in the sense that they argue that Marathas block development policies which are not in their interests, but at the same time poor people are integrated into patron-client relations with the Marathas which create high levels of observed social capital. Interestingly, just as in Sierra Leone, non-elites also have positive attitudes to elite when they are more powerful.

The paper proceeds as follows. In Section 2, we examine the historical background of the chieftaincy in Sierra Leone discussing how the institution was created, how it functioned and how it has persisted almost unaltered since the turn of the 20th century. We also provide detailed discussion of the origins of a sample of chieftaincies and their ruling families, which provides an important argument for the credibility of our identification strategy. Section 3 discusses the data both that we collected in our survey but also the data on covariates and outcome variables and presents some basic descriptive statistics. Section 4 then discusses econometric model we will use and examines in detail the first stage relationship between the number of ruling families and our Herfindahl index. In Section 5, we discuss our results. Section 6 presents some robustness checks and Section 7 concludes.

2 Historical Background

The institutions of indirect rule across Africa were viewed as a way to maintain law and order, and to raise some revenue for local services at minimal cost to increasingly over extended empires. At root the idea was simply that an effective way to govern a colony was to keep in place the existing rulers and rule through them. Though the policy of indirect rule was articulated more clearly as a tenet of colonial rule in British Sub-Saharan Africa, French colonial governments also shaped rural institutions in similar ways. Guyer (1978) for instance, details how the government of French Cameroon created a rural elite as a means to compel people to labor on

their plantations. Indirect rule was also very common elsewhere in the world, for example the Spanish ran their American empire indirectly through the indigenous leaders ('caciques') who were in charge of organizing the forced labor and tribute. Indirect rule, in particular under British colonialism, shaped rural institutions systematically in two ways:

1. The authority to collect taxes the expenditure of revenue, as well as the administration of civil law and property rights, was reserved for a small number of rural elites.

2. These elites now received their formal authority from the colonial government, obliterating existing democratic accountability mechanisms.

The lack of democratic accountability in indirect rule institutions is stark. Lord Lugard, the colonial administrator most widely associated with the intellectual foundations of indirect rule—a model he developed during the pacification and control of Northern Nigeria—wrote in his manual "The Dual Mandate In British Tropical Africa" (Lugard, 1922) how chiefs, despite their freedom to govern their people as they chose, would derive their legitimacy entirely from the colonial government: "The chief himself must understand that he has no right to place and power unless he renders his proper services to the state." The chiefs, he wrote "must work for the stipends and positions they enjoy" (p. 203). Whereas pre-colonial leaders may have been held accountable to their people by various accountability mechanisms, something certainly true in Sierra Leone (for example Abraham, 2003, on Mendeland) under indirect rule the sole source of their legitimacy was to be the Government.

Lugard was quite sanguine about such an arrangement, and optimistic about its success: the behavior of chiefs, he wrote, and their expenditure of tax revenue, would be held accountable to the people so long as they were elected by "native custom." The colonial interpretation and institutionalization of "native custom," however, rarely mapped into a form of democratic institution.

2.1 Indirect Rule in Sierra Leone

This is more true in Sierra Leone than anywhere. The colony of Sierra Leone was established in 1788, primarily as a settlement for freed slaves from the Americas and Caribbean. The boundaries of the colony initially extended little beyond the environs of the main settlement, Freetown. While Portuguese and later British traders had interacted with locals, the nature of these relationships had been primarily economic; treaties were signed protecting property rights and trade routes, but the sovereignty of local peoples over their territory had been recognized unequivocally.

This changed in 1896, when Governor Cardew of the colony unilaterally declared a Protectorate over the interior of the country, declaring that signatories of previous treaties with the government, then recognized as "native chiefs"with full political autonomy, were now subordinate to the Government in Freetown.[8] The colonial government proceeded to establish a system of indirect rule, assessing a house/hut tax in 1898, and often imprisoning various chiefs who refused to pay (Chalmers, 1898). Though the Cardew's declaration of a protectorate sparked the violent "Hut Tax Rebellion" lead by Bai Bureh of Bureh chiefdom and others, the government was largely successful in suppressing opposition. Over the next decade it had established the chiefdom, lead by the Paramount Chief, as a unit of indirect rule that would be an almost exact example of the model later described by Lugard (1922). The law of Sierra Leone now made the Paramount Chiefs responsible for the arbitration of land and legal disputes, the collection of tax revenue, and the general welfare of their people.

The fact that leaders under indirect rule derived their authority from the colonial government, and not their people, opened up opportunities for corruption, or at the very least irresponsible behavior. By making chiefs subjects of the government, indirect rule severed any checks on the power of chiefs from within the chiefdom, making them accountable only to the District Commissioner. Already aware of this in the 1940s, Lord Hailey warned in the introduction to his study of indirect rule institutions across British Africa that colonial officers had "a special obligation" to see that there were no violations of the "customary authority" British law had given to local elites (Hailey, 1950, Part I, pg. 2).

By that time, it had become clear that Paramount Chiefs had in many respects neglected their roles in providing services for the population out of the tax revenue they had raised. Hailey examines Sierra Leone's national tax estimates for the year 1948, in which £134,302 (£3,810,000 in 2011, using a CPI deflator) were raised. Of this revenue, 58% is spent on administration, "the major part of this", he writes "representing payments to the Chiefs and office holders and members of the courts." Of the remaining expenditure, agriculture is only 3.5%, education 4.6%, forestry 1.9%, and public works 4.3%. Hailey writes, "an examination of the detailed estimates shows that many of the Native Administrations provide no service at all under some of these heads." Out of the 128 for which he had data, "only 51 made provision for expenditure on Agriculture, 56 for Education and 45 for Forestry." The public works, he wrote, were of terrible quality (Hailey, 1950, Part IV, 307-308). The archives at Fourah Bay College in Freetown also contain numerous reports of chiefs abusing their authority, compelling young men to labor on their farms without pay, and arbitrarily taxing agricultural output.

[8]The appendix in Goddard (1925) lists the treaties and signatories.

Though the British did create local councils, they were dominated by the chiefs and were abolished after independence with the chiefs remaining as the sole conduit through which the government interacted with the people (Tangri, 1978). Cartwright (1970) discusses the role of the chiefs in Sierra Leone's Legislative Council in 1947, which formed the basis for the Parliament at independence in 1961. Council representatives for the Protectorate were chosen through a process of indirect elections, at the base of which was the Tribal Authority, meaning that the Protectorate was "under the control of chiefs rather than effectively controlled by a popular electorate." It was not until 2004, under a World Bank sponsored post-war governance reform, that a system of democratically elected local councils was established to liase with the central government in determining health, education and agriculture expenditure in rural areas (Whiteside, 2007).

Though this paper is primarily concerned with the power of chiefs and its effect on outcomes at the local level, it is also worth noting that the fundamentally undemocratic institution formed the basis for national governments after independence. The first Prime Minister, Sir Milton Margai, built his Sierra Leone People's Party (SLPP) not by uniting the population, but rather by uniting a plurality of chiefs and their representatives in the Council to support his government. Without any real tradition of democratic constraints on the state, it is not hard to generate hypotheses that explain why the country's government subsequently took such an authoritarian form in the 1970s and 1980s.

2.2 The Chieftaincy

After the declaration of the Protectorate, the colonial government established a formal system of succession in the chieftaincy. Paramount Chiefs rule for life, and are elected by vote of the "Tribal Authority", a group comprising the members of the chiefdom elite. The authority also includes the "chiefdom speaker", an aide to the chief. Chiefdom speakers will often temporarily take on the role of "regent" or caretaker once a chief dies. At the turn of the 20th century these authorities were small groups of approximately 5 to 15 headmen and "sub-chiefs" of the various towns and villages within the chiefdom. Their numbers have expanded over time. By the 1950s, voting roles in Paramount Chief elections comprise 40 to 60 members. The 2009 Chieftaincy Act provides that there must be one member of the Tribal Authority for every 20 taxpayers. Still, however, the tribal authority comprises mostly members of the rural elite; they are not elected by these taxpayers and neither is the chief.

After the declaration of the Protectorate, the ruling family became the unit of political competition within the chiefdom. As we shall discuss in the following section, the ruling families

can trace their descendants to the leaders of the chiefdom at the turn of the 20th century, when the institution coalesced and began to "ossify", to use Abraham's (2003) phrase. Only members of ruling families are eligible to stand for election. The 2009 Chieftaincy Act stipulates that a person is qualified to stand as a candidate if he or she was born in wedlock to a member of a ruling family. "Where tradition so specifies", this requirement is expanded slightly to include anyone with "direct paternal or maternal lineage to a member of a ruling family, whether born outside of wedlock". A ruling family is recognized as one that was established by independence in 1961.

Across chiefdoms there is a consensus on the number of ruling families, though there is no official list even in the ministry in charge of the elections. A particular person's membership in them is at times contested since most people do not have written birth certificates or other definitive methods of proving their legitimacy. These disputes are resolved in cooperation with the Provincial Secretary[9], and often hinge on whether the aspirant can show his or her relative was recognized by British officials as being legitimate to stand for election before independence, and thus was a member of an established ruling family.

Before the 2009 Act, elections were administered under a customary law that maintained the same basic principle: only members of established ruling families could stand.

2.3 The Origins of Ruling Families

Our identification strategy rests on the argument that the number of ruling families within a district is orthogonal to factors determining social capital and development outcomes today. To support this argument we provide in this section detailed case studies of 6 chiefdoms. We show that the number of ruling families has been determined by idiosyncratic historical processes at the beginning of the 20th century, such the availability of male heirs to the forbearer of the chiefdom, or the organizational structure of an invading tribe's war party.

Koya chiefdom, of eastern Kenema district is near the median of the herfindahl (0.46) and of the number of ruling families (3). Local historians trace its origin to a warrior named Menima Kpengba. Kpengba was an ethnic Gola, who is believed to have migrated from present day Liberia. It is difficult to date Kpengba's arrival, as there is little historical record of the Golas in Sierra Leone, except from some mention of them by Portuguese travelers in the early 16th century. Kup (1962, p. 127) writes, citing these sources, that "it is likely [...] the Golas have

[9]This is currently an office in the Ministry of Rural Development, Internal Affairs and Local Government, but has its history as an office of the colonial administration. The persistance of the colonial legacy is highlighted by the fact that central government still uses the administrative structure of the colonial government to interact with the chiefs.

lived for a very long time in small numbers amongst the creeks which intersect the thick forest of the south." The chiefdom today recognizes three ruling families, all whom have contested the two most recent elections: Komai, Sellu and Kanneh. The Komai and Sellu families both trace their lineages to the Gola people that migrated with Kpengba, and are affiliated with different towns in the chiefdom, Gbogbuabu and Bongor, respectively.

It is common across chiefdoms for families to have different "headquarters". In Koya, this is a legacy of the decentralized nature of Gola society. When the British arrived seeking leaders with which to sign treaties, acephalous groups organized themselves to present the visitors with a leader. The political structure of the chiefdom was then determined by the relationships formed between groups at the time to support a signatory to the treaty, the headquarters within the chiefdom representing the homes of the different groups.

The first chief in Koya to be recognized by the colonial government was Joseh, of the Komai family, who signed a treaty at Gbogbuabu with one Travelling Commissioner Thomas J. Alldridge on April 20th, 1890.[10] The stipulations of the Alldridge treaty were identical to many of the others signed throughout the 19th century, and it is common for families to trace their lineage to the member who first signed a treaty with the British. In this sense, these treaties mark the beginning of the chieftaincy institution, in which the colonial government recognized the signatories as the sole liaisons between the government and the people. Under the treaty, Joseh promised the rights of free passage, property and construction to British subjects, as well as reserved adjudication of any disputes between his people and British subjects for the Governor in Freetown. "So long as the above conditions are carried out, and the roads are kept clean," the treaty reads, "Chief Joseh shall receive an annual present of ten pounds." By mandating the provision of services in exchange for the favor of the Government, the treaty established the basis of the clientelist relationship of indirect rule: the Chief would receive money and legitimacy from the Government, independent of any services provided for his people.

Cordial relations between the Government and Joseh did not continue however. Joseh joined the rebellion in 1898 against the declaration of the Protectorate, and in retaliation Captain Carr, who led opposition to the rebellion in the area, burned Gbogbuabu to the ground. Joseh was deposed and imprisoned for a year. Joseh returned to office, however, in 1899, at the age of "35 to 40", and was ultimately succeeded by his younger brother Kormeh, by unanimous vote of 32 tribal authorities in 1907.[11] That Joseh, and most chiefs imprisoned after the rebellion, was able to return to power and pass the chieftaincy to his brother shows the resilience of the

[10] Fourah Bay College Archives, Treaty, April 20, 1890: Borgbahboo

[11] Provincial Secretary's Office, Kenema: Kenema District Decree Book

families to shocks from without. A central tenant of Lugard's manual for indirect rule was the policy of non-interference with local custom. Though the British institutionalization may have heavily influenced the ways chiefs interacted with their citizens once the system was created external interventions into the politics of the chieftaincy were rare and when they occurred had no persistent effect.

After Kormeh's death in 1920, oral historians report that a Sellu Ngombu, of the Sellu family, held the chieftaincy. A 1920 letter to Freetown from the District Commissioner[12] states that after Kormeh's death a regent chief was elected immediately "so that delay in finding a successor, which has resulted in so much dissension in the neighboring Chiefdom (Tunkia), might not cause trouble here." It is common practice for regent or "caretaker" chiefs not from ruling families to hold office between chieftaincy elections. Sellu Ngombu was this same caretaker. Though holding this caretaker role in this early period gave the family enough legitimacy to stand in future elections, it is still viewed as somewhat less legitimate than the Komai family and has been unable to win any subsequent elections.

This is common across chiefdoms, for one family to have obtained the right to stand through service as regent chief early in the history of the chiefdom. The existence of such families is random in the sense that whether or not someone had the opportunity to become regent early on depended on whether an original chief had a clear successor; in this case Kormeh had no son. Though the Sellu family has not won a seat since, they do still command votes in the Tribal Authority, and so represent a group that must be lobbied in chieftaincy elections.

A third ruling family, Kanneh, has dominated the chiefdom since Kormeh. Kormeh's death and Sellu Ngombu's weakness left a vacuum which was filled by a local family without links to the chiefdom's original forbearers. It is common across chiefdoms for the absence of a clear heir to the chiefdom's forbearer early on to lead to the creation of new families. Take, for instance, Bagbo chiefdom, in Bo District. Bagbo traces its origins to Boima Jah, a warrior and hunter, who settled the area was chief from 1847 until his death in 1884.[13]

The chiefdom today recognizes four families: Jah, Idriss, Koker and Colia. Boima Jah did not have any sons, and after his death there was no immediate successor. Idriss, the chiefdom speaker, succeed Jah as regent chief. Similar to Sellu Ngombu, though Idriss had no blood relationship to Jah, he was so respected for his service that his family has come to be considered a ruling family. After Idriss's death in 1897, Keneh Coker was elected chief. His mother was

[12]Provincial Secretary's Office, Kenema: Kenema District Decree Book

[13]Local historians memorialize his military prowess in their interpretation of the word Bagbo, which they take to mean in Mende: "don't be stupid while sleeping"; one must be vigilant, even while resting, of the potential for enemy attack.

a daughter of Boima Jah who had married into the Coker family. Keneh Coker had a long rule from until 1942, and, at least in 1912, received a stipend from the government of pounds a year.[14]

The creation of a family through matrilineal decent is common across chiefdoms. When the forbearer has no sons, new families are created when his daughters were married into other families, and their husbands stand for election. It took some time, however, for these new families to be viewed as legitimate. As with the Sellus, files from the District Commissioner in 1906 list Coker as "regent", and not Paramount Chief, indicating that even 9 years after signing Idriss's death, he was not viewed as a full chief.[15] This view did not last forever, though, as his family held the chieftaincy twice after Keneh Coker's death.

There are of course situations in which the forbearer of a chiefdom had an abundance of heirs, who continue to dominate the chiefdom until present day. Simbaru chiefdom, which like Koya is also in Kenema district, is just one of these chiefdoms: though in the same region, with a similar ethnic makeup, it only recognizes one ruling family. Oral historians trace its origin back to warrior and hunter named Gombulo Tama, who settled the area with his brother Jaiwu. Today it only has one family, which traces its origins to Tama. Tama made his settlement at Javoima (formally called Coba town) while Jaiwa settled at Goma. Abraham (2003, p. 113) traces the origin of Simbaru to the expansion of Keni Karteh, a warrior of the early 19th century who, with his warriors, expanded to occupy areas surrounding his town of Dodo. Tama and his brother were likely warriors under the command of Karteh. The first chief from this house to be recognized by the British, Sangwewa, was a grandson of Gombulo Tama. His family has dominated ever since, as there has always been a strong and ready male heir to take the chieftaincy.

The organizational structure of groups of invaders during the pre-colonial period also have effected the number of families. Take, for instance, Mambolo chiefdom, in northwestern Kambia district, is in the bottom quartile of the Herfindahl distribution, with a value of .22 and 5 ruling families. Oral history traces the chiefdom to a woman named Borkia who migrated from Guinea. She is likely to have come as part of the Mane invasions from Guinea in the mid 16th century. Some time thereafter, however, her settlement was conquered by a group of Bullom warriors. The chiefdom's five families each trace their lineage to these Bullom invaders.

The oral history traces the history back to a Bai Sherbora Lion in the 19th century. The Lion house, named for the animal to commemorate the bravery of its forbearer in battle, was

[14]Fourah Bay College Archives, "Information Regarding Protectorate Chiefs 1912"
[15]Fourah Bay College Archives, Railway District Decree Book 1900-1904.

the second house to hold the chieftaincy after a Bullom from an unknown family signed a treaty with the British in 1876.[16] Subsequent chieftaincies have been held by the Woni Koberr, Jum Harry, Moribaya and Somanoh houses, all of which trace their origins to the original Bullom warriors. The nature of this Bullom invasion, a loose band of warriors from neighboring areas, resulted in many independent families being viewed as legitimate.

It is just as common, however, for families to have successfully fought off invading tribes. Kassunko, in northern Koinadugu district, has five recognized families, and a Herfindahl value of 0.52. The chiefdom traces its roots to Limba warriors who conquered the Lokos in the area during the 15th century (Kup, 1962, p. 124). The Limba, however, faced another invasion by the Sofa in the late 19th century. Lipschutz (1973) records an interview with Paramount Chief Baio Serry II of Kassunko in 1972 in which Serry recalls how his grandfather made peace with the Sofa and maintained the independence of the chiefdom. The story is that his grandfather Sara Baio's fingers were gnarled. The invaders said that whenever they met a person with such a deformity, they should not touch him, and so they did not fight. A government report from 1912 recalls that Sara Baio "has the confidence of his people".[17]

While the set families with legitimacy to rule the chiefdoms was certainly variable in the pre-colonial period, families have stayed incredibly resilient to change since the beginning of the 20th century. This can be seen in Mandu, of Kailahun district, where President Siaka Stevens installed a party loyalist of the then ruling All People's Congress Party (APC) as chief in 1983, in order to gain political control over the area. There is only one family in this chiefdom, the Coombers, and the installed chief was not a member. The Coombers trace their lineage to Kaba Sei, an important chief at the turn of the 20th century and son of the original settler, Mandu Falley. The family appears to have consolidated its legitimacy in the area at the end of the 19th century, after Kaba Sei fought against an invasion by Ndawa, a great warrior from Segbwema (Abraham, 2003, p. 85). In an effort to consolidate power in the area, Stevens appointed a chief, J.B Bunduka, who reigned until 1991 at the beginning of the war, when he the first paramount chief to be murdered by the Revolutionary United Front, the first rebel group of Sierra Leone's civil war, which had sworn to free the country from APC oppression. (Smith et. al., 2004). Undoubtedly the violence of the RUF against Bunduka was a rejection of outside interference in the chieftaincy. Today, relatives of Bunduka are not recognized as a ruling family.

[16] Treaties, 10.6.1876, Scarcies

[17] Fourah Bay College Archives, "Information Regarding Protectorate Chiefs 1912"

3 Data

3.1 Measures of Chieftaincy Power

This study makes use of two key variables to estimate chieftaincy power, the number of ruling families in a chiefdom, and the alternation of the chieftaincy between families over time. To construct these variables, we have created, to our knowledge, the first comprehensive list of families across chiefdoms, and the first comprehensive history of the chieftaincy in Sierra Leone.

There is no conventional wisdom in political science or political economy about to measure power in situations like this. Acemoglu, Bautista, Querubín and Robinson (2008) used a similar measure of the extent to which a small number of people controlled local political power in Colombia. They showed that greater concentration was associated with worse long-run development outcomes. In elections with plurality rule a standard approach would be to measure competitiveness by looking at how close elections were. We could not examine this strategy in Sierra Leone because of the very fragmentary nature of written electoral records and because oral history cannot be used to recover such things (see Ansolabehere and Snyder, 2006, for a discussion of this and other approaches).

Though detailed records of some chieftaincy elections exist, many were destroyed during the war when the Provincial Secretaries' offices in Bo and Makeni were razed, making the written record insufficient to construct such a data set. To compliment archival records and secondary sources, we conducted a survey of the oral histories of all 149 chiefdoms.[18] To do this, local researchers with local language skills were trained in qualitative interview methods and visited all 149 chiefdoms. Researchers constructed the lists of families, previous chiefs, and origin stories of each of the families through extensive interviews with local oral historians, known as "encyclopedias".[19]

Researchers were required to visit members of each ruling family, in order to ensure that a balanced perspective on the family's histories and the history of chiefs was given. Researchers operated in teams of two, alternating partners. All regressions obtain identical results with

[18] Of the secondary sources Fyfe (1960) is the most fundmental because it gives a very comprehensive history of 19th Century Sierra Leone with a lot of discussion of native rulers. Alie (1990) is also useful. Other sources cover different regions in the country. Abraham (1979, 2003) is authoritative on Mendeland in the south of the country, see also Little (1951), Wylie (1977) covers Temne country in the north, Finnergan (1965) and Finnegan and Murray (1970) on the Limba country on which see also Fyle (1979a,b), and Fanthorpe (1998), Howard (1972, 1976) studies the 19th century of the Guinea border country in the northwest and Lipschutz's (1973) study focuses on the northeast.

[19] We are indebted to the researchers Mohammed C. Bah, Alimamy Bangura, Alieu K. Bangura, Mohammed Bangura, Shaka Kamara, Solomon Kamara, Bai Santigie Kanu, Salieu Mansaray, Michael Sevalie, Alusine M. Tarawalie, and David J. Walters, and to Lyttelton Briama, who managed the team, for their diligence and dedication.

researcher fixed effects, ensuring our results are not due to some measurement error at the level of the researcher.

We construct the Herfindahl index for each chiefdom as follows. In each chiefdom c we observe F^c, the set of ruling families, and S^c the set of chieftaincy seats, as far back as the oral historians can remember. We exclude from this set seats held by regent chiefs who are not recognized today as having been members of ruling families, and the few chiefs who were viewed as illegitimate for other reasons, such as J.B. Bunduka of Mandu chiefdom.

Let $N^c = |S^c|$, the number of seats observed. Let s_f^c be the number of seats held by family f. The Herfindahl index is then given by

$$H_c = \sum_{f \in F^c} \left(\frac{s_f^c}{N^c} \right)^2$$

There is variation across chiefdoms about how far back the oral historians could recall, N^c, and we would like to control for this. Some chiefdoms are able to trace their histories back until the 18th century, others can only remember back to the 1930s. Similarly, certain chiefdoms have had more regent chiefs than others. Since this term enters H_c, and might be correlated with development outcomes, we control for it in each specification.

Recall is not the only source of variation in N^c. In the late 1940s and 1950s, the colonial government amalgamated certain smaller chiefdoms in order to make the collection of revenue, and their administration by the District Commissioner more efficient. Before amalgamation, each of these chiefdoms had their own Paramount Chief and ruling families. When constructing our lineages, though, researchers were unable to trace lineages of all the component chiefdoms, and so our record for these chiefdoms only goes back until after amalgamation. This means N^c is lower in amalgamation chiefdoms on average. In addition to controlling for N^c, we add to all specifications an amalgamation dummy. It is also necessary to control for amalgamation, as it is in fact an omitted variable, correlated both with the number of ruling families and development outcomes. Amalgamation, by merging different chiefdoms, increased the number of families. It was also, however, the poorest and most remote chiefdoms that were selected for amalgamation.

The appendix gives a list of all of the chieftaincies ordered by district with information on the Herfindahl index, the number of ruling families, whether or not the chieftaincy was the result of an amalgamation between previously separate chieftaincies and also the number of chiefs that of informants could remember. Table 1 gives some basic descriptive statistics of this data. Panel A shows that the mean number of seats observed was 5.81. This was slightly larger for chieftaincies in the lowest quartile of the distribution of the Herfindahl. The mean Herfindahl was 0.54 which ranges from an average of 0.29 for the lowest quartile to 0.94 for the highest quartile. In fact there

are 9 chieftaincies which only have one ruling family and so the Herfindahl is 1 by definition. Such chiefdoms present a problem for our instrumental variable strategy because there is no sense in which the number of families provides any additional variation in these chiefdoms. On that subsample, the effect of the Herfindahl in 2SLS is not identified. We show in Section 7 that dropping these chiefdoms from the sample does not significantly affect the results.

Panel A of Table 1 also gives data on the average number of ruling families. The raw data show that this is over twice as large for chieftaincies in the lowest quartile of the distribution of the Herfindahl. The table also shows that 30% of the chieftaincies were formed from amalgamation, though this is not monotonically related to the Herfindahl in a way which obviously might bias our results, this does motivate our concern that amalgamation could be of first-order importance, and is worth controlling for.

Figure 1 gives a visual picture of how the Herfindahl is distributed in Sierra Leone. We plot here the quintiles with the darkest color being those chieftaincies in the top quintile of the distribution (the 30 chieftaincies with the highest Herfindahls). One thing that jumps out of the picture is that the high Herfindahl chieftaincies are not clustered into any particular area of the country. One is close to Freetown in the west of the country. Others are right down in the south west on the coast, or further north on the border with Liberia. Still others are in the far northeast, still others clustered in the center of the country. The map also contains the lines of rail and paths of navigable rivers. Again the chieftaincies with the highest Herfindahls do not seem to cluster round navigable rivers or the railway lines. These simple facts bolster our claim that there is not some obvious omitted variable which is influencing both the creation of ruling families and development outcomes.

3.2 Outcomes

For our development outcome data we use the 2004 census. We also use the 1963 census for a cohort analysis of human capital to study when the gap between chieftaincies with high and low development outcomes began to occur. For development outcomes we focus on outcomes at the level of the chieftaincy, in particular the proportion of the adults who are literate (though results are very similar when we work at the individual level with a dummy dependent variable for whether or not a person is literate) and primary and secondary school attainment rates (defined as the proportion of people of the relevant age group who have completed their education). We also restrict the outcomes to populations who could have completed their schooling before the war began in 1991, as the war may have been related to chieftaincy power (Richards 1993) and affected outcomes. Similar results obtain, however, using the full population. In Table 1 we

present some basic descriptive statistics where we separate the data out according to quartiles of the Herfindahl. In Panel C the data on literacy is presented. This shows that the literacy rate on average is 23% for rural Sierra Leone, an incredibly low number, but is 25% for chieftaincies in the lower quartile of the Herfindahl, 22% for the quarter of chieftaincies with the highest Herfindahls. The general patterns with primary and secondary school attainment are similar. The mean attainment rates are very low (25% and 15% respectively) but are slightly higher for chieftaincies with lower Herfindahls. The final development outcome we look at is the proportion of the working population in non-agricultural employment, which seems a reasonable proxy for the level of development of the chieftaincy. The mean of this variable is very low, just 3%, since most people are firmly in agricultural occupations but it is 100% higher in chieftaincies in the lowest quartile of the Herfindahl compared to those in the highest quartile.

For our analysis of attitudes and social capital activities we use the 2007 National Public Services (NPS) survey. Two chiefdoms, Gbo and Yawbeko, were omitted from the sample by chance. The NPS randomly sampled census enumeration areas, stratifying at the district level to obtain a nationally representative sample. The other two panels of Table 1, B and C give the data on the attitudinal and social capital variables. For the attitudinal questions there is no clear pattern. For example, the proportion of people who agree that one should respect authority is actually higher for the intermediate quartiles rather than for the quartiles with either the highest or lowest Herfindahls. For the social capital variables the patterns are much clearer. Here as we look at the different outcomes one sees clearly that social capital is higher in chieftaincies with high Herfindahls. For example, the proportion of people that attended a community meeting rises from 36% in low Herfindahl chieftaincies to 46% in high Herfindahl chieftaincies. Those who are a member of a secret society rises from 32% to 43%.

3.3 Other Data

To further support our identification argument, we complement our discussion of the origins of the ruling families with regressions of the number of ruling families on proxies for economic development in 1900. As proxies we use average annual hut tax revenue assessed by the colonial government between 1989 and 1902. The official tax rate at the time was 10 shillings per house with greater than four rooms and 5 shillings for every house with three or less rooms (Chalmers, 1899).

The source for the tax assessments is "Tax Book for Various Chiefdoms and Districts 1898-1902", which was accessed in June 2010 in the Fourah Bay College Archives in Freetown. The book contains a comprehensive list of the tax assessments on all recognized chiefdoms at the

time. Though many chiefdoms have maintained their boundaries since 1898, some have not and the mapping to chiefdoms today is imperfect. Chiefdoms were manually matched to today's chiefdoms using the names of the chiefdom and historical records. In three cases, an assessment was recorded for a chiefdom that is today split into two chiefdoms. In these cases, the assessment was split between today's chiefdoms using the relative surface area of the two subdivision chiefdoms as weights. In total 91% of tax assessment was mapped successfully to a chiefdom, leaving £3,172 of £33,254 unmapped.

One can provide a very rough estimate of whether the total tax assessment was reasonable given the population at the time. According to the 1921 Native Census, the native population of the Protectorate in 1921 was 1,450,903, an increase from 1,323,151 in 1911. This implies a 9.6% growth rate over the decade. In 1921, there were 239,148 households, with an average of 5.9 people per house. If we assume a constant growth rate in the previous decade, this implies that in 1901 there was a population of 1,206,648, or, using the 5.9 people per house, 204,516 houses. Across years, an average £33,254 were assessed annually. If everyone had a house of 3 rooms less, this means that about 65% of the houses were assessed.[20] This number is fairly high, considering that assessments were difficult, and the Tax Book includes reports of places being inaccessible and thus not assessed.

In addition to the tax data we use distance from the chiefdom centroid to the coast, nearest navigable river and the railroad as additional proxies for development in 1900. These variables were calculated using GIS maps provided by Statistics Sierra Leone.

Panel E of Table 1 presents descriptive statistics from these. The raw averages show a larger tax assessment and tax assessment per square kilometer in the lowest Herfindahl chiefdoms. This difference, however, is statistically insignificant and is driven entirely by three chiefdoms, Koya, Bombali Sebora and Kamajei. These chiefdoms correspond to the towns of Masiaka, Makeni and Senehun, three headquarter towns with particularly cordial relationships with the colonial government. Their good relationships are likely to have supported more complete than average tax assessments. Removing these three chiefdoms makes the quartiles indistinguishable, as does adding district fixed effects, as we discuss in the next section. Panel E also shows there is no monotonic relationship between other exogenous causes of economic development in 1900, distance to the coast, distance to navigable rivers, and distance to the railroad.

Finally, panel F presents the descriptive statistics on the individual covariates used in our attitudes and social capital regressions. There is no significant variation in gender and age distributions across Herfindahl. There is variation in the concentration of Sierra Leone's three

[20]There are 20 shillings to a pound.

major ethnic groups, the Mende, Temne and Limba, across the Herfindahl. The Limba are over represented in low Herfindahl chiefdoms. This reflects the presence of the Limba in the north, and in particular in northern amalgamation chiefdoms. The Temne are also more concentrated in the lowest Herfindahl chiefdoms, but this relationship is not monotonic across quintiles. The Mende are slightly less concentrated in the low Herfindahl chiefdoms, but this relationship is non-monotonic. Despite these non-monotonicities, the variation in Herfindahl across ethnic concentration justifies our use of district fixed effects. As ethnic groups are relatively concentrated in particular districts, this should allay concerns that our results are driven by ethnic variation.

We also show that there is no significant variation across Herfindahl quartiles in filial connections to the chief. The sample means, however, do show substantial direct connections to the chieftaincy among the rural population. 9% of households have a Paramount or Section Chief in their household (Section Chiefs are subordinate to Paramount Chiefs, controlling sections of the chiefdom). 18% have a village headman in their household, reflecting the low population density in Sierra Leone, and the small size of villages. Finally, 30% of household heads are members of a ruling family. This reflects that membership in a family is relatively loose, often spanning many cousins and second cousins. It is the case, however, that not just any member of a ruling family may run for election, and the people eligible to run is probably much smaller than the number claiming to be members of the family.

4 Estimation Strategy

In this section, we describe our estimation strategy, briefly reviewing the first stage, the two-stage least squares (2SLS) approach and the reduced form relationships we will employ.

4.1 The First Stage

The first-stage relationship is of form

$$H_c = \gamma_d + \gamma_{fam}(F_c) + \gamma_n(N_c) + \gamma_a(Amalgamation_c) + \eta_c \tag{1}$$

where the dependent variable H_c is the Herfindahl index in chieftaincy c. We abuse notation slightly and let F_c stand for either the number of ruling families in chiefdom c or its logarithm depending on specification. While the results are similar, we will see that the first-stage relationship is a little more precise with the log specification, on which we focus for many of our results below. The γ_d's denote a full set of district fixed effect which we employ in all specifications as a simple way of controlling for omitted variables, such as ethnic composition, at the district level, N_c is the number of chiefs in the history of the chieftaincy that our informants could

remember in c, and $Amalgamation_c$ is a dummy variable which is equal to 1 if chieftaincy was amalgamated, and equal to 0 otherwise. Finally η_c is the error term.

Panel A of Figure 2 plots the raw data on the number of ruling families and the Herfindahl index. One sees that there is a very strong negative first stage correlation between these two variables. Panel B repeats this with the logarithm of the number of ruling families.

We first investigate econometrically (1) the result for which are presented in Table 2. Column 1 presents the most parsimonious version of (1), omitting the controls for the number of ruling families along with the number of chiefs that could be remembered and the amalgamation dummy. The estimated coefficient $\gamma_{fam} = -0.05$ with a standard error of 0.01 and is highly significant. The F statistic is also very large at 27.28 so that there is no concern of weak instrument problems. The $R^2 = 0.22$ is also high suggesting that these simple variables can account for 22% of the variation in the Herfindahl index. The next three columns then use the same number of ruling families as our measure of the instrument but sequentially include first the baseline controls, N_c and $Amalgamation_c$, district fixed effects (column 3) and then fixed effects for the researchers (column 4). The estimated coefficient on F_c is very robust and hardly changes while the estimated standard error does not change at all while at the same time, naturally, the R^2 doubles in some specifications. The last four columns of the table then re-estimate exactly the same specifications but where we take the logarithm of the instrument. In column 5, which is the same as column 1 we find that $\gamma_{fam} = -0.26$ with a standard error of 0.03, again highly significant and the F statistic on the equation is 88.43. The pattern in the resulting columns is very similar to before. The coefficient of interest is very robustly estimated and neither it nor the standard error really change as we add covariates and fixed effects. In all second stage regressions we use the log number of ruling families. The larger F statistic in the log specification is consistent with their being a diminishing effect of the number of families on competition and the ability of one family to capture a chiefdom.

As we discussed in the introduction, however, there is obviously a concern here that the number of ruling families might be endogenous in the sense that it is driven by omitted variables which also help to determine the development or social capital outcomes that we are interested in. In Section 2.3 we already took one way of looking at this by discussing from our survey, fieldwork and archival research some of the evidence about the origins of ruling families. The evidence we presented there strongly suggests that the number of ruling families and whether or not a particular family was recognized as a ruling family is highly idiosyncratic and very unlikely to be correlated with omitted variables which would bias our results.

However, we can also take a more systematic approach to this issue. We now present regres-

sions of the form

$$y_c = \delta_d + \delta_{fam}(F_c) + \xi_c, \tag{2}$$

where y_c is the dependent variable of interest (e.g., tax assessments in the late 1890s, or distance to important geographic features such as the coast or navigable rivers, or distance to the line of rail from the centroid of the chiefdom). All specifications include the district fixed effect δ_d but no other covariates. ξ_c is the error term. The point here is to examine whether or not the number of ruling families or its logarithm are correlated with any of these variables, which are measures of prior economic development or potential determinants of subsequent development. Table 3 shows that they are not. The first column presents the estimated coefficients from two estimations of (2) the first when we use the number of ruling families as the independent variable, the second when we use the logarithm of the number of ruling families. The dependent variable in both regressions is the chieftaincy taxes assessed. In the first row of the first column we see that $\delta_{fam} = 0.02$ with a standard error of 0.11 while in the second row $\delta_{fam} = -0.07$ (s.e.=0.40) in neither case is there a statistically significant correlation between the number of ruling families and the tax assessment made for the chieftaincy. The second column repeats this exercise but uses a dependent variable which is now normalized by area. The results are the same, now both estimates of δ_{fam} are negative but neither is significantly different from zero. Column 3 then uses distance to the coast (in 100km) as the dependent variable. Here the estimated coefficients on the number of ruling families and its logarithm really are zero with the estimated coefficients being $\delta_{fam} = -0.00$ (s.e.=0.01) in the first row, $\delta_{fam} = -0.01$ (s.e.=0.0.05) in the second row. The forth column uses distance to a navigable river as the dependent variable and the final column distance to the railway. The results in these last two columns mirror the previous one. There is no statistically significant relationship between these dependent variables and the number of ruling families.

We conclude from this that the evidence of Table 3 supports our identification strategy. There is no evidence here that the number of ruling families in a chieftaincy is correlated either with exogenous factors that ought to be important determinants of a chieftaincy's prosperity or with proxies for development in the early colonial period at the time that the system of Paramount Chiefs and ruling families was created. From now forward we simply use the logarithm of the number of ruling families as our instruments, though all results obtain with just with the level.

4.2 The Second Stage

The second stage relationship of interest is

$$y_c = \alpha_d + \alpha_h(\hat{H}_c) + \alpha_n(N_c) + \alpha_a(Amalgamation_c) + \varepsilon_c. \tag{3}$$

Here y_c is the dependent variable of interest at the chiefdom level, which is the specification we use for development outcomes. $\hat{H}_c$ is the Herfindahl in chieftaincy c instrumented by F_c, the log number of ruling families. The equation has the identical set of covariates to (1) and where ε_c is the error term. The coefficient of interest discussed in the following sections is α_h, the marginal impact of an increase in the Herfindahl on our dependent variables.

For our results on attitudes and social capital outcomes, we specify a similar individual level regression

$$y_{ic} = \alpha_d + \alpha_h(\hat{H}_c) + \alpha_n(N_c) + \alpha_a(Amalgamation_c) + \alpha_x\mathbf{X}_i + \varepsilon_{ic}, \tag{4}$$

where the vector $\mathbf{X}_i$ contains socio-demographic covariates, such as age, education, sex and ethnicity, which we have at the micro level as discussed in the previous sub-section. We add these controls both as a robustness check to ensure differential demographics across chiefdoms does not explain our results, but also to ensure that the effects on attitudes and social capital do not flow solely through reductions in human capital.

In most of the panels below we also show in addition results for the reduced form regressions of form

$$y_c = \beta_d + \beta_{fam}(F_c) + \beta_n(N_c) + \beta_a(Amalgamation_c) + \nu_c, \tag{5}$$

or

$$y_{ic} = \beta_d + \beta_{fam}(F_c) + \beta_n(N_c) + \beta_a(Amalgamation_c) + \beta_x\mathbf{X}_i + \nu_{ic}, \tag{6}$$

where again F_c is the log number of ruling families.

5 Results

In this section, we report our main results, showing both the reduced-form relationship between the number of ruling families and various outcomes, and the 2SLS estimates of the impact of the Herfindahl index, instrumented by the number of ruling families, on these variables.

5.1 Effects on Development Outcomes

We begin by studying the effect of the Herfindahl index on development outcomes.

Table 4 presents results from the 2004 census on educational and economic outcomes. We split the table into 3 again with the top panel reporting estimates of the OLS (3) where the Herfindahl index is not instrumented reporting, Panel B reporting the reduced form models of form (5), and panel C reporting estimates of (3) where we instrument the Herfindahl by the logarithm of the number of ruling families. All columns include district fixed effects and the usual controls of the number of seats observed and the amalgamation dummy.

Panel A examines the OLS regression of the development outcomes on the Herfindahl index. In the first three columns we find very robust and significant negative correlations between the human capital outcomes and the Herfindahl index. In column 1 the estimated coefficient is $\alpha_h = -0.07$ with a standard error of 0.02 and so is very significant. This equation suggests that the greater is political power concentrated in the hands of one family, the lower is the literacy rate of the chieftaincy. Columns 2 and 3 tell a similar story with primary and secondary school attainment. These are also negatively and statistically correlated with the Herfindahl index. In the final column we similarly find a negative correlation between the Herfindahl and the proportion of employment in non-agricultural occupations though the estimated coefficient is not statistically significant.

Panel B presents the reduced form. Column 1 shows that there is a significant positive correlation in the reduced form between the number of ruling families and the proportion of the population of a chieftaincy that are literate. The coefficient $\beta_{fam} = 0.04$ (.s.e.=0.01). In the second column we repeat the regression with primary school attainment as the dependent variable. We again find a significant positive correlation with $\beta_{fam} = 0.04$ (s.e.=0.01).The results are very similar with secondary school attainment as the dependent variable suggesting that in the reduced form a greater number of ruling families is significantly correlated with better human capital outcomes. In the final column we also see that greater numbers of ruling families is associated with a higher proportion of the employment being in non-agricultural activities.

Nevertheless, as we have discussed, there may be many reasons to worry that the OLS estimates are biased because of the presence of omitted variables which are correlated both with the extent of political power concentration and development outcomes. Therefore in panel C we present our instrumental variables estimations. It is clear that in fact these results are even stronger quantitatively and statistically suggesting that the OLS coefficients may be biased downwards by measurement error. In column 1 the (instrumented) point estimate of $\alpha_h = -0.13$ with a standard error of 0.03 implies that a 1 standard deviation increase of the Herfindahl (0.24) implies a 1/2 standard deviation decrease in the literacy rate. We find similar effects on primary school attainment in specification (column 2) and, significant, though quantitatively

smaller effects on secondary school attainment in (column 3). The final column shows that in the 2SLS there is also a significant negative relation between the Herfindahl and non-agricultural employment. Again, though off a low average, we find statistically significant and quantitatively large effects. The (instrumented) point estimate of $\alpha_h = -0.035$ with a standard error of 0.017 implies that a 1 standard deviation increase of the Herfindahl (0.24) implies a 1/4 standard deviation decrease in the employment rate.

Given the importance of education and human capital for economic growth, these effects in rural areas give evidence that the strength of the chieftaincy institution has been be a strong impediment to growth. Impacts on education are consistent with two hypotheses about the chieftaincy. A first hypothesis is that more powerful chiefs are simply mismanaging funds. Though the central government is responsible for a large fraction of school expenditure, chiefdoms must decide whether to contribute their own funds. In addition, chiefs must be consulted, as legal custodians of the land, before schools are constructed. Particularly before the war, they also have influence over the selection and salaries of teachers in an area. A second hypothesis is that the chiefs have actively opposed education in the chiefdoms in order to better exert authority over the people.

Economic activity is difficult to measure across chiefdoms in Sierra Leone, as the overwhelming percentage of the population in the chiefdoms works in agriculture. Nevertheless, the measure for non-agricultural employment over the population over age 10, which includes anyone not employed in farming, forestry, fishing or hunting, and is the best available proxy for economic development in a chiefdom. This indicator will pick up people engaged in the trade and transport of agricultural produce. That this is also lower when chiefs are more powerful suggests that powerful chiefs retard the development of the modern economy, perhaps by levying harsh fines (often in ways rural people consider illegitimate and though what they refer to as "kangaroo courts") or perhaps levying punitive taxes on market traders.

5.2 Literacy over Time

While we have shown that the Herfindahl has a substantial effect on contemporary levels of development, it is also interesting to ask when this effect emerged. In addition, if we find that his effect was not present at the beginning of the 20th century, it adds support to our argument that the number of ruling families was unrelated to anything about the baseline conditions of the chiefdoms at the beginning of the institution. To do this, we run separate regressions of literacy among different birth cohorts on the Herfindahl using data from the 1963 census.

Table 5 reports these coefficients and Figure 3 shows them in a graph. The table consists

again of three panels which report the estimated coefficients for the OLS, the reduced form and the instrumented second stage. It is split into two parts an upper and lower which track successive birth cohorts. For example, in the top part first column the first estimated coefficient is for the the OLS estimate of a regression of the proportion of the people born before 1918 of this literacy variable regressed on the Herfindahl. The next row shows the reduced form, and the final row here shows the second stage of the 2SLS where the Herfindahl is instrumented. The clear pattern here is that for the early cohorts there is no relationship between either the number of ruling families or the Herfindahl index and the literacy rate of a chieftaincy. We believe this makes a lot of sense. Though the chieftaincy system was created in 1896 there was quite a bit of flux in the early years and it took time for the ruling families and chiefs to consolidate and exercise their new powers. Thus it is not surprising that it took some time for a divergence to occur between chieftaincies controlled by more and less powerful chiefs. For the pre-1918 cohort we have an (instrumented) point estimate of $\alpha_h = -0.01$ with a standard error of 0.01 there was no statistically significant effect of the Herfindahl on literacy among people born less than 20 years after the creation of the institution. This also bolsters our argument that chiefdoms with different numbers of families, and with subsequently different levels of ex-ante competition were *ex-ante* comparable at the beginning of the institution.

The coefficients on the Herfindahl rise over time, which is consistent with the chiefs shaping literacy attainment and become statistically significant for those born in the 1920s but quantitatively much smaller than those we estimated in Table 4. The effects become much larger for cohorts born in the early 1950s. This is consistent with powerful chiefs diverting (or misusing) the increase in educational spending from the central government during that period. As Cartwright (1970) documents, during this period Paramount Chiefs dominated appointments to Sierra Leone's Legislative Council. This was the primary institution through which educational spending was determined during the 1950s and early 1960s.

5.3 Attitudes

We now turn to our data from the NPS about people's attitudes. If the hypothesis of despotic chiefs is correct, one would except more powerful chiefs to be less legitimate or popular. We can investigate this issue with two questions from the NPS. We estimate equations the OLS, where the Herfindahl is not instrumented, the reduced form, using the number of families, and the 2SLS using the instrument. We let y_{ic} be the answer to two questions about people's attitudes to chiefs.

The NPS attitudinal questions were carefully designed so as not to lead respondents towards

one answer or another. Respondents were given two statements in the local lingua franca, Krio, and asked to say which was closest to their view. The could either agree with one, both, or none. In the first question they were given the statements:

1. As citizens, we should be more active in questioning the actions of leaders.

2. In our country these days, we should have more respect for authority.

Our first attitude variable is a dummy for whether they agree with statement 2. The second question had the statements:

1. Responsible young people can be good leaders.

2. Only older people are mature enough to be leaders.

This question is relevant because, as is discussed in Richards (1996) the elder/youth divide in Sierra Leone is often the most salient way of distinguish those associated with the power structure of the chieftaincy (the elders) and those outside of the power structure (the youth). We create a second dummy indicating whether the respondent agrees with item 2 in this question. Using these dummies, we can think of the second stage in this section as a linear probability model.

The results of these estimations are reproduced in Table 6. Panel A shows the results of OLS regressions of the form (4) but where the Herfindahl index is not instrumented. Column 1 of panel B presents the simplest specification with an estimated coefficient on the Herfindahl of $\alpha_h = 0.09$ with a standard error of 0.07 which is not statistically significant. The second and third columns then add sequentially the demographic and elite controls with little change on the estimated coefficient or its standard error. In the OLS there seems to be little relationship between the Herfindahl and the propensity of people to respect authority. The same is true for the leadership of old people. In column 4 $\alpha_h = 0.05$ (s.e.=0.6) and insignificant, with the addition of the covariates again having little impact on the results. The simple OLS evidence therefore suggests that answers to these questions are uncorrelated with the power of chiefs.

The top panel B gives the estimates of the reduced form regression (6) of the answers to the attitudes questions on the logarithm of the number of ruling families. It is split into two parts. In the first three columns the dependent variable is a Dummy =1 if the person agrees that one should have more respect for authority. We are using individual level data here with the standard errors clustered at the chieftaincy level. All columns and panels control for a district fixed effect, the number of chiefs that out informants could remember and an amalgamation

dummy. Columns 2 and 3 and 5 and 6 also control for the rich array of individual demographic controls which we discussed above. In addition columns 3 and 6 control for whether or not the respondent was a member of the elite in the sense that they had a chief of any sort in their household, whether or not the person was a member of a ruling family, and whether or not there was a village headman in the family. These variables are potentially important to consider, because it might be that chiefdoms with fewer families are also those in which *more* households are members of families, and thus *more* likely to have positive attitudes regarding the elites. Interestingly none of these variables are individually significant and they also change little the estimate of any of the coefficients of interest. Columns 4 to 6 estimate exactly the same models but with a different dependent variable namely a Dummy=1 if the person agrees that only older people are mature enough to be leaders.

Column 1 shows the most parsimonious reduced form regression with the estimated coefficient on F_c being $\beta_{fam} = -0.09$ with a standard error of 0.04. Implying that an increase in the number of ruling families reduces the propensity of an individual to answer that people should have more respect for authority. Columns 2 and 3 shows that this effect is completely unaltered by either the demographic or elite controls. There is no change in either the estimated coefficient on F_c or the standard error. Column 4 then moves to the second question about whether only old people can lead. Without the individual level covariates we find that $\beta_{fam} = -0.05$ (s.e.=0.03) again suggesting that more ruling families are associated with less willingness to agree that only old people can lead. However this estimate is not significant at standard levels. Adding the demographic and elite controls has little effect though in column 6 with all the covariates added the estimated coefficient is significant at the 10% level.

Panel C then reports the 2SLS estimates of (4) when the Herfindahl index is instrumented by the log number of families. The results here are quite different in the sense that while the signs of the coefficients are identical to those on Panel B they are now typically significant. For example, in column 1 the estimated coefficient on the (instrumented) Herfindahl is $\alpha_h = 0.31$ with a standard error of 0.14. This is once again robustly estimated so adding the different covariates in columns 2 and 3 does little to change either the estimated coefficient or its standard error. Columns 4-6 then show a similar pattern. Now the Herfindahl is (just) statistically significant and positively correlated with the propensity of a person to say that only older people can lead.

The finding on attitudes towards young leaders is particularly interesting in the Sierra Leone context since many portray the society as a gerontocracy (indeed any person under the age of 50 risks being called a "youth") with grave consequences for politics with the civil war often being portrayed as a rebellion of youths against elders (see in particular Richards, 1996, Humphreys

and Weinstein, 2008, Mokuwa, Voors, Bulte and Richards, 2011, Peters, 2011).

The results of this section are rather surprising at first blush. If more powerful chiefs are responsible for poorer development outcomes, one would expect attitudes towards their power to be unfavorable. But this does not seem to be the pattern here.

5.4 Bridging and Bonding Activities

Finally we move to examine the impact of the concentration of political power on measures of social capital. To do this we present estimates (4) in OLS form, the reduced from (5) and the 2SLS (4). We examine seven different dependent variables from the NPS the answer to all of which is a simple yes or no:

1. Have you attended any community meetings in the past month?
2. In the past year, have you talked with the Local Councillor or been to a meeting organized by the Local Council?
3. In the past year, have you talked with the Paramount Chief or been to a meeting organized by the Paramount Chief?
4. Do you belong to a school management committee, such as Parent Teachers Association?
5. Do you belong to a labor gang?
6. Do you belong to a secret society?
7. Have you participated in road brushing or town cleaning in the past month?

We coded a Dummy=1 if the respondent answered yes to these questions. These questions are close to standard questions about different types of social capital.

Table 7 presents the results using these social capital variables as dependent variables. The structure of the tables is identical to those we have shown before. In column 1, for example, we show the results for the three forms of a regression where the dependent variable is a Dummy=1 if the person surveyed had attended a community meeting in the last month. In panel A we see that in the OLS there is a positive and significant correlation between the Herfindahl index and the propensity to attend a community meeting. Here $\alpha_h = 0.15$ with a standard error of 0.05 suggesting that a greater concentration of political power in a few families in a chieftaincy increases the propensity of people to attend community meetings. In Panel B, we see that here is a significant negative relationship in the reduced form between the logarithm of the number

of ruling families and this variable with $\beta_{fam} = -0.08$ (.s.e.=0.03) suggesting that the greater the number of ruling families the less likely it is that people will have attended community meetings. This finding is substantiated by the OLS when we instrument for the Herfindahl in panel C. Here we find that the quantitative effect almost doubles with an estimated coefficient of $\alpha_h = 0.29$ s.e.= 0.10).

The findings from column 1 are mirrored in the rest of the table. In column 2 the results are very similar with respect to having attended a meeting of the local council. In columns 3 and 4 the results with respect to having attended a meeting with the chief or being a member of a school committee are similar though less significant statistically. The final three columns look at whether or not the individual had been a member of a labor gang, or a secret society or participated in road brushing, an important activity in rural Sierra Leone to stop the bush covering roads.

Though not all of the coefficients are significant taken together these results seem to paint a remarkably consistent picture. The more powerful in the Paramount Chief, the greater the measured social capital. Even more paradoxically, most of these variables capture what Putnam called bridging social capital and even seem to proxy accountability type activities such as attending community and council meetings and meeting with the chief. The standard interpretation of such findings is that they are a positive sign indicating that people are actively involved in monitoring the chief and making him or her accountable. The interpretation of some of the other variables is perhaps more complex. For instance labor gangs are typically groups of young men who get together and collectively sell their labor to work on farms for example of building houses or other structures. This may be similar to bonding or perhaps horizontal social capital. Secret societies are heavily involved in the spiritual and cultural life of the communities but also play important roles in dispute resolution and the allocation of land and other resources. It has been argued, for example by Little (1965, 1966), that as such they can act as a check on the political power of chiefs, though he presents little real evidence for this. Finally participating in road brushing can be seen as the voluntary provision of a public good and be indicative of a community's ability to engage in collective action, again possibly a bridging type of activity.

How can it be that such measured social capital goes along with bad development outcomes? We believe the most plausible interpretation of this is that a bridge can be crossed in either direction. Powerful chiefs may not just distort the allocation of resources to education or discourage economic activities such as trading. In order to control their society they need to monitor it and bring the people together so as to tell them what to do. While it is possible that some of this activity is in the collective good, such as road brushing, other activities may simply be in

the private interest of the chiefs and their families.[21] Thus rather than community meetings being indicative of citizens disciplining their leaders they in fact reflect leaders disciplining their citizens. In this situation the fact that an activity like being a member of a school committee may just reflect the fact that bridging and bonding activities are complements. The chiefs summon up bridging for their own purposes but when they do so they have to accept that this simultaneously creates bonding activities between people.[22]

This interpretation can then be brought to the apparent puzzle of why powerful chiefs who apparently inhibit development command greater authority. This is simply because in the processes of greater bridging chiefs dispense patronage and as people sink specific investments into this system they have an interest in its continuation. Once you have invested in the social network of the chief and entered into a patron-client relationship you have no interest in seeing his power diluted by, for example, the young. Indeed, you'd rather see if strengthened. Our interpretation is similar to that of Ntsebeza (2005) who examined the role of chiefs in rural South Africa and argued that "traditional authorities derive their authority from their control of the land allocation process, rather than their popularity amongst their subjects ... the need for land ... compelled rural residents willy-nilly to cooperate with the traditional authorities" (p. 22). Ribot (2001) articulates a similar view which could best be summed up as: legitimacy follows power.

6 Robustness Checks

One concern about our empirical strategy is that the Herfindahl is deterministically equal to one if there is only one ruling family. There are 9 such chiefdoms.[23] Within this subsample,

[21] Glennerster, Miguel and Rothenberg (2011) suggest that powerful chiefs may order people to brush roads in rural Sierra Leone though they do not have a measure of this power.

[22] In results not reported we found that the Herfindahl had a near zero effect on measures of trust in others in the locality. We investigated trust with the question: "In your opinion do you believe [....] or do you have to be careful in dealing with them?" "Believe" is a close translation of the Krio word for trust. We code trust as a dummy for those who respond you can believe the person in question. In the preferred second stage regression, with all demographic and elite controls, the effect on trust in other people in the locality is $\alpha_h = -0.02$ (0.92). Though these standard errors are fairly large, even at the boundaries of the confidence interval, they imply small effects. A one standard deviation increase in the herfhindal leads to only a 2 percentage point increase in trust of neighbors. This is consistent with chiefs not having a small effect on "bonding" social capital between citizens.

We also find negative, though insignificant effects on trust in chiefdom officials. The coefficient for the same trust question asked about chiefdom officials is $\alpha_h = -0.10$ (0.11). We also examine answers to the question: "If the Paramount Chief was given 500 million Leones ($\$125,000$) to complete a project in this area, do you believe they would spend all the money doing a good job on the project or would they cut some of the money?" ("cut" meaning take for their own purposes). We code an indicator for respondents who report he chief would either "do a bad job and cut most of the money" or "they would just take all the money". The coefficient on this is $\alpha_h = -0.08$ (0.11). These estimates are consistent with the other results on attitudes. If anything, people in more powerful chiefdoms trust their leaders more.

[23] Gbane Kandor, Lei, Kpaka, Kpeje West, Mandu, Mano Sakrim, Sandor, Simbaru, and Sowa.

the effect of the realized concentration of power, which we measure with the Herfindahl, is not identified separately from the effect of the potential for the concentration of power, which we measure with the number of ruling families. In addition, there are 4 chiefdoms[24] each with more than one family, in which we only observe one chieftaincy seat. All 4 are amalgamation chieftaincies that have been governed primarily by regent chiefs since their amalgamation in the 1950s. Only one chief since then has been elected. In this subsample, again, the number of families does not provide any additional variation.

To confirm that our results are not driven by these subsamples, we re-run the same specifications as before, dropping these 13 chiefdoms. Table 8 presents the results. The results are broadly of the magnitude as in the full sample of 149 chiefdoms, and maintain their significance. The coefficients on attitudes are, if anything, stronger, though the larger standard errors fail to reject a difference between them and the specifications using the full sample. We find the same with the development outcomes, and social capital activities. The coefficients on attending a meeting with a chief and being a member of a school committee are still positive, though fail to be statistically significant at the 10% level. The other variables maintain are still highly significant.

7 Conclusion

In this paper we have investigated the consequences of the power of chiefs on development in Sierra Leone. This is important for several reasons. In a continent where the majority of the population live in rural areas and where the national state lacks capacity and the power to "penetrate" society the institutions of local governance are likely of first-order importance in understanding key aspects of development. Yet they have received little systematic empirical investigation. Further, though the institution of the chieftaincy was often a pure creation of colonial states, and though there have been attempts to demolish it, chiefs still exercise considerable power across Africa. Finally, the study is interesting because there are several apparently mutually incompatible views held about the chieftaincy. On the one hand there is the argument made famous by Mamdani (1996) that the chiefs are unaccountable despots, yet at the same time there is a great deal of survey evidence that chiefs command the respect of rural people.

In this research we conducted a unique survey, complemented by field and archival research, to re-construct the history of the chieftaincies, Paramount Chiefs and ruling families of Sierra Leone as far back as sources could deliver. We used this to construct an appealing measure of the

[24] Galliness Perri, Gbendembu Ngowahun, Kafe Simria, and Jaima Bongor.

power of chiefs, which was the extent to which the Paramount Chieftaincy had been dominated by a narrow set of families. We found that more powerful chiefs are associated with worse development outcomes but that they also command greater respect. In addition powerful chiefs are associated with greater levels of social capital, particularly the type of bringing activities supposedly associated with accountability and good governance.

On the face of it these results seem to suggest that both Mamdani and his critics can simultaneously be right. This is true in a sense, but our interpretation of our findings is probably more in the spirit of Mamdani's argument. In particular we argue that powerful chiefs lead to worse development outcomes because they distort incentives to engage in economically desirable activities through their control of taxation, regulation and the judicial system. Yet at the same time they are associated with higher levels of social capital, particularly bridging activities because they use this capital as a way to control and monitor society. In turn these leads people to invest in patron-client relations with powerful chiefs which gives them a vested interest in the authority of chiefs. Thus in surveys people to say that they respect the authority of chiefs but this is not a reflection of the fact that chiefs are effective at delivering services or public goods but rather of the fact that rural people are locked into relationships of dependence on the traditional authorities.

These findings have profound implications for much recent development policy. For instance many international aid agencies are now heavily involved in attempts to "strengthen" civil society in the hope that this will increase local accountability and public good provision. The World Bank pours millions of dollars into Community Driven Development schemes (for example in Sierra Leone, Casey, Glennester and Miguel, 2011, and Liberia, Fearon, Humphreys and Weinstein, 2009). Yet our results give cause for concern: if civil society, at least in the way it exists in rural Africa today, is captured by chiefs, efforts to strengthen it might just strengthen the control of the chiefs over it.

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Table 1: Summary Statistics

			By quartiles of herfindahl			
		Number of observations	(1)	(2)	(3)	(4)
A. Chieftaincy Variables and Controls						
Number of seats observed	5.81 (2.58)	149	7.28	5.42	5.1	5.42
Amalgamation	0.3	149	0.23	0.37	0.36	0.21
Herfindahl	0.54 (0.24)	149	0.29	0.44	0.56	0.94
Number of families	3.95 (2.07)	149	5.13	4.21	3.9	2.33
B. Attitudes						
Agrees one should respect authority	0.44	4497	0.39	0.47	0.52	0.41
Agrees only older people can lead	0.31	4497	0.28	0.35	0.28	0.3
C. Development Outcomes						
Literacy rate	0.23 (0.06)	149	0.25	0.23	0.22	0.22
Primary school attainment	0.25 (0.08)	149	0.26	0.25	0.25	0.24
Secondary school attainment	0.15 (0.05)	149	0.15	0.15	0.14	0.14
Non-agricultural employment	0.03 (0.03)	149	0.04	0.03	0.03	0.02
D. Activities						
Attended community meeting in last year	0.42	4438	0.36	0.44	0.43	0.46
Attended local council meeting	0.22	4497	0.18	0.23	0.23	0.25
Attended meeting with Paramount Chief	0.39	4424	0.36	0.39	0.39	0.42
School committee member	0.22	4464	0.17	0.24	0.22	0.25

Table 1: Summary Statistics

			By quartiles of herfindahl			
		Number of observations	(1)	(2)	(3)	(4)
Labor gang member	0.25	4467	0.21	0.23	0.24	0.32
Secret society member	0.37	4457	0.32	0.31	0.42	0.43
Participated in road brushing in last month	0.4	4464	0.31	0.43	0.43	0.45
E. Covariates of Economic Development in 1900						
Hut tax assessment (£)	201.89 (308.61)	149	303.62	195.33	143.49	163.10
Hut tax assessment (£per km^2)	0.49 (.99)	149	0.87	0.47	0.33	0.27
Distance to Coast (km)	105.3 (65.6)	149	81.6	111.2	105.1	126.2
Distance to River (km)	9.2 (7.2)	149	9.1	10.7	7.7	9.4
Distance to Rail (km) in last month	44.2 (30.31)	149	36.9	48.6	41.1	51.2
F. Individual Level Covariates						
Age	43.5 (15.7)	4440	43.4	43.5	43.3	43.6
Female	0.49	4497	0.50	0.49	0.51	0.48
Mende	0.41	4497	0.36	0.43	0.41	0.42
Temne	0.27	4497	0.38	0.29	0.32	0.11
Limba	0.06	4497	0.10	0.05	0.05	0.05
Paramount or section chief in household	0.09	4497	0.09	0.10	0.09	0.10
Headman in household	0.18	4497	0.16	0.17	0.16	0.21
Membership in in ruling family	0.30	4497	0.31	0.30	0.30	0.29

Notes: Standard deviations presented in parenthesis; no standard deviation reported for binary variables.

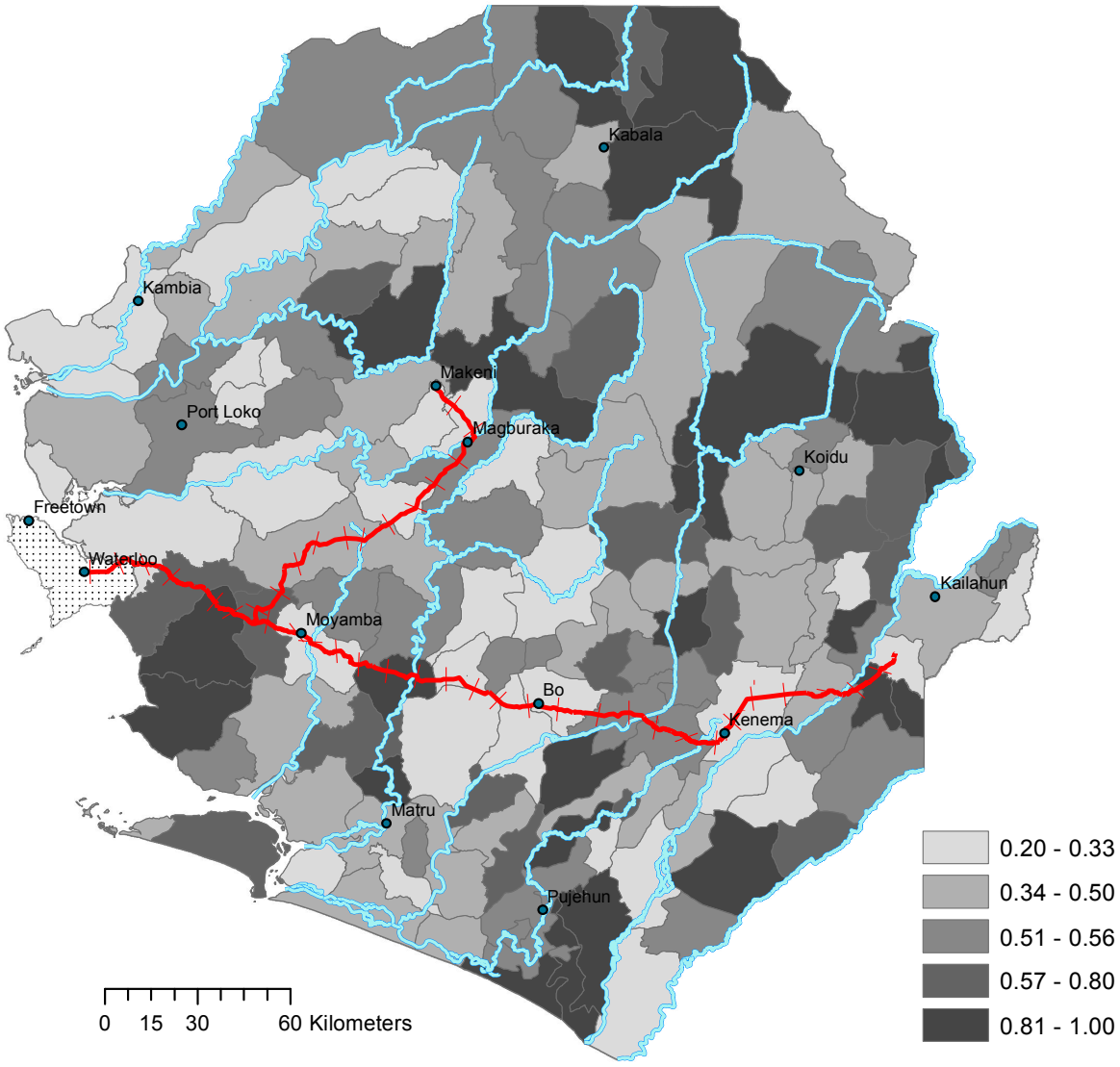
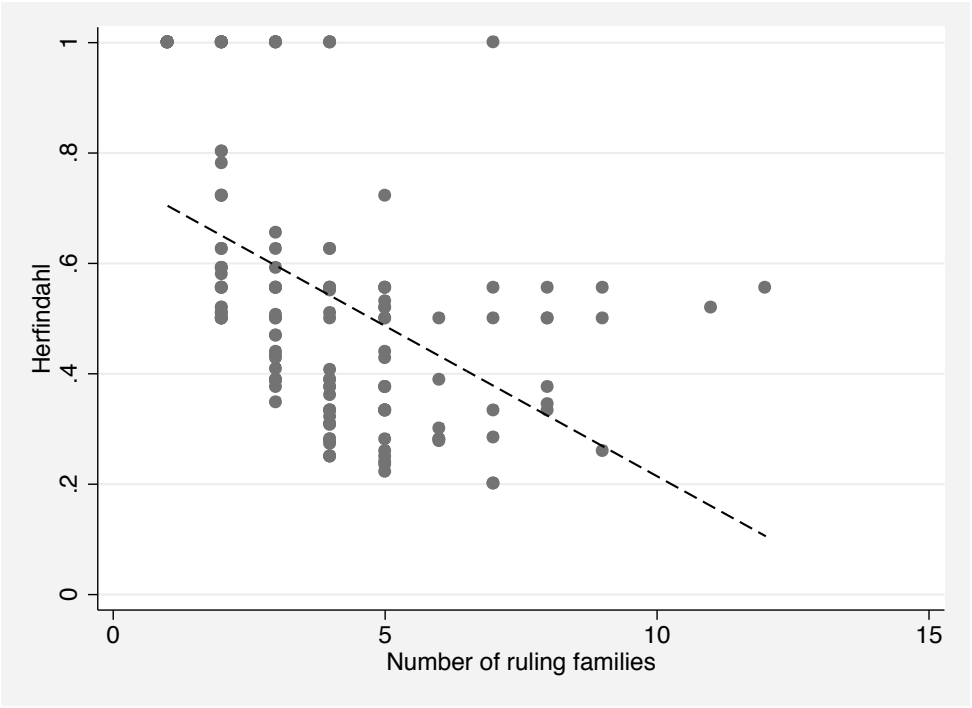


Figure 1: Map of Sierra Leone's chiefdoms with Herfindahl plotted by quintiles. Blue lines show navigable rivers, red lines show the railway.

Figure 2: First Stage



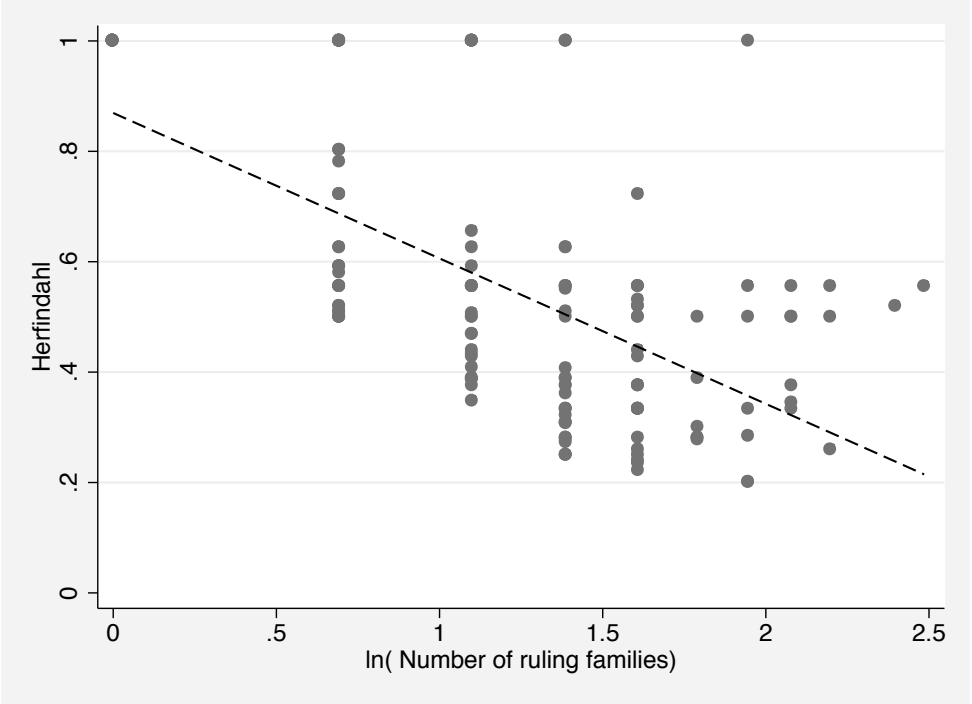


Table 2: First stage

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
# families	-0.05	-0.06	-0.06	-0.07				
	(0.01)	(0.01)	(0.01)	(0.01)				
ln(# families)					-0.26	-0.30	-0.30	-0.32
					(0.03)	(0.03)	(0.03)	(0.03)
Number of observations	149	149	149	149	149	149	149	149
R^2	0.22	0.44	0.44	0.38	0.35	0.57	0.57	0.52
F	27.28				88.43			
Study Controls	NO	YES	YES	YES	NO	YES	YES	YES
District FE	NO	NO	YES	NO	NO	NO	YES	NO
Researcher FE	NO	NO	NO	YES	NO	NO	NO	YES

Notes: The herfindahl is the dependent variable; robust standard errors in parentheses. Study controls are the number of chieftaincy seats recalled for the chiefdom, and a dummy for whether the chiefdom is an amalgamation chiefdom.

Table 3: Tests of the exclusion restriction

Dependent variable	(1) Tax (£100)	(2) Tax per km^2 (£)	(3) Distance to coast (100 km)	(4) Distance to river (100 km)	(5) Distance to rail (100 km)
# families	0.02	-0.02	-0.00	-0.00	-0.01
	(0.11)	(0.03)	(0.01)	(0.00)	(0.01)
ln(# families)	-0.07	-0.08	-0.01	-0.01	-0.05
	(0.40)	(0.12)	(0.05)	(0.01)	(0.03)
Number of observations	149	149	149	149	149
Dependent variable mean	2.02	.49	1.05	.10	.44
Dependent variable s.d.	3.09	.99	.66	.07	.30

Notes: Robust standard errors in parentheses; specifications include district fixed effects.

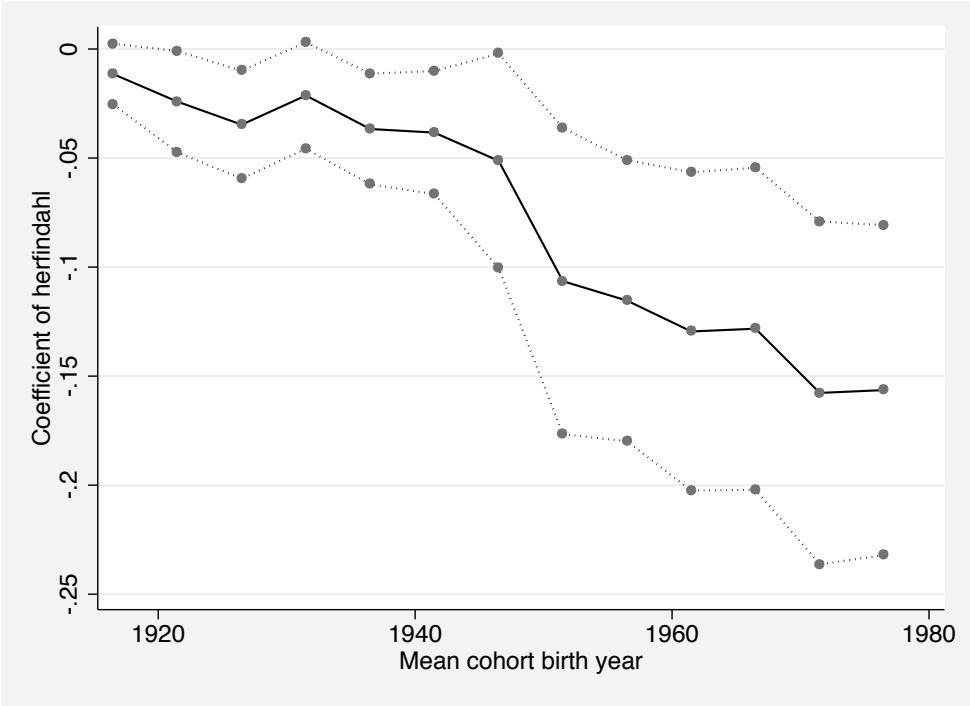


Figure 3: Effect of Herfindahl on literacy by five year birth cohorts. The dotted lines give a 95% confidence interval. Specification is 2SLS, with controls for amalgamation, number of seats observed and district fixed effects. The Herfindahl is instrumented for with the log number of ruling families. Cohorts born before 1953 are observed in the 1963 census, in which one chiefdom, Dibia, has missing data. Dropping this chiefdom from the 2004 data produces a similar graph. The first cohort, plotted at y=1914, actually includes anyone born before 1918.

Table 4: Development outcomes

	(1)	(2)	(3)	(4)
Dependent variable	Literacy	Primary school attainment	Secondary school attainment	Non-agricultural employment
			A. OLS	
Herfindahl	-0.07	-0.07	-0.05	-0.005
	(0.02)	(0.02)	(0.02)	(0.009)
R^2	0.35	0.52	0.46	0.19
			B. Reduced form	
ln(# families)	0.04	0.04	0.03	0.010
	(0.01)	(0.01)	(0.01)	(0.005)
R^2	0.36	0.53	0.47	.21
			C. Second Stage (2SLS)	
Herfindahl	-0.13	-0.13	-0.09	-0.035
	(0.03)	(0.04)	(0.03)	(0.017)
Number of observations	149	149	149	149
Dependent variable mean	0.23	0.25	0.15	0.032
Dependent variable s.d.	0.06	0.08	0.05	0.031

Notes: Dependent variables are chiefdom averages calculated using the 2004 census. Literacy and primary school attainment are shares over all people born in the chiefdom before 1979. Secondary school attainment is the share over all people born in the chiefdom before 1973. These years restrict the denominator to those who would have been able to finish primary or secondary school before the beginning of the civil war in 1991. Similar results obtain when calculating shares over the total population. Non-agricultural employment is calculated over all people in the chiefdom over the age of 10. All specifications include 12 district fixed effects, the number of chieftaincy seats observed, and a dummy for whether the chiefdom is an amalgamation chiefdom. The sample mean (standard deviation) of the herfindahl is 0.54 (0.24).

Table 5: Effects of the Herfindahl on literacy by Birth Cohort

Birth Cohort	Pre 1918	1919-1923	1924-1928	1929-1933	1934-1938	1939-1943	1944-1948
Herfindahl (OLS)	-0.01	-0.01	-0.02	-0.01	-0.02	-0.02	-0.04
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
R^2	0.29	0.23	0.28	0.24	0.26	0.28	0.42
ln(# families)	0.00	0.01	0.01	0.01	0.01	0.01	0.02
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
R^2	0.30	0.24	0.29	0.24	0.28	0.29	0.41
Herfindahl (IV)	-0.01	-0.02	-0.03	-0.02	-0.04	-0.04	-0.05
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)
Number of observations	148	148	148	148	148	148	148
Birth Cohort	1949-1953	1954-1958	1959-1963	1964-1968	1969-1973	1974-1978	
Herfindahl (OLS)	-0.06	-0.06	-0.06	-0.07	-0.08	-0.09	
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	
R^2	0.45	0.35	0.42	0.36	0.33	0.35	
ln(# families)	0.03	0.03	0.04	0.04	0.05	0.05	
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	
R^2	0.46	0.36	0.44	0.37	0.35	0.35	
Herfindahl (IV)	-0.11	-0.12	-0.13	-0.13	-0.16	-0.16	
	(0.04)	(0.03)	(0.04	(0.04)	(0.04)	(0.04)	
Number of observations	148	149	149	149	149	149	

Notes: Robust standard error in parenthesis. The table presents coefficients in the OLS and IV regressions of the chiefdom literacy rate among five-year birth cohorts on the herfindahl, controls for amalgamation, number of seats observed and district fixed effects. Cohorts born before 1953 are observed in the 1963 census, in which one chiefdom, Dibia, has missing data. Dropping this chiefdom from the 2004 data produces a similar graph.

Table 6: Attitudes

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	Agree one should respect authority			Agree only older people can lead		
			A. OLS			
Herfindahl	0.09	0.10	0.11	0.05	0.06	0.07
	(0.07)	(0.08)	(0.08)	(0.06)	(0.06)	(0.07)
R^2	0.06	0.07	0.07	0.05	0.07	0.07
			B. Reduced form			
ln(# families)	-0.09	-0.08	-0.08	-0.05	-0.05	-0.06
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)
R^2	0.06	0.07	0.07	0.05	0.07	0.07
			C. Second stage (2SLS)			
Herfindahl	0.31	0.30	0.30	0.18	0.18	0.21
	(0.14)	(0.15)	(0.14)	(0.10)	(0.10)	(0.11)
Observations	4,497	4,357	4,097	4,497	4,357	4,097
Demographic controls	NO	YES	YES	NO	YES	YES
Elite controls	NO	NO	YES	NO	NO	YES
Dependent variable mean		0.45			0.31	
Dependent variable sd		0.50			0.47	

Notes: Standard errors are robust to heteroskedasticity and clustered at the chiefdom level. Demographic controls include gender, ethnicity and primary education dummies, age and age squared. Elite dummies include whether the respondent is in a ruling family, whether the respodent has a paramount chief in the household, and whether the respondent has a headman in the household. All specifications include 12 district fixed effects, number of seats and an amalgamation dummy. The sample mean (standard deviation) of the herfindahl across chiefdoms is 0.54 (0.24).

Table 7: Social capital activities

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable	Attended community meeting	Attended local council meeting	Attended meeting with chief	School committee member	Labor gang member	Secret society member	Participated in road brushing
				A. OLS			
Herfindahl	0.15	0.12	0.02	0.05	0.16	0.09	0.09
	(0.05)	(0.05)	(0.06)	(0.05)	(0.05)	(0.06)	(0.06)
R^2	0.12	0.09	0.09	0.09	0.13	0.09	0.15
				B. Reduced form			
ln(# families)	-0.08	-0.07	-0.05	-0.03	-0.07	-0.06	-0.06
	(0.03)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
R^2	0.12	0.09	0.09	0.09	0.13	0.09	0.15
				C. Second stage (2SLS)			
Herfindahl	0.29	0.27	0.18	0.12	0.26	0.23	0.22
	(0.10)	(0.08)	(0.10)	(0.08)	(0.08)	(0.12)	(0.12)
Number of observations	4,314	4,357	4,299	4,337	4,340	4,330	4,338
Dependent variable mean	0.43	0.22	0.39	0.22	0.25	0.37	0.41

Notes: Dependent variables are all dummies. Standard errors are robust to heteroskedasticity and clustered at the chiefdom level. All specifications include 12 district fixed effects, demographic controls as in the attitudes specifications (gender, ethnicity and primary education dummies, age and age squared), the number of chieftaincy seats observed, and a dummy for whether the chiefdom is an amalgamation chiefdom. The sample mean (standard deviation) of the herfindahl is 0.54 (0.24).

Table 8: Robustness checks

	Attitudes		Development outcomes			
Dependent variable	Agree one should respect authority	Agree only older people can lead	Literacy	Primary school attainment	Secondary school attainment	Non-agricultural employment
Herfindahl	0.56	0.30	-0.19	-0.22	-0.14	-0.047
	(0.21)	(0.17)	(0.05)	(0.06)	(0.04)	(0.029)
Observations	3,753	3,753	136	136	136	136

	Social capital activities						
Dependent variable	Attended community meeting	Attended local council meeting	Attended meeting with chief	School committee member	Labor gang member	Secret society member	Participated in road brushing
Herfindahl	0.44	0.24	0.21	0.09	0.31	0.37	0.34
	(0.15)	(0.12)	(0.17)	(0.13)	(0.12)	(0.17)	(0.18)
Observations	3,951	3,987	3,930	3,967	3,971	3,962	3,969

Notes: Specifications drop from the sample 13 chiefdoms: Gbane Kandor, Lei, Kpaka, Kpeje West, Mandu Mano Sakrim, Simbaru, and Sowa, which each have one family, and Galliness Perri, Gbendembu Ngowahun, Kafe Simria and Jaima Bongor, which each have only one seat observed. Robust standard errors are in parenthesis. All specifications are 2SLS, with district fixed effects, and controls for the number of seats observed and amalgamation. The log number of ruling families is used as an instrument for the Herfindahl. The development outcomes specification includes no other controls. The attitudes specification includes controls for primary education, ethnicity, sex, and a quadratic term for age, and controls for connections to the chiefdom elite. The specification for social capital activities includes just the demographic controls. In the attitudes and activities specifications, standard errors are clustered at the chiefdom level.

Table 9: Chieftaincy Data

District	Chiefdom	Herfindahl	Number of families	Amalgamation	Number of seats
Bo	Badjia	0.56	2	0	6
	Bagbo	0.39	4	0	6
	Bagbwe	0.63	4	0	4
	Baoma	0.51	4	0	7
	Bumpe Ngao	0.33	5	0	3
	Gbo	0.50	3	0	6
	Jaiama Bongor	1.00	7	1	1
	Kakua	0.28	7	0	9
	Komboya	0.39	3	0	7
	Lugbu	0.72	2	0	6
	Niawa Lenga	0.38	5	0	4
	Selenga	0.51	2	0	7
	Tikonko	0.33	5	0	3
	Valunia	0.33	5	1	6
	Wonde	0.35	3	0	7
Bombali	Biriwa	0.50	5	0	6
	Bombali Sebora	0.28	4	1	10
	Gbanti Kamaranka	0.38	5	1	4
	Gbendembu Ngowahun	1.00	4	1	1
	Libeisaygahun	0.52	5	1	5
	Magbaimba Ndorhahun	0.47	3	1	8
	Makari Gbanti	0.50	8	1	2
	Paki Masabong	0.33	7	1	3
	Safroko Limba	1.00	2	0	4
	Sanda Loko	0.26	5	0	10
	Sanda Tendaran	0.59	3	0	7
	Sella Limba	0.28	4	0	8
	Tambakha	0.56	9	1	3
Bonthe	Bendu-Cha	0.33	5	1	3
	Bum	0.43	3	0	7
	Dema	0.50	2	0	4
	Imperri	0.50	2	0	4
	Jong	0.39	3	0	6
	Kpanda Kemo	0.39	3	1	7
	Kwamebai Krim	0.50	4	1	4
	Nongoba	0.50	3	0	4
	Sittia	0.63	3	0	4
	Sogbeni	0.56	2	0	6
	Yawbeko	0.25	4	0	4
Kailahun	Dea	1.00	2	0	5
	Jawie	0.51	2	0	7
	Kissi Kama	0.56	2	0	6

Table 9: Chieftaincy Data

District	Chiefdom	Herfindahl	Number of families	Amalgamation	Number of seats
	Kissi Teng	0.51	2	0	7
	Kissi Tongi	0.28	5	0	8
	Kpeje Bongre	0.56	7	1	3
	Kpeje West	1.00	1	0	5
	Luawa	0.43	3	0	9
	Malema	0.56	3	0	3
	Mandu	1.00	1	0	5
	Njaluahun	0.43	5	0	7
	Penguia	0.65	3	0	9
	Upper Bambara	0.33	4	0	9
	Yawei	0.25	4	0	8
Kambia	Bramaia	0.38	5	1	4
	Gbinle Dixin	0.25	4	1	4
	Mabolo	0.22	5	0	6
	Magbema	0.23	5	0	9
	Masungbala	0.34	8	1	8
	Samu	0.32	4	0	11
	Tonko Limba	0.27	4	0	11
Kenema	Dama	0.31	4	0	9
	Dodo	0.59	2	0	7
	Gaura	0.25	5	0	8
	Gorama Mende	0.72	2	0	6
	Kandu Leppiama	0.56	5	1	3
	Koya	0.47	3	0	8
	Langrama	0.63	2	0	4
	Lower Bambara	0.50	2	0	10
	Malegohun	0.50	9	1	4
	Niawa	0.44	5	0	5
	Nomo	0.63	2	0	4
	Nongowa	0.31	4	0	9
	Simbaru	1.00	1	0	6
	Small Bo	0.51	3	0	9
	Tunkia	1.00	3	0	3
	Wandor	0.44	3	0	5
Koinadugu	Diang	0.52	2	0	5
	Folosaba Dembelia	1.00	4	1	5
	Kasunko	0.52	5	1	5
	Mongo	0.39	6	1	6
	Neya	0.56	5	1	3
	Nieni	0.50	6	1	2
	Sengbe	1.00	3	1	3
	Sinkunia	0.80	2	0	9

Table 9: Chieftaincy Data

District	Chiefdom	Herfindahl	Number of families	Amalgamation	Number of seats
	Sulima	1.00	4	1	2
	Wara Wara Bafodia	0.50	7	1	6
	Wara Wara Yagala	0.50	5	0	6
Kono	Gbense	0.55	4	0	7
	Fiama	0.39	3	0	6
	Gbane	0.59	2	0	7
	Gbane Kandor	1.00	1	0	5
	Gorama Kono	0.50	2	0	4
	Kamara	0.38	4	0	4
	Lei	1.00	1	0	4
	Mafindor	0.72	2	0	6
	Nimikoro	0.50	2	0	4
	Nimiyama	1.00	3	0	3
	Sandor	1.00	1	0	5
	Soa	0.59	2	0	7
	Tankoro	0.39	4	0	6
	Toli	1.00	2	0	5
Moyamba	Bahruwa	0.38	4	1	4
	Bumpeh	1.00	2	0	10
	Dasse	1.00	2	0	4
	Fakunya	0.56	4	1	3
	Kagboro	1.00	2	0	17
	Kaiyamba	0.28	6	0	8
	Kamajei	0.33	8	1	3
	Kongboa	0.58	2	0	10
	Kori	0.56	4	0	6
	Kowa	0.30	6	0	10
	Lower Banta (Gbangbatoke)	0.72	5	0	6
	Ribbi	0.78	2	0	8
	Timbale	0.52	2	0	5
	Upper Banta (Mokele)	1.00	3	0	5
Port Loko	Bureh Kasseh Makonteh	0.56	12	1	3
	Buya	0.56	3	1	3
	Dibia	0.31	4	0	7
	Kaffu Bullom	0.20	7	0	10
	Koya	0.20	7	0	10
	Lokomasama	0.41	3	0	9
	Maforki	0.52	11	1	5
	Marampa	0.28	6	0	6
	Masimera	0.28	4	0	6
	Sanda Magbolontor	0.41	4	0	8
	Tinkatupa Maka Saffroko	0.28	6	1	5

Table 9: Chieftaincy Data

District	Chiefdom	Herfindahl	Number of families	Amalgamation	Number of seats
Pujehun	Barri	0.26	9	0	10
	Galliness Perri	1.00	2	1	1
	Kpaka	1.00	1	0	8
	Makpele	0.53	5	0	8
	Malen	0.63	4	0	4
	Mono Sakrim	1.00	1	0	7
	Panga Kabonde	0.56	5	1	3
	Panga Krim	0.56	2	0	6
	Pejeh (Futa Pejeh)	0.33	5	0	9
	Soro Gbema	0.33	4	1	3
	Sowa	1.00	1	0	5
	Yakemu Kpukumu Krim	0.56	3	1	3
Tonkolili	Gbonkolenken	0.56	4	1	3
	Kafe Simiria	1.00	3	1	1
	Kalansogoia	0.56	3	1	3
	Kholifa Mabang	0.24	5	0	10
	Kholifa Rowala	0.56	8	1	3
	Kunike	0.38	3	1	4
	Kunike Barina	0.36	4	0	5
	Malal Mara	0.50	8	1	2
	Sambaya	0.80	2	0	9
	Tane	0.33	4	0	9
	Yoni	0.38	8	1	4