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, empowered by colonial indirect rule, are often accused of using their power despotically and inhibiting rural development. Yet others view them as diligent representatives of rural people, and survey evidence suggests they maintain widespread support. We exploit the colonial history of Sierra Leone to investigate the impact of chiefs' power on economic development, peoples' attitudes and social capital. 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 face less competition and are more powerful in places with fewer ruling families. We show that, consistent with the chiefs as despots view, places with fewer ruling families 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 these seemingly paradoxical results reflect 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. Moreover, since the chiefs are the only means of securing public goods, it is worthwhile for citizens to invest in relationships with them, and once these investments have taken place, they may have an incentive to respect and perpetuate the institution.

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1 Introduction

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, 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" view coexists with an alternative view which we call "chiefs as representatives" which portrays chiefs as responsive to local demands and needs. Logan (2009, 2011), for instance, sees traditional authority enjoying considerable support from rural people. In the AFRObarometer surveys she studies, 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. Across Africa, it is the case that traditional leaders are broadly viewed as more trustworthy

[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).

and less corrupt than other institutions at the local level.[3] 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 in small. Boone (1995, 2003) emphasized that the way central authorities related to chiefs was critical in determining how post-colonial states formed. Even less research has focused on economic development. The notable exceptions include 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. They also include Lange (2009) who 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 exploit the history of chieftaincy in Sierra Leone to develop a plausibly exogenous source of variation in the power of paramount chiefs across chieftaincies to investigate their impact on economic outcomes, peoples' attitudes and social capital. In Sierra Leone, British colonialism transformed society in 1896 by empowering a set of paramount chiefs as the sole authority of local government in the newly created Sierra Leone Protectorate.[4] The paramount chiefs and the chiefs under them remained effectively the only institution of local government until the World Bank sponsored creation of a system of local councils in 2004. These paramount 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.

The number of ruling families is a natural constraint on the ability of the paramount chief to exploit the power of the chieftaincy. The Tribal Authority is analogous to an electoral college. An increased number of families will mean there are more interest groups within the 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. Even if one family is able to dominate the chieftaincy for many generations, an increased number of families implies a greater potential for the family to lose the paramount chieftaincy in

[3] Baldwin (2011) argues that such trust in chiefs implies they can be used as a means for vote mobilization by national political parties. This is surely the case in Sierra Leone, where in 2011 in anticipation of the 2012 presidential election the ruling All People's Congress party feted the Paramount Chiefs with a celebration in Bo town, presenting them each with new golden staffs of office.

[4] 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).

an election. This creates a potent (though often off-equilibrium path) threat that will discipline paramount chiefs, forcing them to govern better.

We argue, using historical case study and regression evidence, that the number of ruling families in a chieftaincy was determined largely by historical idiosyncrasy and is plausibly exogenous to outcomes today, providing an attractive source of variation to test the long-run effects of the power of the institution. In Section 2.3, we study the history of the ruling families in a sample of chieftaincies, documenting that their origins are highly heterogenous and often the result of historical accident, such as the availability of a male heir, or the number of leaders in an invading war party. 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.

To measure the number of families, we conducted a survey in 2011 of "encyclopedias" (the name given in Sierra Leone to elders who preserve the oral history of the chieftaincy) and the elders in all of the ruling families of all 149 chieftaincies. While the government maintains no official list of families, there is agreement within chiefdoms about the identity and number of families. 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 are the first to our knowledge to have constructed a comprehensive history of the chieftaincy in Sierra Leone.

We first show the link between the number of families and the concentration of power within the chieftaincy. To do this we use our data to construct two measures of power concentration: the first is a Herfindahl index of power holding across ruling families which 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; the second is the number of times the paramount chieftaincy was held by the family that has held it the most times. Using these measures, 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, and also that the most dominant family has elected a greater number

of paramount chiefs. This shows that institutions with a looser constraint in the number of ruling families have been more open to capture by single families.[5]

Our first set of empirical results, focusing on economic outcomes, are in line with the chiefs as despots view: there is a significant positive relationship between the number of families on the one hand, and human capital outcomes, 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. Quantitatively, the effects are substantial: Moving from 1 ruling family to the mean of 4 increases literacy by one standard deviation, or 6 percentage points, and increases non agricultural employment by 1 percentage point, from a base of only 3 percent.

However, in contrast to the chief as despots view and consistent with the chiefs as representatives view, we find that places with fewer ruling families have *more* favorable attitudes towards the paramount chief's authority. In addition, we find that many measures of social capital, such as attendance of community meetings, participation in social groups and the undertaking of collective actions, are also *higher* in places with fewer families.

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). 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, which is unambiguously thought to improve governance outcomes. In our data, however, it is precisely this bridging social capital that is higher when chiefs are more powerful and development outcomes worse.[6]

[5] We saw directly the value of this capture during the 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".

[6] For example, 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 bridging social capital is associated with positive development 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

We argue that this juxtaposition is not a coincidence. Institutions in many weakly-institutionalized polities 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 the "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 paramount 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 paramount chiefs is not a sign of a vibrant civil society disciplining politicians, but of a dysfunctional civil society captured by the paramount chiefs.[7] Our results also help explain why many people have positive 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 paramount chiefs are powerful, people will be more dependent on their patronage and favors, and thus will find it useful to make specific investments in the system.[8] 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.

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 interest groups as capturing or 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.[9]

Finally, our paper is closely related to Anderson, Francois and Kotwal (2011) who show that

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 bridging social capital.

[7] 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."

[8] 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

[9] Carter (2011) shows how in Congo Brazzaville 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, 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.

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 the elites 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 and also the data on covariates and outcome variables and presents some basic descriptive statistics. Section 4 then examines in detail the relationship between the number of ruling families and measures of the concentration of power such as our Herfindahl index. In Section 5, we discuss our main empirical results. Section 6 presents a robustness check 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 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 and 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.[10] 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

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

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, p. 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% was 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, pp. 307-308). The archives at Fourah Bay College in Freetown also contain numerous reports of paramount chiefs abusing their authority, compelling young men to labor on their farms without pay, and arbitrarily taxing agricultural output.

Though the British did create local councils, they were dominated by the paramount chiefs and were abolished after independence with the paramount chiefs remaining as the sole conduit through which the government interacted with the people (Tangri, 1978). Cartwright (1970) discusses the role of the paramount 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 (Casey, 2007).

Though this paper is primarily concerned with the power of paramount 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 paramount 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 paramount 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 paramount 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 to be paramount chief 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[11], 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.

One source of variation in the number of families requires discussion. 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 they were merged each family joined the larger chiefdom. In all our specifications, it is 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.

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 was 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. In all cases, though there was some flux in the number of families in the late 19th century and at the turn of the 20th century, all families were fixed by 1920.

Koya chiefdom, of eastern Kenema district is near the median 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

[11] 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.

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 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 paramount 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.[12] 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

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

of 32 tribal authorities in 1907.[13] 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 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[14] 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 example illustrates a common feature across chiefdoms, which is that a family may have obtained the right to stand for paramount chief 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 paramount 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.

The 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.[15] The chiefdom today recognizes four families: Jah,

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

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

[15] 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.

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 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.[16]

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.[17] 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 a 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, which has 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

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

by a group of Bullom warriors. The chiefdom's five families each trace their lineage to these Bullom invaders.

The oral history traces the paramount chieftaincy 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 the second house to hold the chieftaincy after a Bullom from an unknown family signed a treaty with the British in 1876.[18] Subsequent paramount 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. 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".[19]

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).

[18] Treaties, 10.6.1876, Scarcies

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

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.[20]

3 Data

3.1 Chieftaincy Power

To measure the power of the various paramount chiefs 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.

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 historians of all 149 chiefdoms.[21] 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 paramount chiefs, and origin stories of each of the families through extensive interviews with local oral historians, known as "encyclopedias".[22]

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 paramount chiefs was given. Researchers operated in teams of two, alternating partners. All regressions obtain identical results with researcher fixed effects, ensuring our results are not due to some measurement error at the level of the researcher.

There is variation across chiefdoms about how far back the oral historians could recall. Some chiefdoms are able to trace their histories back until the 18th century, others can only remember back to the 1930s. In addition, for amalgamation chiefdoms researchers were unable to trace

[20] A total of seven chiefdoms had new families installed by politicians after independence: Biriwa, Neya, Kaffu Bullom, Koya (Port Loko), Kalansogoia, Neini and Mandu. Since the war, none of these families have been viewed as legitimate or permitted to stand in elections. We have herefore dropped these families from our count of the number of families though including them does not change any results presented below.

[21] 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.

[22] 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.

lineages of all the component chiefdoms, and so our record for these chiefdoms only goes back until after amalgamation. This means that recall is lower in amalgamation chiefdoms on average. Though it does not directly affect our key variable, the number of ruling families, we wish to control for recall and thus add to all specifications the number of paramount chiefs the historians could recall.

The appendix gives a list of all of the chieftaincies ordered by district with information on 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 paramount chiefs that of informants could remember. Table 1 gives some basic descriptive statistics of this data where we separate the data out according to quartiles of the number of families. 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 number of families. Panel A of Table 1 also gives data on the average number of ruling families. The average is 3.95, ranging from one to a maximum of 12. The table also shows that 30% of the chieftaincies were formed from amalgamation. It also shows a strong monotonic relationship between amalgamation and the number of families, which motivates our concern that amalgamation could be of first-order importance, and is worth controlling for.

Figure 1 gives a visual picture of how the number of families is distributed in Sierra Leone. We plot here the quintiles of the number of families with the darkest color being those chieftaincies in the top quintile of the distribution (the 30 chieftaincies with the highest number of families). One thing that is clear from this picture is that the chieftaincies with many families 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 number of families 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 that 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 the power of paramount chiefs (Richards 1993) and affected outcomes. Similar results obtain, however, using the full population. In panel C of Table 1 the data on literacy is presented by quartiles of the number of ruling families. This shows that the literacy rate on average is 23% for rural Sierra Leone, an incredibly low number, but is 23% for chieftaincies in the lower quartile of the number of families, and 24% for the quarter of chieftaincies with the highest number of families. For primary and secondary school, the mean attainment rates in are very low (25% and 15% respectively) but in the raw data do not vary monotonically with the number of families. The final development outcome we examine 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 number of families 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 panels B and D of Table 1 present the data on the attitudinal and social capital variables. For the attitudinal questions there is no monotonic pattern. However, comparing the extreme quartiles, we see that the share of people agreeing one should respect authority is 8 percentage points higher in the lowest quartile of the number of families relative to the highest. For some of the social capital variables the patterns are clear. For example, the proportion of people that attended a community meeting rises from 40% in chieftaincies with many families to 44% in those with few. Those who are a member of a secret society rises from 36% to 41%.

3.3 Other Data

To investigate whether the number of ruling families is systematically related to prior development outcomes are potential of a chieftaincy, further we also study the relationship between the number of ruling families and proxies for economic development in 1900. As proxies we use average annual hut tax revenue assessed by the colonial government between 1898 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), and thus provides a reasonable proxy for the wealth of the area at the time.[23]

The source for the tax assessments is "Tax Book for Various Chiefdoms and Districts 1898-1902", which we accessed in June 2010 in the National Archives at Fourah Bay College 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 the tax assessment was mapped successfully to a chiefdom, leaving £3,172 of £33,254 unmapped. A total of 87 chiefdoms were linked to a tax assessment.

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. This number matches closely to the 59% of chiefdoms we could match to an assessment. Assuming an equal spread of houses across chiefdoms, this implies an almost complete assessment of the chiefdoms covered.

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 shows no monotonic relationship between larger tax assessment and tax assessment per square kilometer in the chiefdoms and the number of families. 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

[23] There are 20 shillings to a pound.

attitudinal and social capital regressions. There is no significant variation in gender and age distributions across the number of families. There is variation in the concentration of Sierra Leone's three major ethnic groups, the Mende, Temne and Limba, across the number of families. The Temne are also more concentrated in the chiefdoms with many families, but this relationship is not monotonic across quartiles. The Mende are slightly less concentrated in the chiefdoms with many families, but this relationship is also non-monotonic. Despite these non-monotonicities, the variation in the number of families 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 number of family 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 plentiful, 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 The Number of Families and the Concentration of Power

Our argument rests on the idea that fewer families creates more opportunities for the concentration (and abuse) of power in the paramount chieftaincy. The first exercise then is to show a link between the number of families and the concentration of power within a chiefdom. There is no conventional wisdom in political science or political economy about to measure power in situations like this. In elections with plurality rule a standard approach would be to measure competitiveness by looking at how close elections were (see Ansolabehere and Snyder, 2006, for a discussion of this and other approaches). We cannot adopt 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. Stigler (1972) suggests using a Herfindahl index to measure of the concentration power of political parties. Acemoglu, Bautista, Querubín and Robinson (2008) use a similar index to measure the extent to which small number of people controlled local political power in Colombia. They showed that greater concentration was associated with worse long-run

development outcomes.

In our context, to proxy for capture of the institutions we construct two simple indicators of the concentration of power:

1. A Herfindahl index which measures the extent to which the office of paramount chief has been dominated by a subset of ruling families over time.

2. The number of times the family that has held the paramount chieftaincy mosthas done so (i.e., the maximum of the number of times any family has held the chieftaincy).

We construct the chiefdom level Herfindahl index in the following way. 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, and seat held by those 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

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

As shown in Table 1, the average Herfindahl across chiefdoms is 0.54, and it is much higher in chiefdoms with fewer families. Our second measure of the concentration of power is simply the number of seats held by the family with the most seats, M_c. The mean of this variable is 3.95.

To describe the link between the number of families and the concentration of power we run OLS regressions of the following form,

$$C_c = \gamma_d + \gamma_{fam} \cdot F_c + \gamma_n \cdot N_c + \gamma_a \cdot \text{Amalgamation}_c + \eta_c \tag{1}$$

where the dependent variable C_c is our measure of power concentration in chieftaincy c, either H_c, the Herfindahl, or M_c the number of seats held by the most dominant family. 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. The γ_d's denote a full set of 12 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 log 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 number of seats held by the most dominant family. Again, we see a similar relationship.

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 paramount chiefs that could be remembered and the amalgamation dummy. In Panel A, where the dependent variable is the Herfindahl, the estimated coefficient $\gamma_{fam} = -0.05$ with a standard error of 0.01 and is highly significant. We see the same in Panel B, where the dependent variable is the number of seats held by the family with the most seats. Here $\gamma_{fam} = -0.33$ with a standard error of 0.06 implying that increasing the number of families by 3 decreases the number of seats by 1. In both panels the $R^2 = 0.22$ and =0.16, respectively, are high suggesting that these simple variables can account for 21% of the variation in the Herfindahl index and 16% of the variation in the number of seats held by the dominant family. In both panels, the next three columns, 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 number of families. In column 5 of Panel A which is the same specifications as column 1 we find that $\gamma_{fam} = -0.26$ with a standard error of 0.03, again highly significant. In Panel B, we find $\gamma_{fam} = -1.42$ and a standard error of 0.23. The pattern in the other columns is very similar to before. The coefficients of interest are very robustly estimated and neither the point estimates nor the standard errors change significantly as we add covariates and fixed effects.

Given the higher R^2 and F statistics in the log specifications, we use the log number of ruling families in all subsequent specifications. The larger R^2 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 itself be driven by omitted variables which also help to determine the development, attitudinal 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 likely uncorrelated with omitted

variables which would bias our results.

However, we can also take a more systematic approach to this issue. We now present regressions of the form

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

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). Some 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 columns of Table 3 present the estimated coefficients from two estimations of (2); in the first row we use the number of ruling families as the independent variable, and in the second row we use the logarithm of the number of ruling families.

First we assess the average annual chieftaincy taxes assessed between 1898 and 1902, in column 1 without district fixed effects and in column 2 with them. Recall that taxes were assessed at a rate of 10 shillings per house with greater than four rooms and 5 shillings for every house with three or less rooms (Chalmers, 1899), thus proxying for economic development in the area.

In the first row of the first column we see that $\delta_{fam} = 0.07$ with a standard error of 0.13 while in the second row $\delta_{fam} = 0.24$ (s.e.=0.54) in neither case is there a statistically significant correlation between the number of ruling families and the tax assessment made for the chieftaincy. In column two with district fixed effects the signs change, reflecting the concentration of a few outliers in certain districts, but significance does not. These results indicate that in the event there is a relationship between tax assessment and the number of families, it will bias downwards our estimates, which themselves include fixed effects. The point estimates imply that tax assessments were lower, and thus economic development was lower in 1900 in places that have more families and are more developed today. Columns 3 and 4 repeat this exercise but uses as a dependent variable tax assessment normalized by area. The results are the same, now both estimates of δ_{fam} really are zero.

Column 5 uses distance to the coast from the chiefdom centroid as the dependent variable. Here the estimated coefficients on the number of ruling families and its logarithm really are not statistically distinguishable from zero, and are quite small relative to the standard deviation of distance to coast with the estimated coefficients being $\delta_{fam} = -3.6$ (s.e.=2.36) in the first row, $\delta_{fam} = -14.33$ (s.e.=10.36) in the second row. Though this relationship is statistically

significant, it is too small to be meaningful economically. An increase in the number of families from 2 to 7 (the means of the top and bottom quartile) would lower distance to the coast by only 21 kilometers, less than one 1/3 of a standard deviation. The sixth column uses distance to a navigable river as the dependent variable and the final column distance to the railway. There is no statistically significant relationship between these dependent variables and the number of ruling families. In sum, the results in these last three columns mirror the previous one; proxies for economic development at the turn of the 20th century do not appear to substantially affect the number of ruling families.

We conclude 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.

5 Results

The relationship of interest for individual i is

$$y_{ic} = \alpha_d + \alpha_{fam} \cdot F_c + \alpha_n \cdot N_c + \alpha_a \cdot \text{Amalgamation}_c + \alpha_x \cdot \mathbf{X}_i + \varepsilon_{ic}, \tag{3}$$

Here y_{ic} is the dependent variable of interest, α_d is one of 12 district fixed effects, F_c is the (log) number of ruling families in chieftaincy c. The equation includes the covariates N_c, the number of chiefs in the history of the chieftaincy that our informants could remember in c, and $Amalgamation_c$, a dummy for whether the chieftaincy was amalgamated, as in (1) and ε_{ic} is the error term. The vector $\mathbf{X}_i$ contains socio-demographic covariates, such as age, 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. In the social capital and attitudes regressions, we also include in $\mathbf{X}_i$ a dummy for primary education attainment, to ensure that the effects on attitudes and social capital do not flow solely through reductions in human capital. The coefficient of interest discussed in the following sections is α_{fam}, the marginal impact of an increase in the log number of ruling families on our outcomes. In the following subsections we report our main results, and estimates of α_{fam}.

5.1 Effects on Development Outcomes

We begin by studying the effect of the number of ruling families on development outcomes. Table 4 presents results from the 2004 census on educational and economic outcomes averaged at the chieftaincy level. All columns include district fixed effects and the usual controls of the number of seats observed and the amalgamation dummy, our baseline specification. Column 1 shows that there is a significant positive relationship between the number of ruling families and the proportion of the population of a chieftaincy that are literate. The coefficient $\alpha_{fam} = 0.04$ (.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 relationship with $\alpha_{fam} = 0.04$ (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 related to 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.

These effects in rural areas give evidence that the strength of the chieftaincy institution has been be a strong impediment to growth in certain chiefdoms. Impacts on education are consistent with two hypotheses about the chieftaincy. A first hypothesis is that more powerful paramount 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, paramount 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 paramount 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 paramount chiefs are more powerful suggests that powerful paramount 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 number of ruling families has a substantial effect on contemporary levels of development, it is also interesting to ask when this effect emerged. In addition, if we were to find that this effect was not present at the beginning of the 20th century, it would add 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 log number of families using data from the 1963 census.

Table 5 reports these coefficients and Figure 3 shows them in a graph. Table 5 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 OLS estimate of a regression of the proportion of the people born before 1918 who were literate regressed on the number of ruling families. The clear pattern here is that for the early cohorts there is no relationship between the number of ruling families and the literacy rate of a chieftaincy. This is makes sense given the history of the chieftaincy. The paramount chiefs were the arm of government through which schools in Sierra Leone were first established in the early 20th century. Tax records at Fourah Bay college show agreements between district commissioners and chiefs suggesting the amount of tax revenue that would be donated to local schools. Though the authority over schools was established very early on after the creation of the chieftaincy in 1896, there was quite a bit of flux in the early years and it took time for the ruling families and paramount 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 paramount chiefs. For the pre-1918 cohort we have a point estimate of $\alpha_{fam} = 0.00$ with a standard error of 0.00 there was no statistically significant effect of the number of families 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 number of families rise over time, which is consistent with the paramount chiefs shaping literacy attainment and become statistically significant for those born in the 1940s 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 paramount 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 2007 National Public Services (NPS) survey 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 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 regression in this section as a linear probability model.

The results of these estimations are reproduced in Table 6, which 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 regression with the estimated coefficient on F_c being $\alpha_{fam} = -0.09$ 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 basically 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 $\alpha_{fam} = -0.05$ (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.

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 paramount 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 Social Capital and Collective Action

Finally we move to examine the impact of the number of ruling families on measures of social capital. To do this we present estimates (3) using various social capital activity measures from the NPS. 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, and comprise three broad categories of social capital discussed in the literature. The first group of activities, attendance at a community meeting, attendance at a local council meeting and attendance at meetings with the chief are all proxies for "bridging" social capital, to use the terminology of Putnam (2000), which consists of links between citizens and the elites. This could also be categorized as "vertical" social capital as in Grootaert and van Bastelear (2002). Regardless of the definition, these activities represent investments by citizens in building relationships with the elites of the chiefdom.

The second group of activities, membership in a school committee, membership in a labor gang and membership in a secret society are all proxies for "bonding" activities design to build social capital between citizens: activities in which people for social ties between one another. School committees are organizations like the Parent Teacher Association, designed to help parents oversee their children's' schooling. 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. 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 more than circumstantial evidence for this. Little's work points out that though these variables proxy for "bonding" capital, they may also contain an element of "bridging" capital as well. Particularly in school committees and secret societies, citizens may form relationships with the elite, as well as with one another.

The final category of activity, collective action, includes one variable, participation in "road brushing," or the cutting of bush along the road to make it navigable, which can be seen as the voluntary provision of a public good and be indicative of a community's ability to engage in collective action. This same indicator is used to proxy for collective action by Glennerster, Miguel and Rothenberg (2011) in their investigation of the connection between ethnic fractionalization and collective action in Sierra Leone.

Table 7 presents a correlation matrix describing how participation in these various activities is correlated across all chiefdoms. All activities with the exception of secret society membership are fairly well correlated with attending a community meetings. For instance the correlation between participating in road brushing and attending a community meeting is 0.34. The three "bridging" activities–attendance of meetings–are all positively correlated with one another, suggesting this is a good bundle of proxies for the same type of social capital. Labor gang and secret society membership are more weakly correlated with meeting attendance, reflecting their broader base in the society. Labor gangs tend to include younger men, who are disconnected from the chiefdom elite, and secret societies contain people from all strata of society. Road brushing is more highly correlated with attendance of meetings.

Table 8 presents the results using these social capital variables as dependent variables. We see that there is a significant negative relationship between the logarithm of the number of ruling families and attendance at community meetings, with $\alpha_{fam} = -0.08$ (.s.e.=0.03). 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. The results in column 3 are not significant, but are similar in magnitude. This suggests that the greater the number of ruling families the less likely it is that people will engage in building bridges to the elite.

We find similar results with bonding activities. With $\alpha_{fam} = -0.03$ (s.e. $= 0.02$), $\alpha_{fam} = -0.07$ (s.e.=0.02) and $\alpha_{fam} = -0.06$ (s.e.=0.03) respectively, people in chiefdoms with fewer families are less likely to be members of school committees, labor gangs or secret societies. Finally, in column 7, we find that people are significantly less likely to engage in collective action in chiefdoms with more families.

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 paramount 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.

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.[24] 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 labor gang is also related to a more powerful paramount chief 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.[25]

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"

[24] 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 with which to test this conjecture.

[25] In results not reported we found that the number of families 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 specification, with all demographic and elite controls, the effect on trust in other people in the locality is $\alpha_{fam} = -0.01$ (s.e.=0.025). This is consistent with paramount chiefs not having a great 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 $\alpha_{fam} = 0.02$ (s.e.=0.03). 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 the 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 $\alpha_{fam} = 0.01$ (s.e.=0.02). These estimates are consistent with the other results on attitudes.

(p. 22). Ribot (2001) articulates a similar view which could best be summed up as: legitimacy follows power.

6 Robustness

One reason for our results may be that the number of ruling families is correlated with a broader base for the tribal authority, or broader membership in the ruling families, accounting for a broader democratic base to control the chieftaincy. Thus, it would not be competition between families directly that influences outcomes, but rather the nature of citizens' ties to the chieftaincy.

Table 9 presents results that suggest this is not the case. In columns (1) and (2) we present coefficients for α_{fam} in equation (3) with a dummy for membership in a ruling family as the dependent variable. We present results with and without district fixed effects. In subsequent columns, we preform the same exercise where the dummy is an indicator for whether the person has a paramount or section chief in the household, or an indicator for whether the respondent has a headman in the household. All the point estimates are negative, and insignificant (except for having a headman in the household which is negative and significant at 10% without district fixed effects). Therefore, these results mitigate the concern that in chieftaincies with more ruling families, more families are tied to tribal authority; if anything, in places with more ruling families there are no more, or fewer, filial connections with the chieftaincy.

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 may be pivotal in shaping development outcomes. 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, there are also several apparently mutually incompatible views 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 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—or wrong. 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. This mechanism may also induce people to invest in patron-client relations with powerful chiefs, thus giving 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 important 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 number of families			
		Number of observations	(1)	(2)	(3)	(4)
A. Chieftaincy Variables and Controls						
Number of seats observed	5.81 (2.58)	149	6.19	5.79	5.76	5.25
Amalgamation	0.3	149	0.02	0.31	0.36	0.70
Herfindahl	0.54 (0.24)	149	0.74	0.50	0.40	0.42
Maximum seats for family with most seats	3.45 (1.73)	149	4.59	3.29	2.72	2.63
Number of families	3.95 (2.07)	149	1.78	3.53	5	7.62
B. Attitudes						
Agrees one should respect authority	0.45	4497	0.49	0.42	0.40	0.41
Agrees only older people can lead	0.31	4497	0.32	0.29	0.32	0.28
C. Development Outcomes						
Literacy rate	0.23 (0.06)	149	0.23	0.23	0.23	0.24
Primary school attainment	0.25 (0.08)	149	0.26	0.25	0.24	0.25
Secondary school attainment	0.15 (0.05)	149	0.16	0.15	0.14	0.15
Non-agricultural employment	0.03 (0.03)	149	0.02	0.03	0.04	0.04
D. Social Capital						
Attended community meeting in last year	0.43	4438	0.44	0.42	0.43	0.40
Attended local council meeting	0.22	4497	0.24	0.23	0.23	0.18
Attended meeting with Paramount Chief	0.39	4424	0.40	0.40	0.40	0.35
School committee member	0.22	4464	0.17	0.24	0.22	0.25
Labor gang member	0.25	4467	0.24	0.27	0.27	0.24

Table 1: Summary Statistics

			By quartiles of number of families			
		Number of observations	(1)	(2)	(3)	(4)
Secret society member	0.37	4457	0.41	0.34	0.30	0.36
Participated in road brushing in last month	0.4	4464	0.46	0.38	0.40	0.32
E. Covariates of Economic Development in 1900						
Hut tax assessment (£)	345 (337)	87	371	352	192	408
Hut tax assessment (£per km^2)	0.83 (.99)	87	0.98	0.91	0.50	0.79
Distance to coast (km)	105 (66)	149	116	101	101	98
Distance to river (km)	9 (7)	149	11	8	9	9
Distance to rail (km) in last month	45 (30)	149	45	45	46	37
F. Individual Level Covariates						
Age	43 (16)	4440	44	44	43	44
Female	0.49	4497	0.48	0.51	0.49	0.50
Mende	0.41	4497	0.48	0.38	0.41	0.25
Temne	0.27	4497	0.16	0.29	0.23	0.53
Limba	0.06	4497	0.4	0.10	0.08	0.05
Paramount or section chief in household	0.09	4497	0.10	0.08	0.10	0.08
Headman in household	0.18	4497	0.20	0.17	0.18	0.14
Membership in in ruling family	0.30	4497	0.29	0.31	0.32	0.27

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

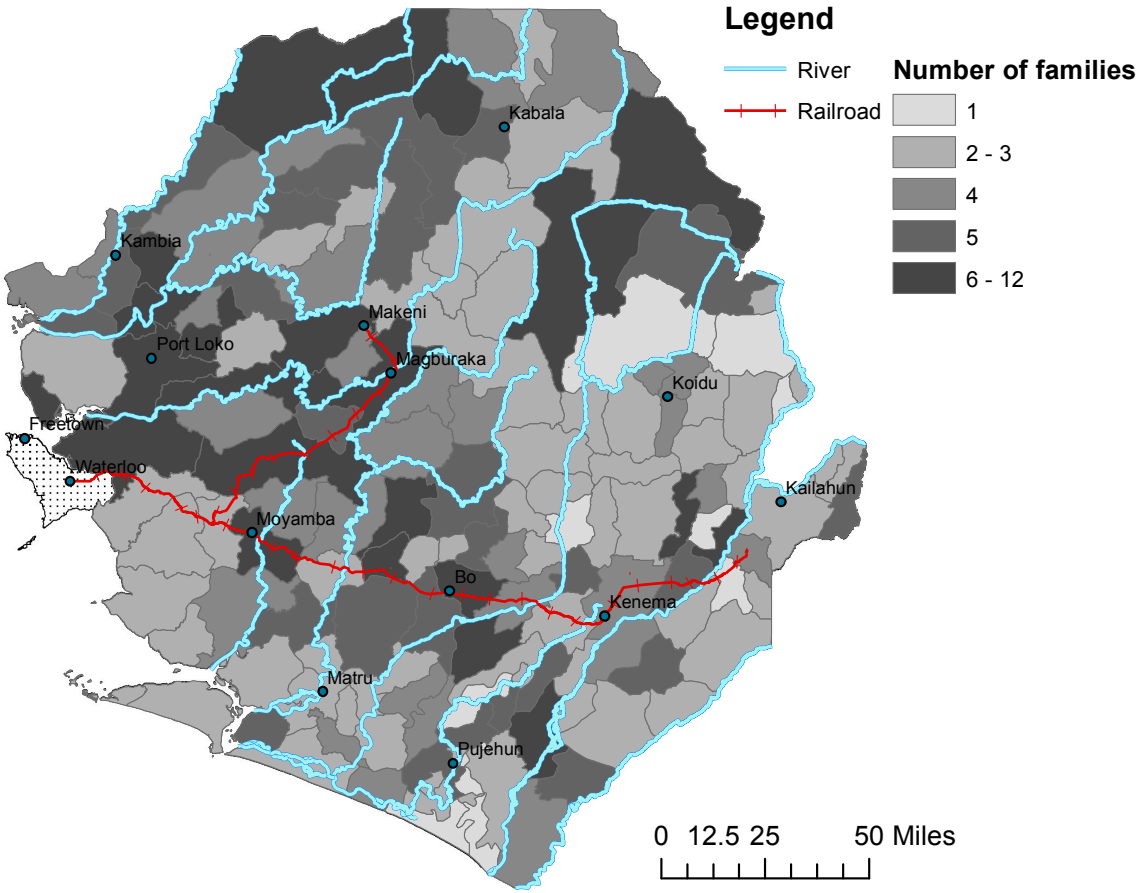
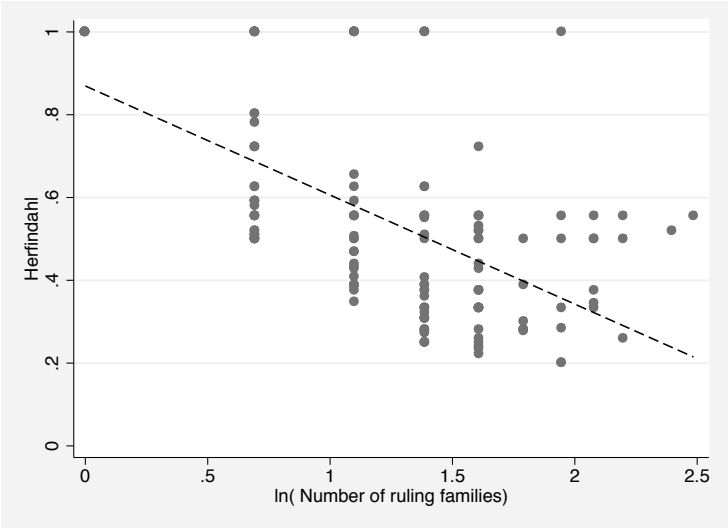


Figure 1: Map of Sierra Leone's chiefdoms with the number of families plotted by quintiles.

Figure 2: Number of families and concentration of power



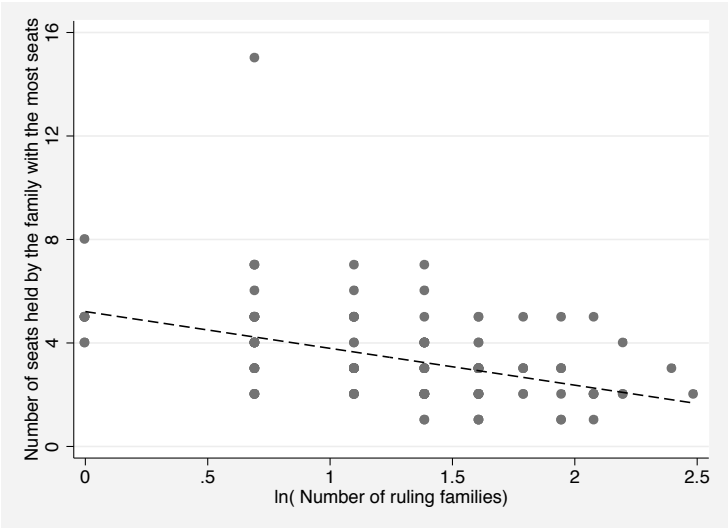


Table 2: Concentration of Power

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A. Herfhindahl power concentration index							
# familie	-0.05	-0.06	-0.06	-0.06				
	(0.01)	(0.01)	(0.01)	(0.01)				
ln(# families)					-0.25	-0.31	-0.30	-0.31
					(0.03)	(0.03)	(0.03)	(0.03)
R^2	0.21	0.33	0.43	0.45	0.33	0.47	0.55	0.56
F	28.42				84.14			
	B. Number of seats held by family with most seats							
# families	-0.33	-0.36	-0.31	-0.34				
	(0.06)	(0.07)	(0.06)	(0.07)				
ln(# families)					-1.42	-1.65	-1.52	-1.61
					(0.22)	(0.22)	(0.20)	(0.21)
R^2	0.16	0.55	0.61	0.63	0.20	0.62	0.67	0.69
F	30.84				42.08			
Observations	149	149	149	149	149	149	149	149
Study Controls	NO	YES	YES	YES	NO	YES	YES	YES
District FE	NO	NO	YES	YES	NO	NO	YES	YES
Researcher FE	NO	NO	NO	YES	NO	NO	NO	YES

Notes: 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 (£100)	(3) Tax per km^2 (£)	(4) Tax per km^2 (£)	(5) Distance to coast (km)	(6) Distance to river (km)	(7) Distance to rail (km)
# families	0.01	-0.17	-0.00	-0.00	-4.32	-0.27	-0.32
	(0.12)	(0.14)	(0.00)	(0.00)	(2.17)	(0.28)	(1.16)
R^2	0.00	0.36	0.00	0.29	0.02	0.01	0.00
ln(# families)	0.02	-0.71	-0.00	-0.00	-16.95	-1.09	-1.96
	(0.52)	(0.56)	(0.00)	(0.00)	(9.86)	(1.07)	(4.66)
R^2	0.00	0.35	0.00	0.29	0.02	0.01	0.00
Number of observations	87	87	87	87	149	149	149
District fixed effects	NO	YES	NO	YES	NO	NO	NO
Dependent variable mean	3.46	3.46	0.01	0.01	105	9	44
Dependent variable s.d.	3.37	3.37	0.01	0.01	66	7	30

Notes: Robust standard errors in parentheses.

Table 4: Development outcomes: Results

Dependent variable	Literacy		Primary school attainment		Secondary school attainment		Non-agricultural employment	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln(# families)	0.04	0.04	0.04	0.04	0.03	0.03	0.02	0.03
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Observations	1,544,947	1,544,668	1,538,227	1,537,948	1,175,033	1,174,755	2,289,201	2,288,874
R^2	0.02	0.13	0.03	0.13	0.02	0.12	0.02	0.04
District FE	YES	YES	YES	YES	YES	YES	YES	YES
Demographic Controls	NO	YES	NO	YES	NO	YES	NO	YES
Dependent Variable Mean	0.23		0.24		0.14		0.04	

Notes: Dependent variables are dummies from the 2004 census. Literacy and primary school attainment regressions are restricted people born in the chiefdom before 1979. Secondary school attainment is restricted to people born in the chiefdom before 1973. These regressions then include only those who had the opportunity finish primary or secondary school before the beginning of the civil war in 1991. Similar results obtain using the whole population. Non-agricultural employment regressions include all people over the age of 10. Demographic controls include gender, ethnicity and primary education dummies, age and age squared. All specifications include 12 district fixed effects, the number of chieftaincy seats observed, and a dummy for whether the chiefdom is an amalgamation chiefdom.

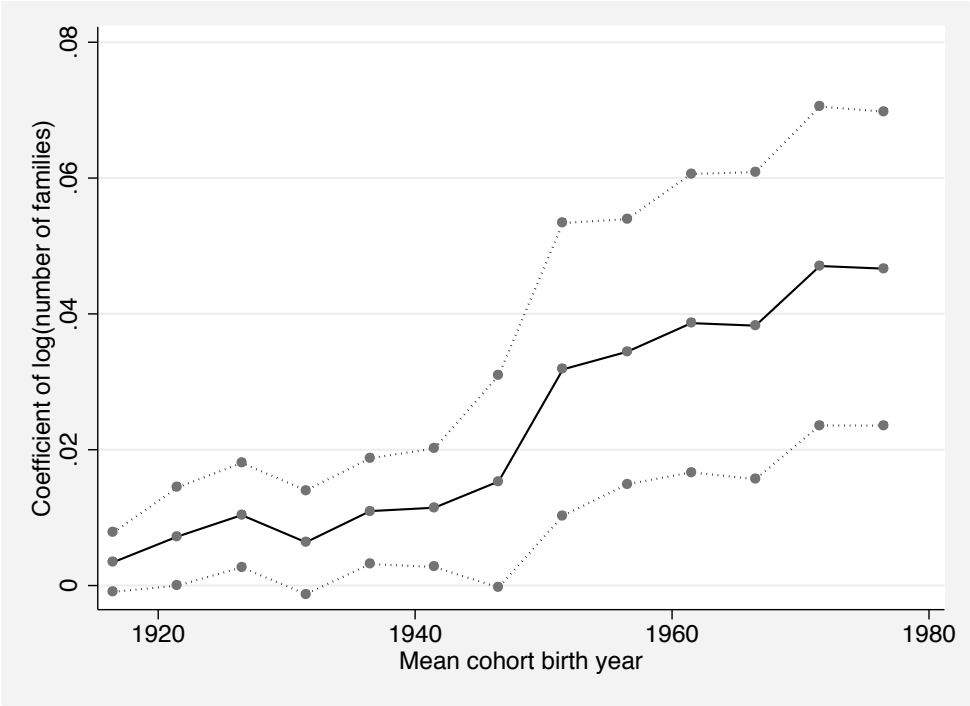


Figure 3: Effect of log number of families on literacy by five year birth cohorts. The dotted lines give a 95% confidence interval. Specification is OLS with controls for amalgamation, number of seats observed and district fixed effects. Cohorts born before 1953 are observed in the 1963 census, in which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

Table 5: Effects on literacy by Birth Cohort

Birth Cohort	Pre 1918	1919-1923	1924-1928	1929-1933	1934-1938	1939-1943	1944-1948
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
Number of observations	148	148	148	148	148	148	148
Birth Cohort	1949-1953	1954-1958	1959-1963	1964-1968	1969-1973	1974-1978	
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	
Number of observations	148	149	149	149	149	149	

Notes: Robust standard error in parenthesis. The table presents coefficients in the OLS regression of the chiefdom literacy rate among five-year birth cohorts on the log number of families, 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: Results

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	Agree one should respect authority			Agree only older people can lead		
ln(# families)	-0.09	-0.08	-0.08	-0.05	-0.04	-0.05
	(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
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.

Table 7: Social capital activities: Correlation matrix

	Attended community meeting	Attended local council meeting	Attended meeting with chief	School committee member	Labor gang member	Secret society member	Participated in road brushing
Attended community meeting	1.00						
Attended local council meeting	0.26	1.00					
Attended meeting with chief	0.28	0.39	1.00				
School committee member	0.22	0.16	0.17	1.00			
Labor gang member	0.23	0.10	0.12	0.06	1.00		
Secret society member	0.08	0.08	0.06	0.06	0.14	1.00	
Participated in road brushing	0.34	0.15	0.19	0.15	0.16	0.06	1.00

Table 8: Social capital activities: Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	A. Bridging			B. Bonding			C. Collective action
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
ln(# families)	-0.09	-0.08	-0.05	-0.04	-0.06	-0.07	-0.07
	(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
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.

Table 9: Robustness check: Ruling family membership

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	Member of ruling family		Paramount or section chief in household		Headman in household	
ln(# families)	-0.02	-0.00	-0.01	-0.01	-0.04	-0.02
	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
R^2	0.00	0.03	0.00	0.01	0.00	0.01
Observations	4,219	4,219	4,479	4,479	4,475	4,475
District fixed effects	NO	YES	NO	YES	NO	YES

Notes: Standard errors are robust to heteroskedasticity and clustered at the chiefdom level. Each specification includes number of seats and an amalgamation dummy.

Table 10: Chieftaincy Data

District	Chiefdom	Herfindahl	Number of families	Amalgam-ation	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	2	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	4	0	3
	Valunia	0.33	5	1	6
	Wonde	0.35	3	0	7
Bombali	Biriwa	0.50	3	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	5	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

Table 10: Chieftaincy Data

District	Chiefdom	Herfindahl	Number of families	Amalgamation	Number of seats
	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
	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	9	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

Table 10: Chieftaincy Data

District	Chiefdom	Herfindahl	Number of families	Amalgamation	Number of seats
	Mongo	0.39	6	1	6
	Neya	0.56	4	1	3
	Nieni	0.50	5	1	2
	Sengbe	1.00	3	1	3
	Sinkunia	0.80	2	0	9
	Sulima	1.00	4	1	2
	Wara Wara Bafodia	0.50	7	1	6
	Wara Wara Yagala	0.50	5	0	6
Kono	Fiama	0.39	3	0	6
	Gbane	0.59	2	0	7
	Gbane Kandor	1.00	1	0	5
	Gbense	0.55	4	0	7
	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	9	1	3
	Dibia	0.31	4	0	7
	Kaffu Bullom	0.20	6	0	10
	Koya	0.20	6	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	7	1	5
Pujehun	Barri	0.26	9	0	10

Table 10: Chieftaincy Data

District	Chiefdom	Herfindahl	Number of families	Amalgamation	Number of seats
	Galliness Perri	1.00	3	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	2	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