

# Wartime Indirect Rule: Armed Groups and Customary Chiefs in Eastern Democratic Republic of the Congo <sup>\*</sup>

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## Abstract

Across the history of states, rulers have faced the trade-off of ruling through local elites (indirect rule), or replacing them (direct rule). Powerful local elites can be useful to new rulers, but can also undermine their authority—particularly in contexts of war. To study this trade-off, we leverage rich quasi-experimental variation in regime change of armed groups in 106 villages in eastern Democratic Republic of the Congo over 30 years. We develop a novel measure of chief power and of direct/indirect rule by armed groups, covering the histories of 306 chiefs and 256 episodes of armed group governance. Indirect rule through chiefs is more likely than direct rule when the chief is powerful on average, but armed groups transition to direct rule over time, replacing the local elites as an agent of their rule, and deepen the “state functions” over society. These results shed light on the trade-offs of state-building.

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# 1 Introduction

How to delegate local governance is a fundamental problem faced by political decision makers throughout history. Finding a suitable way to organize local governance is especially challenging during and after wartime when rulers have to decide how to govern newly acquired territory. Recently, scholarship on violent conflict has paid particular attention to the governance arrangements and forms of authority that emerge during armed conflict (Arjona, Kasfir and Mampilly, 2015, Kasfir, Frerks and Terpstra, 2017, Mampilly, 2011, Staniland, 2012, 2021). These governance arrangements have wide ranging consequences, for example, on the patterns of violence against civilians (Kalyvas, 2015, Péclard and Mechoulam, 2015). A key question concerns why armed factions opt to develop their own administrations to rule over the populations that come under their control—direct rule—or delegate administration to pre-existing authorities—indirect rule. The literature on colonial indirect rule has shown that this mode of governance has shaped the long term political and economic trajectories of states and societies (Acemoglu et al., 2014, Kohli, 2004, Lange, 2009, Lowes and Montero, 2021, Mahoney, 2010, Mamdani, 1996, Müller-Crepon, 2020*b*), and has played a role in the likelihood of violent conflict in the post-colonial era (Blanton, Mason and Athow, 2001, Mukherjee, 2021, Naseemullah, 2014, Wucherpfennig, Hunziker and Cederman, 2016). Configurations of direct and indirect rule established by armed factions in contexts of violent conflict are also likely to have lasting effects, which warrants an analysis of how and why they emerge.

Armed groups who seek to govern populations are constrained by military, logistical and organizational factors, but also by their perceived legitimacy, a key factor for governing populations (Arjona, Kasfir and Mampilly, 2015, Blair and Kalmanovitz, 2016). One option that armed groups can adopt is to enlist pre-existing authorities to administrate populations on their behalf, a configuration we refer to as wartime indirect rule. Such a configuration has advantages and limitations. On the one hand, pre-existing authorities usually have better information and resource mobilization capacity, as well as established legitimacy. Co-opting them can reduce the cost of taxing, administering and governing populations, and increase the legitimacy of armed groups. On the other hand, pre-existing authorities can foment rebellions or deploy resistance tactics, and, in some cases, be powerful enough to curtail any form of compliance to armed group rule. Other factors can play a role, such as the ideology and political identity of armed movements, as has been shown

by Kalyvas in relation to the Greek Civil war, during which communist rebels developed direct modes of administration while non-communist rebels opted to rely on existing authorities (Kalyvas, 2015). While these questions have been explored through qualitative and historical methods, there is, to date, limited quantitative empirical evidence on the causes of direct and indirect rule during violent conflict.

Among the authorities that can be enlisted by armed groups, some are more powerful and legitimate than others. In societies where religion and spirituality continue to play an important role, this is the case of authorities whose power is vested in religious and cultural traditions. Despite wide-ranging political transformation in recent decades, customary chiefs have conserved such power in several parts of the African continent. The power of customary chiefs is multifaceted. In states which haven't experienced in-depth reforms of customary authority, their power derives from their incorporation into the state apparatus, which usually dates back to colonial-era indirect rule, and they continue to exercise administrative power over rural populations and land (Boone, 2014, Henn, 2023). A recent study showed that when state taxation was delegated to local chiefs, this raised tax compliance and revenue, notably because chiefs had better information on local populations (Balán et al., 2022). Yet their power also stems from cultural and religious traditions, customs and beliefs, and has a spiritual and religious dimension, which has often been overlooked (Verweijen and Van Bockhaven, 2020). Spiritual and religious authority cannot be easily mimicked or appropriated, and is of significant interest to armed groups seeking to rule because of the legitimacy it confers. As coercive power is often insufficient to rule, armed groups deploy significant efforts to inscribe their claims to rule in spiritual, mythical and religious traditions, as a way to gain legitimacy (Hoffmann, 2015). Enlisting customary authorities can be a way of appropriating this spiritual and religious power, but it is rarely a straightforward process, as chiefs and populations can oppose resistance. Moreover, the legitimacy of customary authorities can erode in indirect rule configurations, because of the 'decentralized despotism' these can enable, as Mamdani (1996) has famously shown. Examining the relationship between armed groups and customary authorities therefore allows to examine the relationship between coercive power, which armed groups typically wield, and other forms of power—notably customary, religious and spiritual power—which have rarely been studied using quantitative empirical data.

In this paper, we analyze twenty years of governance arrangements by armed groups and their relationship with chiefs during the eastern Democratic Republic of the Congo's (henceforth DRC)

violent conflict, which has lasted for nearly 30 years. Several factors allow us to explore this relationship in eastern DRC. First, customary authority remains an important form of authority in eastern DRC, particularly in rural areas (Hoffmann, Vlassenroot and Mudinga, 2020). Second, hundreds of armed groups have operated in the region since the onset of the war and continue to operate today (Vogel et al., 2021). Third, there is considerable variation in these armed groups and their relationships with authorities and populations. Some armed groups have emerged from eastern Congolese communities and have deep social roots, while others are tied to regional elite networks and receive direct support from neighboring countries (Stearns, 2022, Stearns and Bouteau, 2013). Armed groups who engage in military conquests can find themselves in areas where they are considered as foreigners and illegitimate rulers, and face resistance to their presence, taxation practices, and rule. For this reason among others, some armed groups have sought to set up governance and taxation arrangements involving local chiefs.

We analyze these variations in configurations of armed group rule to explore the relationship between armed group governance and the power of rural chiefs. We ask the following questions: What are the sources of the power of chiefs? What role does chiefs' power play in determining the types of governance arrangements that emerge in rural entities that come under the control of armed groups? When do armed groups establish direct rule over the entities they control, and when do they rely on indirect rule via local chiefs? How do these governance arrangements change over time? These are difficult questions to answer with quantitative empirical data. Indeed, there are challenges in using survey methods to measure concepts such as chiefs' power, and particularly the spiritual or supernatural dimension of their power which is inherently subjective and can be endogenous to their actions. Moreover, our quantitative approach only allows us to observe a segment of the relationship between armed groups and chiefs, which is inevitably more complex and secretive than what can be captured with survey methods.<sup>1</sup> Nevertheless, our approach allows us to capture trends and patterns in this relationship over a relatively large number of villages, and over time.

The key input into our analysis is a panel dataset on armed groups and chiefs in 106 villages and rural entities of North Kivu, one of the most conflict-affected provinces of the DRC, dating back to 1950. The panel was created using recall methods implemented through several surveys, which

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<sup>1</sup>Indeed, studying the relationship between chiefs and armed groups compounds the challenges related to research on elites and those of research on violence. Both come with difficulties of access, secrecy, manipulation, and concealment, many of which can not be overcome with survey methods.

allowed us to reconstruct the history of these villages on key variables. The dataset contains 256 episodes of armed group control in the 106 villages, as well as information on each of the 306 chiefs that exercised authority in these villages since 1950. Additional interviews with key informants have allowed us to consolidate and triangulate these datasets. The paper makes several contributions.

First, the study makes a methodological and empirical contribution, by proposing new ways of quantitatively measuring the power of chiefs and the governance arrangements of armed groups. Previous work has largely focused on a single dimensional measure of chief power or influence and estimated how it is affected by the state (Henn, 2023, Logan, 2009, Van der Windt et al., 2018). We build an index to measure the overall power of chiefs, which encompasses several key dimensions of their power which have been documented in the literature —power over land, power over people, administrative power, and spiritual/supernatural power. We operationalize the overall chief power index, but also its separate components, in our analysis. Of particular importance to our analysis is the spiritual dimension of chiefs power, an aspect that has rarely, to our knowledge, been measured quantitatively. We devise a way to measure this dimension and show that there is considerable variation in chief power, across chiefs and over time. Similarly, we devise a way to measure and operationalize the governance arrangements that emerge between armed groups and chiefs, and propose a taxonomy to analyze direct and indirect rule which takes into account the different dimensions of armed group rule, and the specific challenges they face in governing populations in contexts of armed conflict. Specifically, we analyze 7 dimensions of armed group rule: taxation, recruitment, legitimation, administration, political power, public services, and economic regulations. Throughout our analysis we isolate the effects of chief power and group tenure by selecting a sample of economically important villages and implementing armed group, year and, at times, village fixed effects. These methodological innovations allow us to document and analyze the variation in chief’s power and armed group rule.

Second, our study provides further empirical evidence of the persisting importance of chiefs in rural areas and the multi-faceted nature of their power, contributing to the literature on the role of chiefs on the African continent (Acemoglu, Reed and Robinson, 2014, Baldwin, 2016, Holzinger, Kern and Kromrey, 2016, Honig, 2017). The power of chiefs varies significantly in the studied areas, and one of its strongest predictors is the co-ethnicity of a chief with the majority of the population of a given entity. This provides further evidence of the enduring political salience

of ethnicity, a direct legacy of the ethno-territorial organization of the state, which has colonial origins in the DRC (Hoffmann, 2021), but also elsewhere across the continent (Boone, 2014, Müller-Crepon, 2020a). One much neglected dimension of chief’s power is their spiritual and supernatural power (Lowes et al., 2023, Verweijen and Van Bockhaven, 2020), which we show is correlated to other dimensions of their power but irreducible to these. We find that, overall, the spiritual and supernatural power of chiefs has steadily declined since the 1950s. While we don’t have a definitive explanation for this decline, several factors are likely to be at play: the fact that historical chiefs—like historical figures—can be perceived to have more power than more recent chiefs; The fact that the belief systems that underpin spiritual and supernatural power may be waning as a result of secularization or the role of ‘competing’ belief systems; But also the violent conflict itself, which can erode political authority.

Third, our study contributes to the literature on political order during violent conflict (Arjona, Kasfir and Mampilly, 2015, Kalyvas, 2015, Kasfir, Frerks and Terpstra, 2017, Mampilly, 2011, Péclard and Mechoulam, 2015, Staniland, 2012, 2021). Using our multi-dimensional indicators of rule, we show that that armed groups develop forms of direct rule in a majority of cases, but in a significant percentage of the cases, they resort to indirect rule. These dichotomies, however, mask important variations, both across and within armed groups. Armed groups can implement direct rule over certain activities while, at the same time, delegating the administration of other activities to local chiefs. Crucially, we find that the power of local chiefs plays a role in determining whether armed groups resort to direct or indirect rule. We show that, when armed groups start exercising military control over areas with powerful chiefs, they are less likely to develop direct rule. We also show that, when armed groups are from a different ethno-linguistic background than the majority of the population of a particular entity, and when the chief is from the same ethno-linguistic background as the population of that entity, armed groups are more likely to set up indirect rule arrangements involving local chiefs, providing additional evidence of the enduring political importance of ethnicity. We also show that these arrangements are dynamic and that, with time, there is a convergence toward direct rule. This result is consistent with studies of colonial governance, which show that direct rule tends to prevail over time (Boone, 2003). The results we obtain using our new dataset paint a coherent picture of indirect rule as a temporary solution for governing, in situations where customary chiefs have an advantage over coercion-wielding organization which stems from their power.

These results allow us to better understand the ways in which political order is shaped during violent conflict, and how armed actors can alter and erode the power of longstanding authorities. This is key to understand contemporary conflict-affected regions on the African continent, many of which are protracted and show little signs of ‘resolution’. It is also important to understand post-conflict contexts, as post-conflict political order is largely shaped during violent conflict.

## 2 Background

### 2.1 Indirect Rule in eastern DRC

Up until the mid-19th century, Eastern Congo’s political topography was characterized by small kingdoms connected through trade networks, with limited political centralization as compared to the neighboring Kingdom of Rwanda (Chrétien, 2000, Newbury, 1992, 2009). Political authority was centered on the figure of the chief but was elaborately balanced between lineage groups, and political competition revolved around succession to the thrones (Newbury, 1992). From the mid-19th century, the belligerent expansionism of the Rwandan Kingdom forced several kingdoms in the region into vassalage. Concomitantly, the expansion of the East African Slave trade into the region increased violent modes of resource mobilization and labor conscription, as well as governance arrangements akin to indirect rule. Tippu Tip, representative of the Sultanate of Zanzibar, forged a regional empire in which local chiefs were enlisted as intermediaries and charged with mobilizing resources, in particular taxes and labor to serve as soldiers, porters and slaves.

The colonial conquest and colonial rule led to profound changes in the region. In the early days of the Congo Free State, Tippu Tip was appointed governor of the east, spearheading the sub-contracting of rule to powerful intermediaries which would become a hallmark of Belgian colonial rule, from local power brokers to large concessionary companies (Lowes and Montero, 2021). Colonial rule in eastern Congo was carried out through what Hoffmann has called *ethnogovernmentality*, the organization of mediated state power through the constitution of ethno-territorial entities (Hoffmann, 2014, 2021). The creation of the Native authorities, which included an administrative “gridding” of rural areas and the establishment of administrative chiefs and sub-chiefs, as well as mapping efforts and population censuses, served two main functions. On one hand, the native authorities ensured control over rural populations at a low cost. On the other, they served

to mobilize taxes and labor destined to a range of activities, from public works for the colonial state—in particular portage—and the various industries, to the staffing of the *Forces Publiques*, the colonial army (Northrup, 1988, p.41). In 1891, a royal decree recognized the institution of the chiefdom, enshrining native chiefs into the colonial state’s administrative apparatus (Hoffmann, 2014, p.121). The land over which indigenous chiefs ruled was given a separate legal status as *Terres Indigenes* (Native Land), instituting a separate land tenure regime governed by customary law, which has continued to this day (Mpoyi, 2013). The creation of the native homelands and the imposition of indirect rule was a messy and violent process, which gave rise to several resistance movements which the colonial state violently repressed. Chiefs found themselves in a difficult position, as they often tried to protect their subjects from the demanding quotas of the state but nevertheless had to comply or face being deposed, imprisoned or even assassinated. As a result of their collusion with the state, their legitimacy and claims to spiritual power could erode, especially as religious and millenarist movements of spiritual resistance to colonial rule emerged and contested their spiritual power, such as the Kitawala movement (Eggers, 2020). From the 1920s, efforts were made to reduce the tax and conscription burden on the populations, but the system nevertheless remained extractive and coercive, leading to several instances of revolts.

After Independence, political turmoil quickly turned into violent conflict with the secession of the provinces of Katanga (1960–1963), Kasai (1960–1962), the rebellions of Kwilu (1964–1965) and rebellion of the eastern provinces (1964–1966) (Kisangani, 2022). Following a *coup d’état*, Mobutu was able to ‘restore order’ through the establishment of an authoritarian and coercive regime. Measures were taken to centralize and streamline the state apparatus in order to exert full control over Congolese society: The objective—clearly stated by Mobutu—was direct rule, supposedly to steer the country towards modernity and development. Customary authorities, whose power had in several areas been extended during colonial rule, represented a direct obstacle to Mobutu’s power and his project of creating a centralized administrative apparatus and a socialist and pan-African nation (Young and Turner, 1985). As a result, Mobutu sought to abolish customary authority through a series of decrees from the late 1960s and early 1970s, only to face widespread resistance which forced him to abandon these reforms. The Congolese state nevertheless maintained a ‘bifurcated’ system of political organization. Strategic and economically lucrative regions were brought under direct state administration, while in other regions devolved forms of governance, often involving customary chiefs, prevailed.



## 2.2 Indirect Rule in the Congolese Wars

As a result of the political crisis that Zaire underwent in the early 1990s and the two large scale wars of 1996–1997 and 1998–2003, the Congolese state lost its tenuous control over large parts of the country. Despite the peace agreement and the official end to the war in 2003, the armed conflict persisted in the eastern provinces of the country, where to this day hundreds of armed groups operate in rural areas. Recent projects, in particular the Usalama projects I and II and the Insecure Livelihoods Series, have highlighted the complexity of the governance arrangements that have developed between armed groups and civilian leaders and populations. Many of the armed factions operating in eastern DRC have deep institutional and social roots, having emerged either as political projects formulated and supported by local or regional elite networks, or as ‘bottom up’ social movements, at times garnering significant popular support (Stearns, 2013*b*, Stearns and Botiveau, 2013, Vogel, 2014), and exercising multifaceted influence over rural societies in eastern DRC (Hoffmann and Verweijen, 2019). However, the institutional and political fragmentation of eastern DRC, a result of the region’s history of decentralized socio-political organization, and the fracturing of economic and political spaces induced by the war, entails that the governance arrangements developed by armed groups displays significant variation. Armed groups face substantial logistical, organisational and military challenges when they seek to exercise control over territories and populations, their control is often tenuous and limited to the urban centers and main roads (Schouten, 2022), and subject to quick change as a result of military challenges by the national army and other armed factions. Moreover, because of the political salience of ethno-regional identities and their close association with authority (Muchukiwa, 2006, Verweijen and Vlassenroot, 2015), armed groups can find themselves ruling over populations who consider them to be ‘foreigners’ or illegitimate rulers.

The constraints armed factions face to govern over populations entail that there are benefits delegating the administration of populations to local intermediaries, and particularly customary chiefs, who continue to enjoy substantial legitimacy in eastern DRC. The enduring authority and legitimacy of customary authority and customary chiefs is the result of several factors, from the power conferred to them by their status as custodians of the land in neo-customary land tenure regimes to the enduring recognition of lineage based forms of power, to spiritual dimensions of their power and their mythical role in contexts of acute societal crises resulting from war

(Verweijen and Van Bockhaven, 2020). Delegating power to customary chiefs, and thereby reinstating forms of indirect rule which have long existed in the region, can therefore increase armed group's administrative control over territory and population and allow to co-opt chiefs' resource mobilization capacity. It can also backfire: Powerful chiefs can seek to undermine armed groups through overt peaceful or violent resistance, or through 'passive' resistance against the armed group's resource and tax collection requirements. As a result, groups might prefer to replace chiefs that are too powerful or insufficiently compliant, often resorting to violence to do so. They might also seek to develop enhanced control over specific sectors of economic or social activity that are more strategic or lucrative by developing 'direct' forms of control over them, while delegating the administration of other—less strategic or lucrative—sectors.

One of the largest rebel movements to have ruled over eastern DRC was the Rassemblement Congolais pour la Democratie (RCD), who split into two main factions, the RCD Goma and the RCD Kisangani, during the second Congo War. A movement with significant international backing—in particular by Rwanda and Uganda—the RCD was also supported throughout its existence by a network of local, national, and regional elites (Stearns, 2012). The RCD's control over the eastern provinces was highly unequal, and mostly focused on the larger urban centres, strategic roads, and the most lucrative sectors of the economy (Stearns, 2011, Turner, 2007). In the regional capitals of North and South Kivu, the RCD 'seized' the state apparatus and, following purges of political and intellectual opponents, used it as a handle to govern over the provincial capitals and their immediate vicinity without substantially changing existing modes of rule (Tull, 2003). However, as it faced challenges and resistance to its power, it sought to co-opt existing elites in order to assert its power over their rural ethno-territorial constituencies, usually by offering them power-sharing agreements. This was the case for the Bashi elite networks in Bukavu and the territory of Walungu, in South Kivu, or the Batembo authorities in Bunyakiri: In order to quell the Mayi-Mayi insurgency in the Batembo heartland, the RCD addressed longstanding grievances of the Batembo by creating the territory of Bunyakiri (Hoffmann, 2021). For the non-rwandophone populations of eastern DRC, however, the RCD was largely perceived as a foreign invasion, and not considered as legitimate to control territory or rule. In rural areas, chiefs who collaborated with the RCD were often considered as traitors. Mass conscription of youth in the RCD's Local Defense forces relied heavily on local chiefs, and led to widespread resistance and increased support for the Mayi-Mayi insurgency (Hoffmann, Vlassenroot and Marchais, 2016, Marchais, 2016).

The Mayi-Mayi resistance movement which emerged in July of 1997 against the AFDL and intensified when the RCD seized the eastern Provinces of DRC, was submitted to opposing processes of centralization and fragmentation, with significant regional variation. Under the command of general Padiri, the Mayi-Mayi centralized military command and resource mobilization, which required the establishment of a system of administration of civilian populations. Under the *État-Major Politico-Militaire* (Politico-Military headquarters), an *administration des Forêts* (Forest Administration) was set up (Hoffmann, 2015, Morvan, 2005). It combined direct modes of administration and more decentralized forms of administration through intermediaries, in particular administrators, chiefs and religious leaders selected on the basis of their loyalty and subjected to ideological training by the group (Morvan, 2005, p.57). Deploying soldiers in the various axes (roads) that it controlled, the group set up a system of taxation to finance its war effort, with some sectors of the economy coming under direct control by the movement, while others were left to more decentralized forms of taxation through intermediaries. For example, the regulation and taxation of the mining sector was highly centralized, with Padiri deploying soldiers to each mine under his control to collect taxes which were directly channeled back to his headquarters. On the other hand, the collection of compulsory household taxes—known as *effort de guerre* (war effort) or ration—was usually delegated to local chiefs.

The RDC and the the Mayi-Mayi Padiri were among the largest and most organized politico-military movements to have emerged during the Congolese wars, and constitute examples of armed movements who were able to set up elaborate administrations in the regions they controlled, which included both direct and indirect forms of rule. After 2003, several other groups displayed significant administrative and governance capacity, in particular the (foreign-backed) National Congress for the Defence of the People (CNDP) and the M23 armed movements (Stearns, 2012), but also Congolese armed movements such as the Alliance of Patriots for a Free and Sovereign Congo (Stearns, 2013a) or the Nduma Defense of Congo and its offshot the Nduma Defense of Congo-Rénové (Congo Research Group, 2020), all of which emerged in the province of North Kivu. Alongside these larger armed groups, a myriad of smaller armed groups have been operating in the province of North Kivu and engaging in various forms of—often ad-hoc—control and governance over rural communities, engaging in temporary or more durable arrangements with local authorities and particularly chiefs. This variation provides the backdrop for our analysis of the relationship between armed group governance and the power of chiefs.

### 3 Building a dataset of armed group rule and chiefs’ power

This section presents the data collection and consolidation process followed in this study. The data was collected as part of a larger data collection effort, which included several research projects.<sup>2</sup> These research projects followed a common data collection approach, based on recall methods.<sup>3</sup> For the current project, additional data collections were carried out on specific themes, namely the governance arrangements of armed groups and the history and power of rural chiefs.

#### 3.1 Approach to data collection and consolidation

The study focuses on 106 villages or entities in the five largest *territoires* (districts) of the province of North Kivu, in eastern DRC. These are the territories of Masisi, Rutshuru, Walikale, Beni and Lubero. Villages were randomly chosen from all economically important villages<sup>4</sup> in a territory, conditionally on being safe for the research teams to visit them. By choosing economically important villages, we ensure that the availability of resources does not drive the choice of governance arrangements. Each village was visited for approximately a week by the research teams, who carried out the following activities in each village. Figure A.1 in the Appendix shows the geographic location of the sample of villages, and the province of North Kivu.

First, the research team identified a group of “history specialists” in each of the study villages or entities, usually around 5. These are individuals who have advanced knowledge of the political, social and economic history of a given village, town, or entity. Typically, these are local authorities, village elders, or local *notables*—such as schoolteachers. The researchers then worked with the history specialists, who were compensated for their time and work, to reconstitute the history of the entity with regards to the themes of the study, over about a week. In the last day in each village, the researchers held a workshop with the history specialists in order to verify the data compiled during the week, address any errors or mistakes, and triangulate the data provided by different history specialists. The consolidated data from this final meeting with the history specialists, which underwent further rounds of verification, constitutes the main source of data used in this study.

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<sup>2</sup>These are Henn et al. (2023), Marchais (2016), Marchais et al. (2021), Sánchez De La Sierra (2020).

<sup>3</sup>For a detailed discussion of the data collection approach, see Sánchez De La Sierra (2020).

<sup>4</sup>Villages were considered economically important if they had a mine or cash-crop production.

Second, the researchers implemented 6 household surveys in each study village or entity. With one member of each surveyed household, they reconstructed the household's history on key aspects through an interview which was held in a private setting, with appropriate compensation, breaks, and adaptations to the schedule of the interviewed household member. An additional round of data collection was carried out in a second phase, where an additional 10 households were surveyed in each of the study villages. This allowed us to build a separate household dataset of 1654 individuals, to complement the history specialist dataset. It also allowed to have the perspectives of individuals on key variables, such as chiefs' legitimacy. Additionally, in each village, the research team drafted a brief report about the history of each village, summarizing the key information regarding armed group presence and the history of chiefs. To draft these reports, researchers relied on the information provided by the history specialists, but also carried out additional short interviews with local authorities and key informants.

The data collection took place in a context marked by ongoing violence and the after-effects of past violence. As a result, special provisions were taken to reduce risks to researchers and research subjects. The project was reviewed and approved by Congolese administrative authorities at the provincial, territory, and village levels. Security and communication protocols were systematically implemented for travel, accommodation, and research. In addition to direct exposure to risk, interviews which cover sensitive events, and particularly violent events, can trigger traumatic memories in research subjects. Given the nature of trauma, it is impossible to entirely rule out such occurrences. Nevertheless, the project sought to reduce this by systematically explaining the nature and content of the survey to respondents before conducting the survey, and in particular providing details on the sensitive sections and questions of the survey, and then leaving time to respondents to decide whether they wanted to proceed or not. Moreover, in addition to the procedure of informed consent that preceded all interviews, there were additional consent forms preceding the most sensitive sections, explaining the content of each section and re-iterating that respondents were entirely free to not respond to some or all the questions within that section or to end the interview. The research team conducting the interviews had considerable experience in discussing issues related to violence, and their expertise in this regard was crucial to ensure that respondents felt safe to discuss these issues, and supported.

The analysis carried out in this paper relies largely on the accurate dating of key historical events. In order to date these events, the research teams consulted administrative records in the

administrative entities where the research was carried out. However, these were often incomplete and lacked data on the variables of interest. As a result, the dating of key events relies largely on the data collected through the surveys, which contained recall methods. Recall methods have been used in the social sciences as well as in history and psychology, particularly in regions where written records and archives are limited and where there are traditions of oral history, as is the case in eastern DRC. Recall is inherent in the methodologies used by historians and anthropologists to reconstitute the history of central African societies (Newbury, 1992, 2009, Vansina, 1978, 2004). Although different in their approach, quantitative studies have also effectively used recall methods to reconstitute historical data, including studies related to themes of this study (Acemoglu, Reed and Robinson, 2014, Sánchez De La Sierra, 2020).

Recall methods are subject to measurement error resulting from recall errors: Respondents can make understandable mistakes in their recollection of dates and events, and the likelihood of such mistakes increases with the temporal distance of recollected events (de Nicola and Giné, 2014, Tourangeau, 2000). In order to reduce measurement error in the dating of events, we used time cues based on common knowledge of regional events,<sup>5</sup> which were used as temporal reference points by the researchers to date the events reported by the respondents. Drawing on lessons from the literature on recall methods, we ensured that the times cues used were tailored to the regional and local histories of the study areas, as irrelevant time cues can increase measurement error (de Nicola and Giné, 2014). For the household survey, we used person-specific time-cues. At the start of each survey, the researchers asked about key information that is usually easier to recall: when they were born, when they got married (if applicable), when they migrated (if applicable). These life events provided respondent-specific time cues that researchers used for the remainder of the survey. This made it easier to determine the years of the events discussed in the survey, even when respondents were not sure about the year. We also ensured that questions focused as much as possible on transitions and key events, which are easier to memorize and recollect (de Nicola and Giné, 2014).

In order to further reduce measurement error due to recall error, and also biases arising from the positionality of respondents, the study included several layers of triangulation of the reported information. As previously noted, the specialist survey had a built-in triangulation of information,

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<sup>5</sup>The social psychology literature suggests that times cues can substantially reduce measurement error related to the timing of events (Brown, Shevell and Rips, 1986, Conway and Bekerian, 1987), although other studies find limited evidence of their effectiveness (de Nicola and Giné, 2014).

which happened when the data collected by different specialists was compared during a workshop carried out in each village at the end of the study period. For the key variables, we also compared the answers reported in the specialist survey with those reported in the household survey, as well as with the short summary reports prepared by researchers for each village. When necessary, we conducted follow-up interviews (in person or via phone calls) to further confirm events. We believe that these different steps considerably reduced measurement error in the data.

### **3.2 Reconstituting the history of armed group governance**

Using the data collected through the process described above, we reconstituted the recent history of the armed groups who exercised control over the study villages for at least one month, dating back to 1990.

For each group, we collected data on their key characteristics, including their size and capacity, their alleged origins (in particular, whether they originated in the study area), their relationship to the population as well as state and customary authorities, and their majority ethnic composition. We also collected data on the administrations that armed groups set up in the study villages, in order to build our indices of direct and indirect rule. This included yearly data on the taxes that armed groups levied in the study villages, including the types of taxes, their amount, their modes of collection—particularly whether collection was carried by the group or delegated to intermediaries. It also included data on whether and how armed groups enforced taxation, whether they intervened in the administration of justice, and whether they set up economic monopolies (of beer, liquors, and cigarettes in particular). We also collected data on the recruitment of soldiers, porters and assistants, and how such labor recruitment was carried out (directly by armed groups or delegated to intermediaries). The variables relevant to the analysis are discussed in more detail in the following sections.

Our approaches to minimize measurement error described above notwithstanding, respondents could have differential recall for different types of rules. For example, direct rule might represent a more salient memory than indirect rule. This possibility is one of the reasons why, in addition to a combined rule measure, we also present the results separately for direct and indirect rule and by dimension of governance.

### **3.3 Reconstituting the history of chiefs**

Using the same strategy, we collected information on all of the chiefs who were present in the study villages since 1990. For each chief, we collected the start and end dates of their tenure, the main causes of their appointment and departure (when applicable), as well as network data and land ownership data. We also collected data on their perceived sources of power, at the level of households (see next section for more details).

When a chief's tenure coincided with an episode of armed group presence over a study village, we collected data on the types of arrangements that were set up between them and the armed groups. Notably, the deliverables expected by the group (for instance, collection of poll taxes, mobilization of recruits, gathering of information, spiritual or religious support), the perceived performance of the chiefs on these dimensions, the threats directed to chiefs as well as any instance of punitive measures taken against chiefs.



## 4 The elusive power of chiefs in eastern DRC

Not all chiefs in eastern DRC have the same power. In fact, there is substantial variation in chief power in eastern DRC, for several reasons. First, not all chiefs are *customary* chiefs. As discussed in the context section, the colonial state incorporated chiefs into the state administration in order to rule over rural populations, collect taxes and mobilize labour. When no chiefs existed or when chiefs were reluctant to collaborate, they appointed new chiefs or replaced existing ones. As a result, some administrative chiefs in eastern DRC are not recognized by customary traditions, but have been appointed by the colonial state and have kept their administrative status in the post-colonial era. Moreover, even when chiefs are recognized by customary traditions, they might be unpopular and have lost their legitimacy for a range of reasons, from perceived incompetence or corruption, to collaboration with rulers considered to be illegitimate such as the colonial state or occupying armed movements. Capturing the nature and variations in chiefs' power is therefore an important first step in the analysis of the relationship between chief power and armed group rule.

In this section, we use the specialist and household survey data to analyze the nature and sources of chiefs' power. As previously mentioned, the literature on customary authority has shown that the power of chiefs is multifaceted and spans administrative, political, economic, social, religious and spiritual dimensions (Verweijen and Van Bockhaven, 2020). Building on this literature as well as the qualitative fieldwork carried out for this project, we look at several key dimensions of chiefs' power. First, whether chiefs are considered to be recognized by the custom. Customs vary substantially in the fragmented political landscape of eastern DRC, and chiefs' tenures are often contested. Political conflicts over customary authority, which are numerous in eastern DRC (Hoffmann, Vlassenroot and Mudinga, 2020), often involve several claimants arguing their customary right to the same position. In addition to data collected through the specialist survey on whether or not chiefs' tenures are sanctioned by customary traditions and rituals, the household data gives us the population's perspective on whether a chief is regarded as customarily legitimate. Second, given that chiefs have an administrative role and can have varying levels of competence in that regard, we look at households' perception of chiefs' skills in relation to management, resource mobilization, and advocacy. Third, most customs consider chiefs to be the custodians of the land, entitled to levy contributions in exchange for usufruct over land granted to

their subjects. Given the incorporation of chiefs into ‘neo-customary’ land tenure regimes during the colonial era, in which they were used by the colonial state to levy taxes, such rights have been contested by overtaxed populations since the early colonial era (Northrup, 1988). Whether the taxes that chiefs levy in relation to land are considered to be legitimate is therefore a good indicator of the legitimacy of these chiefs. A related measure that is used in the analysis is the percentage of the land of a given village or entity over which a given chief exercises customary authority. Given the importance of land in rural societies, customary authority over land remains a significant source of chiefs’ power. However, given that, in the colonial and post-colonial era, large tracts of land were put under ‘statist’ land tenure regimes and/or private ownership (Boone, 2014), chiefs’ authority over land varies significantly, and can be proxied by this variable. Fourth, we look at chiefs’ power to protect and guide the fortune of the population, which has material and spiritual dimensions. Indeed, in eastern Congo’s customary traditions, the role of the chief is to protect the population of an entity and guide their fortune. Protection was traditionally done by organizing security and mobilizing soldiers in the event of a threat or attack (a power which eroded with the establishment of colonial state armies), but it also had a spiritual dimension, as the chief can intercede with the spiritual world and deploy various forms of spiritual or ‘supernatural’ protection (Bishikwabo, 1980, Burume, 1993). There are many differences in the spiritual and religious traditions in which such ‘spiritual’ power is vested and in the types of powers that exist, as well as in chiefs’ capacity to summon and deploy such powers (Lowes et al., 2023). Given the subjective nature of these beliefs, and the fact that spiritual or supernatural power might in some cases be mixed with actual coercive power, the household data is once again useful to get a sense of whether particular chiefs are believed to have the power to protect. On the basis of the qualitative research and targeted consultations, we look at chiefs’ power to control rain, protect from theft, help in hunting, help in mining activities, improve agriculture, control rain and thunder, control bridges, control agricultural harvest, as well as their power to heal.

Table 1 presents summary statistics for the villages (Panel A) and chiefs (Panel B) in our dataset. We covered 106 villages since 1950, and obtain a dataset of 306 chiefs of North Kivu. Panel A gives us the distribution of the number of chiefs recorded in each village since 1950. The median number is 3, with some villages having experienced a high turnover of chiefs—up to 7 successive chiefs—since 1950. In Panel B, we see that the median length of reign of chiefs is 10

years, and ranges between 1 and 80 years.<sup>6</sup> In Panel A, we can see that chiefs own on average 28 percent of the land in their respective villages and that this ranges from 0 to 100, showing significant variation in the customary land tenure rights held by chiefs. The distribution is bimodal, indicating that chiefs often either own all the land, or no land at all. In Panel A, we can also see that 56 percent of respondents attribute the sources of power of chiefs to spiritual/supernatural powers, providing further evidence of the importance of this dimension of chiefs' power, which is not, as has long been assumed, a manifestation of 'irrational' belief systems.<sup>7</sup> Panel B shows chief specific averages based on the perception of households. For example, respondents were asked to evaluate the supernatural power of chiefs on a scale from 1 to 10. The chiefs in our dataset have a mean power of 4.9, with some chiefs having no power at all and others high levels of power—up to 9.1.

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<sup>6</sup>This number includes the current chiefs that are still in power.

<sup>7</sup>In order to address some of the stereotypes around the alleged negative relationship between so-called 'rational intelligence' and beliefs in spiritual and supernatural forces, which date back to colonial representations of Congolese society, we administered a Raven's Progressive Matrices test. Raven's tests are meant to measure 'rational intelligence' and 'abstract thinking', notions that should be taken with ample critical distance (along with the test itself). In Figure A.2, we can see that respondents who scored higher on a Raven's test also gave their chiefs higher scores on supernatural power (Panel E), and that respondents scoring higher on a rational-experiential inventory gave lower scores on supernatural power to their chiefs (Panel F). Although we can not draw conclusions about a question that was not part of our research objectives, and need to remain very cautious with regards to these tests, these results show that the alleged binary opposition between rational intelligence and beliefs in the supernatural is not supported by our data. Additionally, we explored some of the political and social orientations of respondents and their association with respondent's perception of chiefs' supernatural powers. Respondents scoring higher on the right-wing authoritarianism scale gave lower supernatural power scores to their chiefs (Panel G). In contrast, respondents scoring higher on social dominance scale give higher supernatural power scores to their chiefs (Panel H).

Table 1: Summary Statistics

	Mean	Median	St. Dev.	Min	Max
<i>Panel A: Village Level</i>					
Number of households living in village in 2016	201.91	145.00	154.81	32.00	654.00
Num. of community meetings attended past year (Mean)	10.14	8.78	7.54	1.00	66.00
Years with at least one attack	3.31	3.00	1.75	0.00	7.00
Years when the village was under control of an armed group	10.00	11.00	6.62	0.00	27.00
Indirect rule vector	0.12	0.29	1.83	-3.24	4.08
Direct rule vector	0.67	0.96	3.18	-6.16	9.09
Number of chiefs	3.16	3.00	1.38	1.00	7.00
Supernatural source of power/legitimacy of chiefs (Mean)	0.56	0.60	0.37	0.00	1.00
Average supernatural power of chiefs (0–10)	4.78	5.40	2.50	0.00	7.93
Average age of chief	46.09	45.29	11.48	22.50	78.50
Percent of chiefs with same ethnicity as majority of villagers	0.81	1.00	0.37	0.00	1.00
Number of families related to chief	33.45	20.00	53.17	0.00	387.00
Percentage of land that belongs to chief	28.22	10.00	31.66	0.00	100.00
Observations	106				
<i>Panel B: Chief Level</i>					
Birth Year (Mean)	1953	1954	18.45	1882	1988
Start of reign	1989	1997	24.62	1900	2016
End of reign	2003	2009	17.39	1924	2016
Length of reign	15.21	10.00	14.15	1.00	81.00
Related to previous chief (Mode)	0.67	1.00	0.47	0.00	1.00
Related to mwami (Mode)	0.03	0.00	0.18	0.00	1.00
How many witches (Mode)	3.35	0.00	6.88	0.00	47.00
How many years opposition to armed group (Mode)	0.27	0.00	0.96	0.00	6.00
How many years armed group present (Mode)	1.89	0.00	5.45	0.00	41.00
How many years submission to armed group (Mode)	1.23	0.00	4.32	0.00	41.00
Customary authority (Mean)	0.85	1.00	0.30	0.00	1.00
From the ruling family (Mean)	0.82	1.00	0.32	0.00	1.00
Enthronement ceremony (Mean)	0.88	1.00	0.21	0.10	1.00
Supernatural power (Mean)	4.96	5.65	2.70	0.00	9.10
Management skills (Mean)	6.82	7.00	1.35	1.00	9.50
Control of rain (Mean)	0.56	0.67	0.40	0.00	1.00
Liked at start of reign (Mean)	0.90	1.00	0.15	0.00	1.00
Liked at end of reign (Mean)	0.82	0.90	0.24	0.00	1.00
Requests per month at start of reign (Mean)	2.19	1.89	1.77	0.00	12.00
Requests per month at end of reign (Mean)	1.92	1.63	1.46	0.00	6.80
Private conversations per month (Mean)	7.08	6.00	5.32	0.00	21.78
Observations	306				

*Notes:* This table shows summary statistics for the villages (Panel A) and chiefs (Panel B) in our data. Since some of the variables are generated at the household level we indicate whether we used the mean or mode to aggregate to the village or chief level.

## 4.1 Operationalizing chiefs' power

In order to carry out our analysis, we operationalize the power of chiefs and its different dimensions. We start by looking at some descriptive statistics on supernatural power and its main correlates. In Figure 1, Panel A shows a steady historical decline in the the perceived supernatural power of chiefs: chiefs who started their reign more recently are considered to have less supernatural power than 'historical' chiefs. There are several potential explanations for this. First, it could be due to a form of secularization, whereby the beliefs on which such supernatural power rests are losing ground in society as a result of the competition of other belief systems, in particular Christianity and atheism, the latter often being associated with the ideologies of modernity and development which have been championed by post-Independence states on the African continent. Second, it could be due to the mythification of past chiefs, which is often observed for popular figures—leaders, politicians, celebrities—who, when they pass away, become mythical figures. Third, it might be due to the fact that respondents have directly observed recent chiefs as opposed to historical chiefs, and have thus been able to directly assess their powers—or lack thereof. In Panel B, we can see that the perceived supernatural power of chiefs increases with the length of their reign. This might be explained by the fact that chiefs whose tenures are longer are able to achieve more for their constituencies, and that these achievements are 'converted' into supernatural power. It might also be that longevity of tenure increases the legitimacy of chiefs and their perceived power, particularly in contexts of crisis. In Panel D, we can see that chiefs' supernatural power is also correlated to their perceived management skills, though interestingly the inverse-u-shape suggests a negative relationship between management skills and supernatural power for those with very high management skills. Together, these descriptive statistics provide evidence that supernatural power is correlated to other dimensions of power.

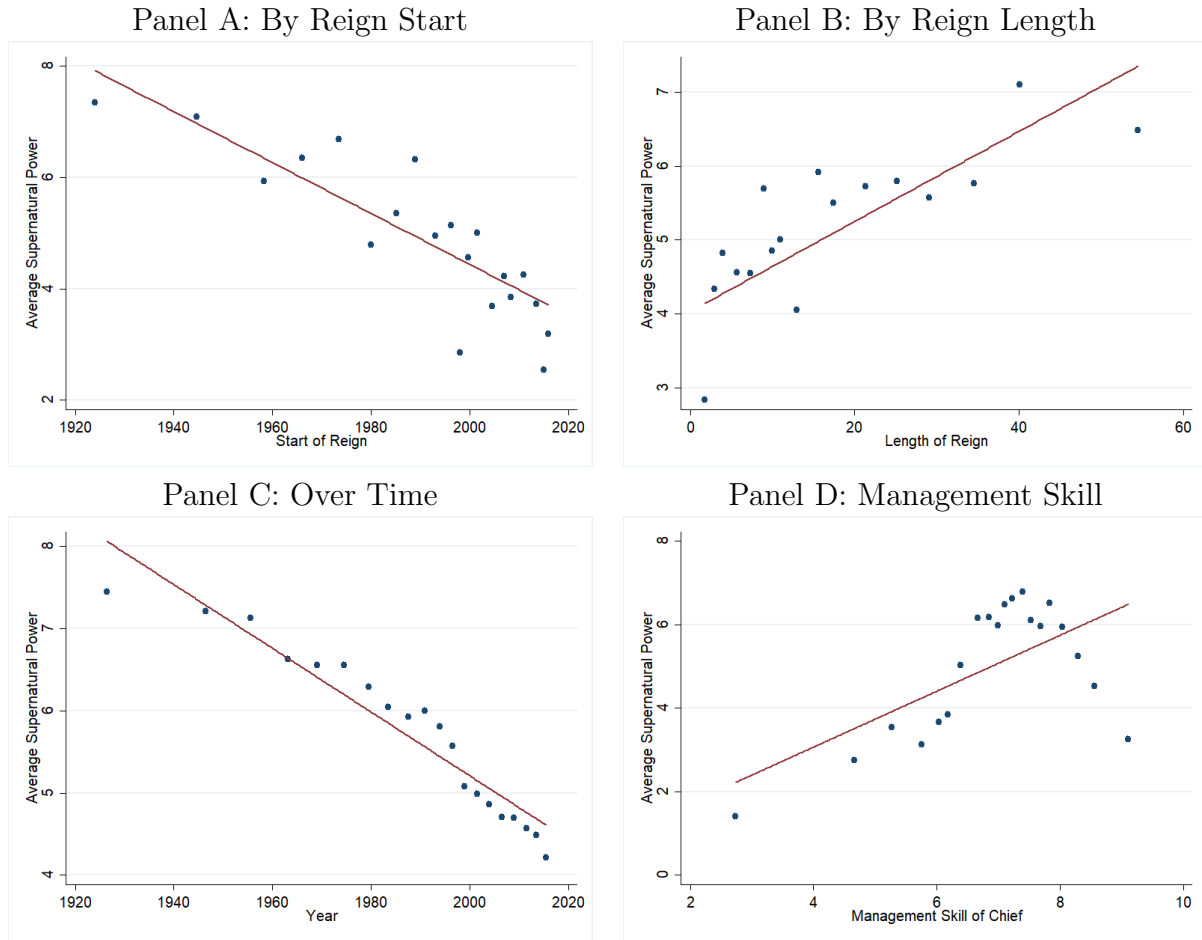
We devise a strategy to operationalize chiefs' power that allows us to partially address the risk of retroactive bias in the reporting of chiefs' power, as we have seen that a supernatural power is susceptible to temporal change for different reasons. We use 23 variables associated with chiefs' power and conduct a factor analysis, which is reported in Table 2.<sup>8</sup> Panel A shows the factor loading, which can be interpreted as the degree to which the variable is informative compared to

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<sup>8</sup>Another central part of chiefs' responsibilities in the DRC is dispute resolution. For each chief we asked respondents who resolved local disputes about land in the community at the start of the chief's reign. Citizens always selected the chief to be in charge of such dispute resolution. Since there was no variation across chiefs we did not include this variable in the factor analysis for chief power.

the other variables. For instance, all sources of power considered, a chief's perceived power to heal is relatively more predictive of "overall chief power" (which encompasses all dimensions of power) than whether the chief was liked at the onset of their tenure (which appears to be less correlated to all other variables). Panel B regresses the predicted "overall power index" using the factor created in the factor analysis exercise of Panel A, and regresses it on variables which are less amenable to subjective reporting than perceptions of chiefs' power: These are variables that relate to facts that can be verified and triangulated with the household and specialist surveys, such as the date of the start of a tenure of a chief, rather than beliefs or perceptions. This panel's objective is to ascertain which 'objective' characteristics are best related to "chiefs' power", broadly defined. We see that chiefs who are born earlier, start their reign earlier, and are considered to be traditional owners of the land are more powerful. Chiefs who share the same ethnicity as the majority of sampled residents of a given entity are also more powerful. We use the coefficients in models (1) and (2) to create two "predicted chief power" variables. Together, the factor analysis as well as the predictors of chief power allow us to incorporate chief power into our analysis of armed group rule, to which we now turn.

Figure 1: Correlates of Chiefs' Supernatural Power. Chief Characteristics



*Notes:* This figure shows scatter plots of different chief characteristics against the chief's average supernatural power according to villagers. The linear trend is added to the scatter plot.

Table 2: Chief Power

*Panel A: Factor Analysis of Chief Power*

	Factor1	Uniqueness
Customary authority (Mean)	0.721	0.480
From the ruling family (Mean)	0.723	0.478
Enthronment ceremony (Mean)	0.658	0.567
Confirmed by spirits (Mean)	0.717	0.486
Was the population consulted (Mean)	0.469	0.780
Mobilizing ability (Mean)	0.625	0.609
Sensibilizing ability (Mean)	0.636	0.595
Supernatural power (Mean)	0.843	0.290
Managment skills (Mean)	0.474	0.775
Threat of force (Mean)	0.679	0.540
Charisma (Mean)	0.590	0.652
Power to control rain (Mean)	0.884	0.218
Power to protect from theft (Mean)	0.885	0.216
Power to help hunt (Mean)	0.880	0.225
Power to help mining (Mean)	0.811	0.343
Power to improve cultivation (Mean)	0.853	0.272
Power to control thunder (Mean)	0.799	0.361
Power to control bridges (Mean)	0.644	0.585
Power to control harvest (Mean)	0.833	0.305
Power to heal (Mean)	0.850	0.278
Liked at start of reign (Mean)	0.344	0.882
Requests per month at start of reign (Mean)	-0.297	0.912
Private conversations per month (Mean)	0.064	0.996

*Panel B: Predictors of Chief Power Factor*

	(1) Scores for factor 1	(2) Scores for factor 1
Start of reign	-0.0104*** (0.00258)	-0.0103 (0.00935)
Length of reign	-0.00250 (0.00332)	-0.00484 (0.0104)
Birth Year (Mean)	-0.00767*** (0.00236)	-0.0127*** (0.00419)
Related to previous chief (Mode)	0.521*** (0.169)	0.513*** (0.191)
Related to mwami (Mode)	-0.717*** (0.216)	-0.790*** (0.165)
Traditional owner of land? (Mode)	1.182*** (0.166)	1.121*** (0.211)
How many witches (Mean)	0.000594 (0.00636)	-0.00267 (0.0140)
Ethnicity of chief same as village		0.625* (0.371)
Proportion of village with same ethnicity as chief		-0.644 (0.431)
Number of households		-0.000175 (0.000610)
Numbers of families related to chief		0.00109 (0.00153)
Observations	265	139
R <sup>2</sup>	0.585	0.635
Fixed Effects	No	No
Cluster	Village	Village

*Notes:* This table creates a factor variable of chief power (Panel A) and predicts the factor variable using chief characteristics (Panel B). In Panel B \*, \*\*, \*\*\* indicate that the corresponding coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.



## 5 Chiefs' Power and Direct vs. Indirect Rule

### 5.1 Measuring armed group governance

#### 5.1.1 Armed Groups territorial control

We define an armed group episode as an episode of military control over an entity (village or neighborhood) by an armed actors that lasts for a period of at least 2 months.<sup>9</sup> We observe 249 armed group episodes in 106 villages by 41 different armed groups, of varying duration. Regarding armed groups, we distinguish between armed groups that originate in a particular entity (village or neighborhood), and armed groups that have originated outside that entity. Our data shows that the armed groups occupying the study entities of North Kivu almost all originated outside of those entities.<sup>10</sup> Importantly, although we collected data on the presence of state security forces, notably the national army, the police and the intelligence services (*Agence Nationale de Renseignements*), we exclude these from our main analysis, as including them would alter the premises of our analysis which relates to ensuring a degree of ex-ante exogeneity of the armed group.<sup>11</sup> Our qualitative evidence and historical accounts suggest that conflict in North Kivu, and whether individual villages were occupied, was less driven by local factors, such as the power of the chief, and more by regional or national events (e.g., the RDC rebellion, M23 mutiny, etc.). We do, however, run a simple regression where we have whether the village is controlled by an armed group as the outcome variable and chief power as the predicted variable. Results are in Table B.7. While the coefficient is negative, that is, villages with more powerful chiefs are less likely to be controlled by armed groups, the effect size is small and not significant at conventional statistical levels. This assuages concerns about reverse causality. Table 3, provides summary statistics for all

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<sup>9</sup>This definition was applied during the data collection. However, we also collected data on armed group episodes of shorter duration.

<sup>10</sup>'Homegrown' armed groups often have different objectives, making it difficult to include these cases within a framework geared toward external armed groups because, as explained in a theoretical paper on wartime indirect rule, indirect rule governance arrangements suppose a degree of exogeneity of the armed group to the entity that is being governed at the onset of the governance episode (Marchais, Sanchez de la Sierra and Henn, 2018). Moreover, chiefs are often heavily involved in the organization of homegrown groups. In our dataset, there are 5 episodes where the group originates within the study entity. We therefore exclude these cases from the analysis. In related studies in South Kivu where the same variable was used, we found that a higher proportion of the armed groups in South Kivu originated in the villages where the study took place.

<sup>11</sup>Given that our purpose here is the conditions under which relatively new governance arrangements emerge, we exclude the state security forces from the main analysis, as these have a longstanding presence in the region. However, we reproduced the analysis while including the state forces, and the results, which are very similar, are presented in Table B.5 of the Appendix.

armed groups with at least 5 governance episodes in our sample.<sup>12</sup> The average number of years of armed group episodes are 4 years, ranging from 1 to 26 years. When looking at the involvement of chiefs in armed group episodes, the variation in their involvement is clearly visible. Columns 6, 7, and 8 respectively show the percentage of episodes where armed groups rely on the village's chief to collect the head tax, administer the village, and give some political power to chiefs. At least two patterns emerge. There is considerable variation within armed groups on how much they involve chiefs. For example, while groups mostly use chiefs to collect head taxes, there are still a sizable proportion of villages for each armed group in which they do not. Second, chiefs can be involved for one governance dimension but not for another. For example, chiefs are typically used to collect head taxes, but armed groups rarely let chiefs administer the village. This variation within armed group episode raises the need to examine the dimensions of rule further, which we do in the next section.

Table 3: Summary of Armed Group Episodes

Armed Group	# Episodes	Average Length	Shortest Control	Longest Control	Chief Tax	Chief Admin	Chief Power	Earliest Control	Latest Control
Mayi-Mayi	62	2.61	1	26	0.81	0.16	0.34	1990	2016
RCD	54	5.35	1	9	0.90	0.09	0.44	1997	2013
Congolese Army	47	6.98	1	26	0.19	0.78	0.90	1990	2016
Rwandan AG	8	4.25	1	11	0.69	0.18	0.50	2000	2015
Nyatura	7	2.29	1	4	0.82	0.00	0.14	2010	2015
PARECO	5	3.00	2	4	0.90	0.00	0.20	2003	2010
Others	66	3.23	1	9	0.69	0.18	0.22	1993	2015
	249	4.25	1	26	0.68	0.26	0.43	1990	2016

*Notes:* This table shows summary statistics of armed group episodes by the six most common armed groups in our data.

### 5.1.2 Constructing indices of Direct and Indirect Rule based on dimensions of Rule

Measuring direct and indirect rule is challenging because there is no natural dichotomy in the governance arrangements established by armed groups in the areas they control. The literature on armed group governance has shown that governance arrangements vary significant in their characteristics, and usually involved many actors beyond states and armed groups (Kasfir, Frerks and Terpstra, 2017). This was also the case during the colonial era, whose governance arrangements cannot be reduced to a clear-cut direct vs. indirect rule dichotomy, as Mukherjee has argued (2021, 18). The qualitative data collected for this project shows that this is also the case in the DRC,

<sup>12</sup>Table B.1 shows the summary statistics for all armed groups in the sample.

as we have found significant variation in the nature, duration and characteristics of governance arrangements.

In order to capture such empirical variation, we take a systematic approach, that constructs vectors on a number of well-defined dimensions of governance. We look at 7 dimensions of governance: (1) the extraction of resources (taxation and tribute), (2) the mobilization of labor, (3) legitimization/*sensibilisation*<sup>13</sup>, (4) the administration of the village/entity, (5) the allocation of political power, (6) the provision of public services, and (7) the regulation of economic activity.

We construct two indices, one for direct rule, and one for indirect rule. That is because, empirically, direct and indirect rule are not mutually exclusive. Armed groups can, for example, delegate the collection of some types of taxes to chiefs, while collecting other types of taxes themselves. Using two indices rather than one therefore allows us to paint a more precise picture of the empirical reality of armed group governance. Figure 2 and Figure 3 present the breakdown of the Indirect Rule and Direct Rule indicators, respectively. The Direct Rule index is constructed on the basis of all 7 dimensions of governance that we presented above, while the Indirect Rule index only uses the first 5 dimensions: extraction of resources, extraction of labor services, legitimization efforts, administration, and political power.

For the collection of taxes, we observe whether the group receives a head tax, and whether the head tax is collected by the group directly. We also observe whether the group raises a toll tax, a mill tax, a market tax, and whether the group creates forced debt, a strategy used by armed groups in eastern DRC to raise revenue. The collection of all or parts of these taxes can be delegated to intermediaries, which is the variation that we exploit for our analysis. The head tax, which is collected at the level of households, is often delegated to chiefs, as it can generate resentment among the population and requires legitimacy. More than 70% of groups raise a head tax, and about half of them collect the head tax directly. Groups organize toll taxes, mill taxes, market taxes, and forced debt between 10% and 60% of cases, and the toll tax and market tax are raised in more than 50% of cases. The chief is involved in the collection of the poll tax in 65% of the village×year observations.

For the mobilization of labor services, we observe the recruitment of combatants or support

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<sup>13</sup>The term *sensibilisation* is used across eastern DRC to designate the consultations which are carried out to generate popular approval of a particular project or idea. In the case of armed groups, *sensibilisation* usually means the discursive efforts, public meetings and consultations carried out to convince populations of the objectives, ideologies and legitimacy of armed groups.

staff (such as porters) for the group. We also record who carried out the recruitments, and whether chiefs directly encouraged the recruitments. The chief is involved in recruitment in approximately 20% of cases, but the group carry out recruitment directly in 55% of village×year observations of episodes of armed group rule. For legitimization/*sensibilisation*, we look at whether the group itself, or the chief, carried out awareness raising activities and legitimization campaigns to justify the group’s ideology and military control over a given entity. We can see that, in 40% of village×years, the group organized the campaigns themselves, and that in about 20% of village×years the village chief organized campaigns in support of the group. Armed groups also chase away local witchdoctors and witches to replace them with their own witch doctors, in 17% of village×year observations, showing that control over the realm of the supernatural is also an important part of the ruling over an entity.

With regards to armed groups’ administration, we first observe whether an armed group administers the village, and whether there are signs of an institutionalization of this administration in the form of written documents, which usually indicate a level of formalization. We thus look at the presence or absence of written documents for administration, the existence of a written code of conduct or a rudimentary ‘constitution’, whether or not the group provides written contracts as well as written official communications, and whether or not the group has its own seal for official documents. Strikingly, we find that in a majority of cases, armed groups have written official documents as well as an official seal, indicating a level of institutionalization of their administration. We also observe whether the group administers justice. In 75% of cases, the group administers the village directly and provides justice in the village. Chiefs, in contrast, administer the village and provide justice in 20–25% of cases. We also look at military presence and capacity in the entity, and find that the military presence of the group equals approximately 10 armed men on average per village×year of armed group rule.

Regarding the allocation of political power, we ask respondents who they perceived to hold political power in a village or entity: in 55% of the cases, political power is perceived to be in the hands of the group, while it is either shared with the chief or entirely delegated to the chief in approximately 42% of cases. Of these, the chief has all the political power in 20% of cases, and shares the power with the group in another 22% of cases.

Regarding the provision of public services, armed groups provide security in approximately 50% of the village×year observations, but rarely provide health, education, roads, or other public

or private services (approximately 5% of the cases).

Finally, regarding economic regulation, armed groups set up roadblocks to tax trade and population movement in 50% of the village×year observations, create a local market only 8 times in the sample, regulate private firms 7% of the time, and are directly engaged in trade in 10% of cases.

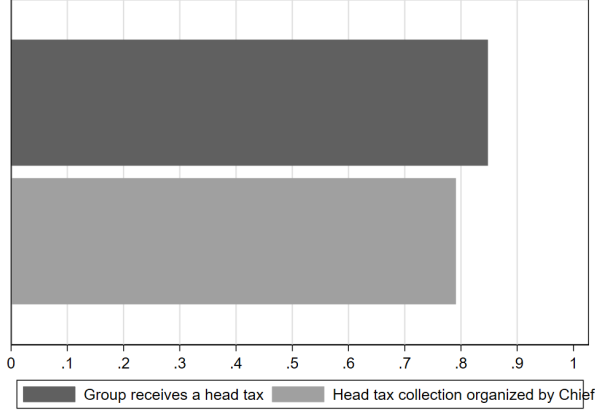
We operationalize this categorization by first projecting all activities onto their respective dimension, for instance taxation for the taxation variables. We do so by using a principal component analysis. Equipped with one variable for each dimension of direct and indirect rule, we then construct a z-score index for indirect rule, and a second for direct rule.<sup>14</sup> We can thus interpret regression results as increases in one standard deviation of the normalized score. We present the results on each of the indirect rule, and direct rule, dimensions, in addition to the standardized scores.

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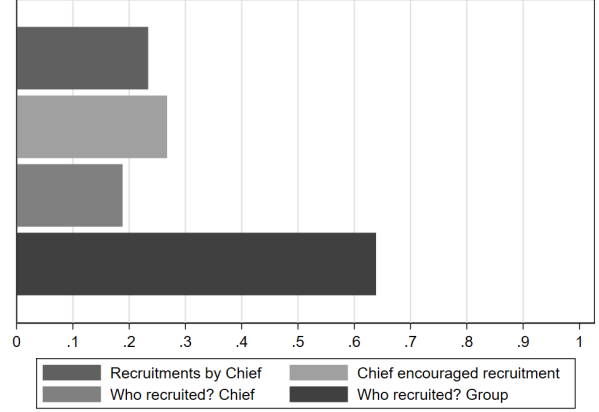
<sup>14</sup>The z-score index normalizes each of the dimensions by subtracting their mean and dividing by their standard deviation, then adds the normalized dimensions, and normalizes the sum again. We end up with one normalized variable for indirect rule, and another for direct rule, whose interpretation in a regression is straightforward, since it has mean zero and standard deviation of one.

Figure 2: Indirect Rule by Group Episode Level

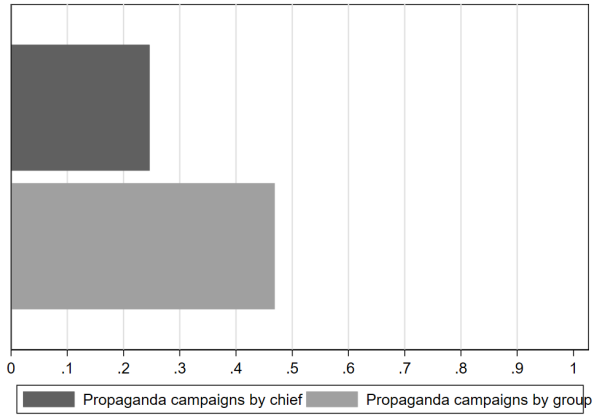
Panel A: Taxation



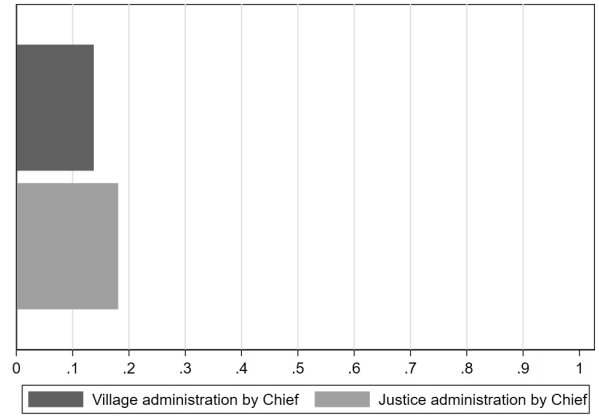
Panel B: Recruitment



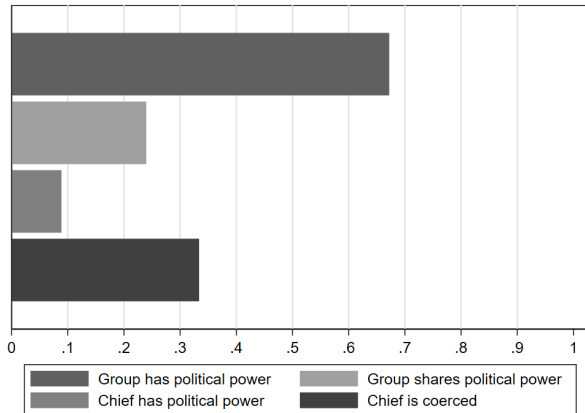
Panel C: Legitimation



Panel D: Administration



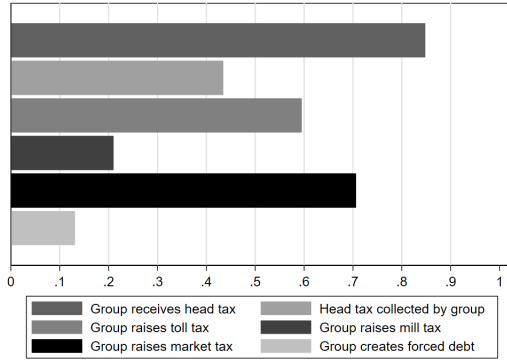
Panel E: Political



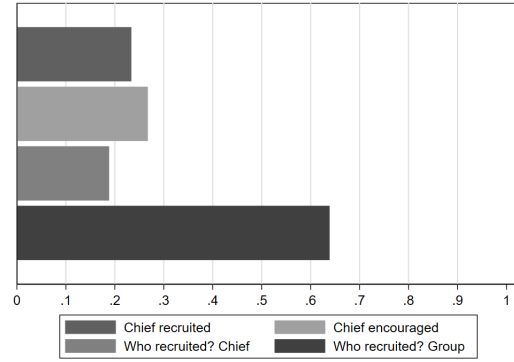
*Notes:* This figure presents the breakdown of our Indirect Rule indicator. Each Panel is a different dimension of governance and within each Panel we show the mean value for each activity within that dimension. The data is at the group episode level, taking the governance arrangements of the first year of a group's rule.

Figure 3: Direct Rule by Group Episode Level

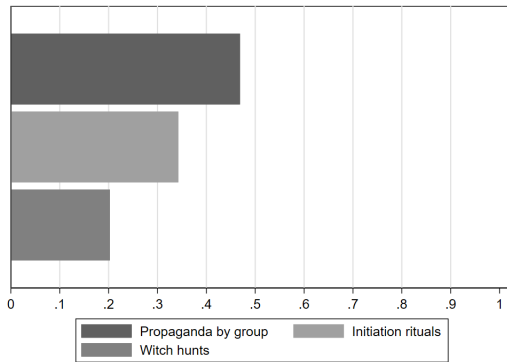
Panel A: Taxation



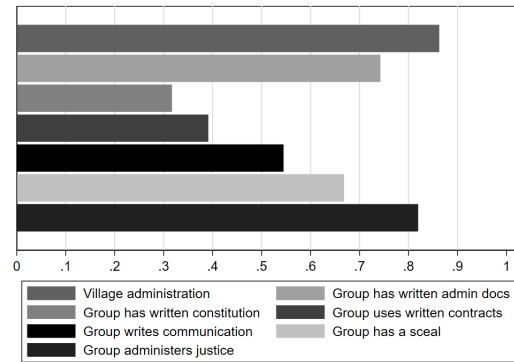
Panel B: Recruitment



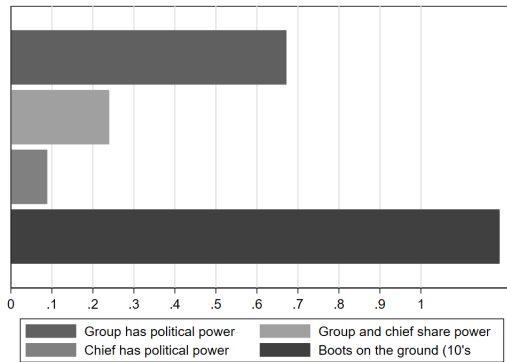
Panel C: Legitimation



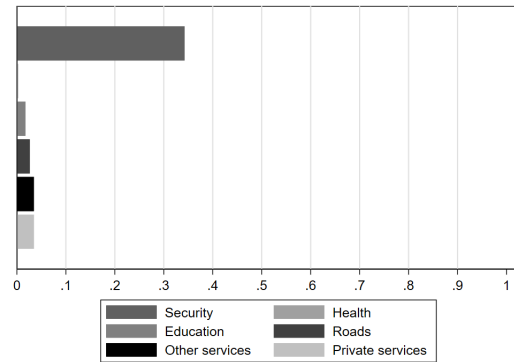
Panel D: Administration



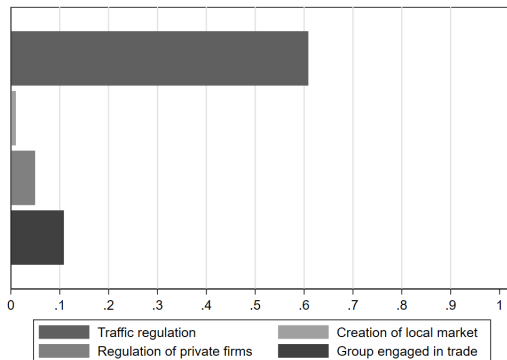
Panel E: Political



Panel F: Services



Panel G: Regulations



*Notes:* This figure presents the breakdown of our Direct Rule indicator. Each Panel is a different dimension of governance and within each Panel we show the mean value for each activity within that dimension. The data is at the group episode level, taking the governance arrangements of the first year of a group's rule.

## 5.2 Empirical strategy

The large number of village level arrangements that armed groups develop in rural areas allows us to exploit yearly within group variation to explain the formation of indirect rule institutions, of direct rule, and of armed rule in general. In particular, we examine, within armed groups and across villages, how chiefs' power determine the type of arrangements that armed groups establish. We then look at the relationship between armed group's tenure and the propensity to develop direct or indirect rule.

We first use our two values of predicted chief power, which we estimated using more objective chief characteristics, and implement the following OLS regression:

$$IndirectRule_i = \alpha + \beta_1 PredictedPower_i^{C,V} + \theta_{AG} + \eta_t + \epsilon_V \quad (1)$$

The indexes  $AG, V, C$  stand respectively for armed group, village, and chief, and  $i = 1, \dots, 249$  stands for the armed group's episode. We include armed organization fixed effects (there are 41),  $\theta_{AG}$ , to account for the fact that certain organizations have systematically different strategies and objectives for their rule. We also include year fixed effects,  $\eta_t$ , and cluster standard errors at the village level. We restrict observations to the year of arrival of the group in the village since the chief power in subsequent years might be affected by the governance arrangements in the preceding years. We estimate this separately for our two predicted chief power variables. Our outcome variables are the overall  $DirectRule_i$  index, the overall  $IndirectRule_i$  and the index showing the  $Difference_i$  between the two.

As previously noted, ethnicity can play an important political role in rural eastern DRC, and constitute a criteria in the perceived legitimacy of chiefs' tenure. We therefore replace our predicted chief power variables with various indicators of coethnicity. Table 2 has shown that chiefs who share the same ethnic background as the majority of the villagers in their entity are considered to be more powerful. Similarly, armed groups whose membership is majoritarily of the same ethnicity as the majority of the villagers in the entities they control also enjoy more legitimacy. Importantly, measuring chief-village and armed-group village coethnicity allows us to disentangle an important aspect of how chief authority matters, namely whether it is primarily through their own authority or through their comparative advantage vis-a-vis the armed group.



This leads us to the following OLS specification:

$$IndirectRule_i = \alpha + \beta_1 Coethnic_i^{C,V} + \beta_2 Coethnic_i^{C,AG} + \beta_3 Coethnic_i^{AG,V} + \theta_{AG} + \eta_t + \epsilon_V \quad (2)$$

where  $Coethnic_i^{C,V}$  is a binary indicator if chief  $C$  is from the same ethnic background as the majority of the population in village  $V$ ,  $Coethnic_i^{C,AG}$  is a binary indicator if chief  $C$  is from the same ethnic background as the majority of the members of armed group  $AG$ , and  $Coethnic_i^{AG,V}$  is a binary indicator if the majority of the members of armed group  $AG$  are from the same ethnic background as the majority of the population in village  $V$ . We also estimate the effects of each coethnicity indicator without the inclusion of the others, as well as the interaction of  $Coethnic_i^{C,V}$  and  $Coethnic_i^{C,AG}$ .

Further, we are interested in how armed groups' governance strategies evolve over time and especially how they evolve during a group's tenure in a village. To investigate this we look beyond the first year of armed group episodes and run the following OLS specification:

$$IndirectRule_{i,t} = \alpha + \beta_1 GroupTenure_{i,t} + \psi_{AGE} + \eta_t + \epsilon_V \quad (3)$$

where  $GroupTenure_{i,t}$  measures how many consecutive years the armed group has controlled the village. Our data allows us to estimate this within armed group episode by including armed group episode fixed effects,  $\psi_{AGE}$ .

Finally, we disaggregate the direct and indirect rule variables and run specifications 1–3 separately for different dimensions of direct and indirect rule, and present the results in the appendix.

## 5.3 Results

### 5.3.1 Chiefs' power and armed group rule

In Table 4 below, Panel A, we use specification 1 to regress the indices of Direct Rule (1)–(2), Indirect Rule (3)–(4) and Direct Rule-Indirect Rule (relative direct rule, 5–6) on the predicted two indexes of chiefs' power “broadly defined” obtained in the previous exercise. We find a robust relationship linking the power of the chief to a reduction of direct rule. That is, in villages where chiefs are more powerful, armed groups are less likely to develop direct rule in the initial

year. This relationship holds when we include year and armed group fixed effects, and cluster the standard errors at the level of the village, thus indicating that it is not driven by selection of armed groups, nor of years, and that it is robust to serial auto correlation in the type of rule and in the power of chiefs. Columns 3 and 4 show that chiefs' power is negatively correlated to indirect rule, though the coefficients are smaller than the effect on direct rule. The coefficient is only significant when using the first measure of predicted chief power which leverages a larger sample of chiefs for which we have corresponding variables to create the chief power variable. When using the second index of chief power, the coefficient is still negative and sizable on a smaller sample, but is not statistically significant at conventional significance levels ( $p=0.101$ ). This difference in significance and magnitude provides further justification for our distinction between the direct and indirect rule dimensions of rule. What the results therefore suggest is that, while armed groups are less likely to develop direct rule arrangements in villages when chiefs are powerful, they are not necessarily more likely to develop indirect rule to the same degree. This can be interpreted as armed groups choosing not to override the chief's rule in such cases, without necessarily opting for indirect rule either. As this regression concerns the first year of rule, a more dynamic perspective is required to capture the temporal dynamics in direct rule/ indirect rule arrangements.

Table B.3 shows the results for the different dimensions of the Direct and Indirect Rule vectors. It reveals a great deal of heterogeneity in the effect of chief power by governance area. Chief power leads to less direct rule in taxation, administration, justice, and political authority. While chief power leads to more indirect rule in administration, justice, and political authority as well, it actually also leads to less indirect rule in taxation, potentially because armed groups are concerned that powerful chiefs can extract too much rent for themselves.

In Panel B of Table 4, we use one of the more robust predictors of our chiefs' power factor variable, coethnicity, to see whether more 'objective' measures of chiefs' power yield similar or different results and whether we can disentangle the effect of chiefs' authority over the village from their relative advantage vis-a-vis the armed groups. In the fragmented political landscape of eastern DRC, ethnicity is politically salient as a result of the ethno-territorial organisation of the state and the polarizing effects of the violent conflict. Chiefs can find themselves ruling over populations of a different ethnic background, which can at times generate tensions. Thus, in such contexts, coethnicity is usually a marker of higher social proximity between chiefs and their populations. Table 4, Panel B uses specification 2 to regress the main index of the difference of

direct-indirect rule on indicators for coethnicity of the chief and the village, of the group and the chief, and of the group and the villagers. There is a robust negative relationship between whether the chief is coethnic with the villagers and the direct-indirect rule relative index. That is, chiefs who are of the same ethnic group as their population are significantly less likely to be replaced by direct rule, and more likely to develop indirect rule arrangements with armed groups. This relationship holds when controlling for year and armed group fixed effects. Column (2) instead looks at the coethnicity between the armed group and chiefs and finds that armed groups that share the same ethnicity as the chief resort to more direct rule, potentially because the chief does not have an advantage in legitimacy compared to the armed group. Table B.2 in the Appendix shows that these affects are largely driven by the Direct Rule index and not Indirect Rule. Column (3) shows that armed groups are more likely to develop direct rule when they share the ethnicity of the village but the effect is not significant. When including multiple measures of coethnicity as in columns (4) and (5) the effect remains that chief-village coethnicity reduces direct rule while village-chief coethnicity increases it. When including the interaction of village-chief and chief-group coethnicity, column (6) shows no additional effect of the interaction term, suggesting that the effect of village-chief coethnicity is driven by instances where groups do not have the same ethnicity as well and the chief has a comparative advantage in legitimacy. Table B.4 in the appendix looks at other variables that feed into the chief power predictor. Chief supernatural power, the power to make it rain, the percentage of households the chief is related to, and landownership of the chief are all negatively related to relative direct rule, yet only landownership is statistically significant.

In sum, we find that more powerful chiefs are associated with less direct rule and more indirect rule. Our analysis of coethnicity gives us some indication about how the relative advantage of chiefs over armed groups matters. Having a chief that is coethnic with the villagers drastically decreases the likelihood of direct rule compared to indirect rule, and the effect is the largest when the group and the chief are of different ethnic groups (hence when the chief's relative advantage is the largest). This provides further evidence that armed groups are less likely to develop direct rule when chiefs are powerful (or in this case, closer to their populations), and more likely to develop indirect rule.

Table 4: Institutional Choice

Panel A: Predicted Chief Power	<i>Dependent Variables:</i>					
	Direct Rule		Indirect Rule		Difference	
	(1)	(2)	(3)	(4)	(5)	(6)
Predicted Chief Power 1	-1.605*** (0.465)		1.179** (0.511)		-2.785*** (0.799)	
Predicted Chief Power 2		-1.970*** (0.661)		1.095 (0.651)		-3.065** (1.177)
Observations	103	63	103	63	103	63
$R^2$	0.424	0.468	0.455	0.353	0.437	0.415
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
AG FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	IDV	IDV	IDV	IDV	IDV	IDV
Panel B: Coethnicity	<i>Dependent Variables:</i>					
	Difference Direct-Indirect Rule					
	(1)	(2)	(3)	(4)	(5)	(6)
Coethnic Village-Chief	-2.053** (0.918)			-2.546*** (0.945)	-2.527*** (0.909)	-3.213** (1.290)
Coethnic Group-Chief		1.699** (0.813)		2.498*** (0.867)	2.474*** (0.866)	1.107 (1.154)
Coethnic Village-Group			0.837 (1.120)		0.154 (1.125)	
Coethnic Village-Chief $\times$ Group-Chief						-0.217 (0.996)
Observations	136	155	155	136	136	136
$R^2$	0.394	0.348	0.329	0.443	0.443	0.449
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
AG FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	IDV	IDV	IDV	IDV	IDV	IDV

*Notes:* This table shows the effects of chief power on the decision of armed groups to implement direct or indirect rule. The analysis is at the armed group episode level, taking the governance arrangements from the first year of a group's occupation of a village. Panel A implements Specification 1 and has the predicted chief power estimated in Table 2 as the explanatory variable. The Direct Rule (Columns 1–2) and Indirect Rule (Columns 3–4) indicators, as well as their difference (Columns 5–6) are the outcome variables. Panel B implements Specification 2 and has the binary indicators for whether the chief and armed group, chief and majority of village, and armed group and village share the same ethnicity as the explanatory variable. The outcome variable is the difference between the Direct and Indirect Rule indicators. Standard errors, clustered at the village level, are shown in parentheses. \*, \*\*, \*\*\* indicate that the corresponding coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.

### 5.3.2 Armed groups tenure and direct vs. indirect rule

We now pay more attention to the temporal dynamics of the relationship between armed group rule and chiefs, looking at the effect the time duration of armed groups' control over a given entity on the propensity to adopt direct or indirect rule governance arrangements. In order to estimate the effect of armed groups' tenure on the institutions they create, we implement specification 3 which uses the data that contains all years for each armed groups' episode, and the evolution of the institutions over time, within each episode. To account for any unobserved constant heterogeneity at the group level that may correlate with institutional choice, we include armed group episode fixed effects. To account for the fact that more tenure correlates with years, we also include calendar year fixed effects. Since an armed group episode is more dis-aggregated than an armed organization, we do not need to include armed organization fixed effects. We also project the institutional variables on group tenure year effects, controlling for year fixed effects as well as episode fixed effects.

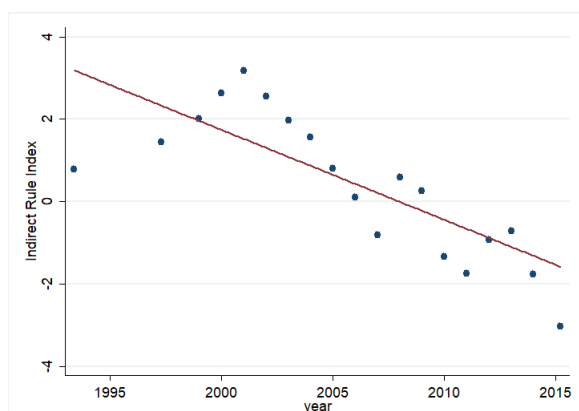
Figure 4 shows that indirect rule has been decreasing on average since the start of the violent conflict, while direct rule has been increasing. While this alone could be a compositional effect (more direct rule-prone groups could be active today), it is also consistent with armed groups acquiring a governing advantage over time: As armed groups acquire better information about the population, develop their organizational capacity, and create social ties with the population, their governance constraints reduce, enabling them to govern directly and circumvent the chiefs, with whom relations are often tense.

Figure 5 presents this result formally. We regress the indirect rule index, direct rule index, direct-indirect rule relative index on years of tenure by an armed group, including year and armed group episode fixed effects. The analysis shows that, consistent with the interpretation of Figure 4, the longer an armed group governs, the less likely it is to use indirect rule and the more likely it is to use direct rule, and thus the larger the direct-indirect relative index. Panel D shows that the number of armed group episodes with a long tenure is smaller than that with a short tenure. One could thus be concerned that, in the analysis of the effect of tenure, the larger coefficient in larger tenure year could reflect a compositional change. However, as we have included armed group governance episode fixed effects in the analysis, the effect is computed using variation within episodes. Table 5 shows the results of specification 3 in table format.

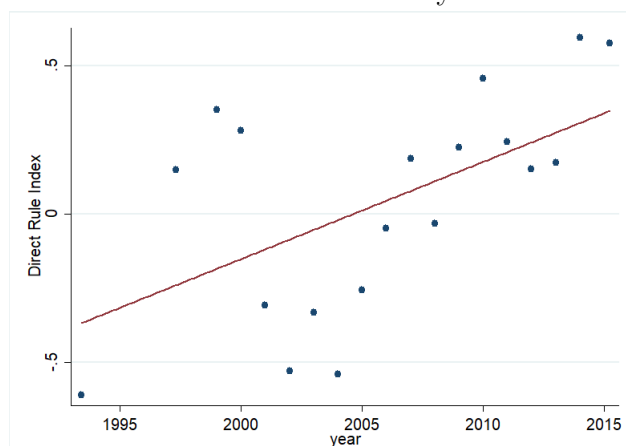
Panel C in Table B.3 in the Appendix show the effect of group tenure separately for the different dimensions of direct and indirect rule. While there is no variation within armed group episodes in the distribution of political power and recruitment by armed groups, over time armed groups are more likely to develop their own tax collection and justice provisions while indirect rule on legitimisation and justice provision decreases.

Figure 4: Indirect and Direct Rule over time

Panel A: Indirect Rule By Year

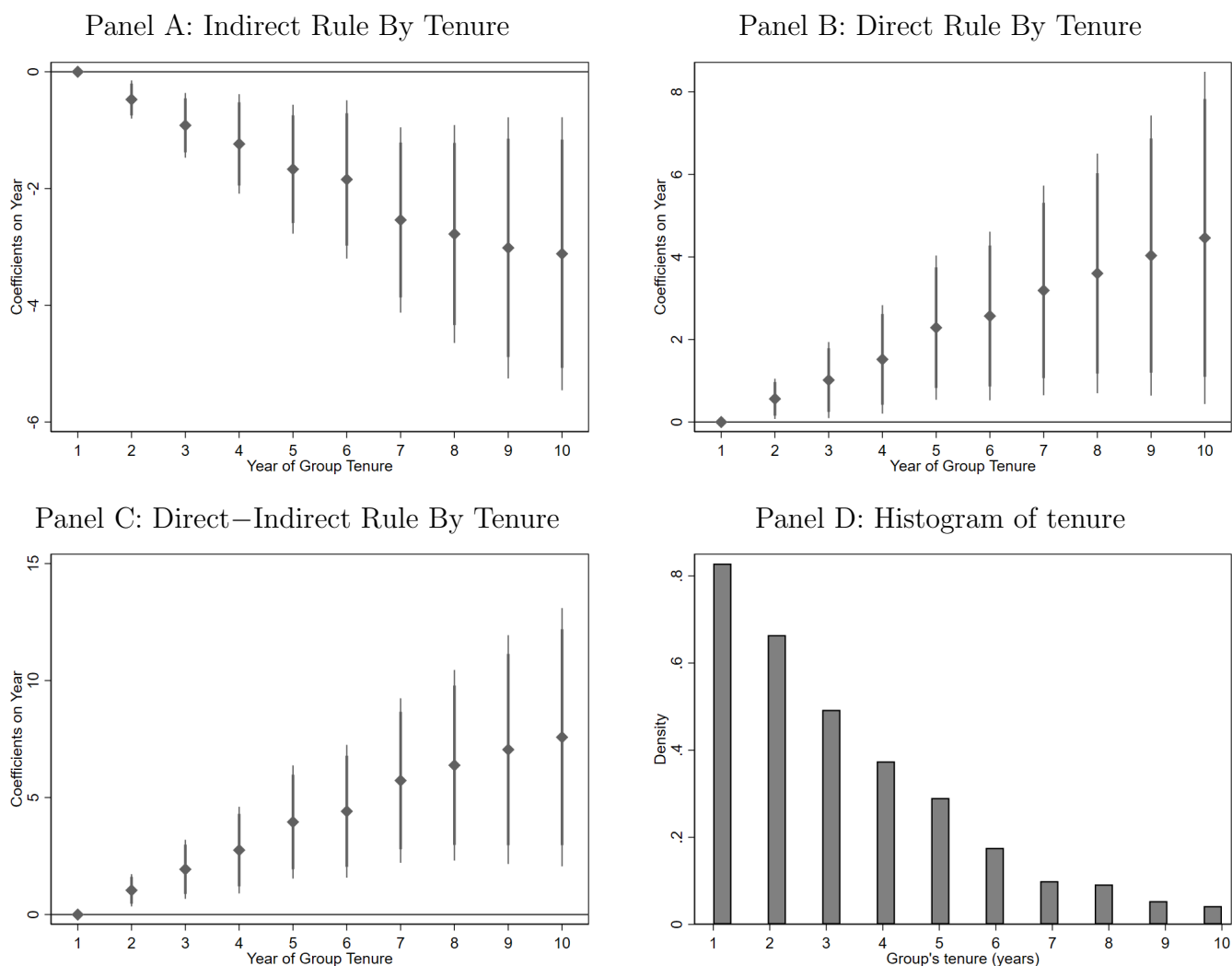


Panel B: Direct Rule By Year



*Notes:* This figure shows binscatter graphs of the Indirect (Panel A) and Direct Rule (Panel B) indicators over time. All village-year observations when villages are occupied by armed groups are collapsed to the calendar year. The linear relationship is added to the graphs.

Figure 5: Indirect and Direct Rule by Group Tenure



*Notes:* This figure shows the effects of an armed group's tenure in a village on the decision of the group to implement direct or indirect rule. The analysis is at the village-year level and all years when a village is occupied by an armed group are included. Panels A–C plot the coefficients of "Year of Group Tenure" from Specification 3. Panel A has the Indirect Rule indicator as the outcome variable, Panel B the Direct Rule indicator and Panel C their difference. Panel D shows a histogram of the explanatory variable.

Table 5: Institutional Choice by Group Tenure

	Direct Rule	Indirect Rule	Difference
	(1)	(2)	(3)
Group's tenure (years)	0.439** (0.216)	-0.272* (0.142)	0.710** (0.302)
Observations	641	641	641
$R^2$	0.891	0.902	0.911
Year FE	Yes	Yes	Yes
AG Episode FE	Yes	Yes	Yes
Cluster	IDV	IDV	IDV

*Notes:* This table shows the effects of an armed group's tenure in a village on the decision of the group to implement direct or indirect rule. The analysis is at the village-year level and all years when a village is occupied by an armed group are included. The table implements Specification 3 and has how many years since the start of the group's occupation of the village as the explanatory variable. The Direct Rule (Column 1) and Indirect Rule (Column 2) indicators, as well as their difference (Column 3) are the outcome variables. All columns include year and armed group episode fixed effects. Standard errors, clustered at the village level, are shown in parentheses. \*, \*\*, \*\*\* indicate that the corresponding coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.

## 6 Conclusion

In this paper, we examined the relationship between armed group governance and the power of chiefs since the 1990s in 106 villages of North Kivu, DRC. The paper pays particular attention to the power of chiefs, which is multidimensional and encompasses a spiritual and supernatural dimension which we measure quantitatively. We develop an approach to systematically measure armed group's governance along a range of aspects, from their interventions in local economic activity to their recruitment of labor. We find substantial variation in the degrees to which armed groups develop direct or indirect rule over economic, social, and political activity in the areas where they exert military control. We show that direct and indirect rule are not mutually exclusive, as groups can develop direct forms of administration over certain sectors while devolving the administration of others to chiefs. We find that, when chiefs are powerful, armed groups are less likely to develop direct rule and more likely to develop indirect rule. Our results suggests that this is due to a comparative advantage in governance and legitimacy that chiefs enjoy vis-a-vis armed groups. However, we find that, with time, armed groups consistently develop direct rule modes of administration, progressively penetrating political, economic, and social life in the areas they control as their military control extends in time. The results suggest that indirect rule is a temporary solution for governing, in situations where chiefs have an advantage over coercion-



wielding organization in terms of their legitimacy. This relative power advantage, however, seems to erode over time, and armed groups tend to replace chiefs.

First, the power of rural chiefs matters, and plays an important role in the types of governance arrangements that emerge in areas held by armed groups. Our empirical analysis has shown us that armed groups are less likely to develop direct forms of rule in the first period of their control over a given area when there are powerful chiefs in those areas. They are reluctant to govern ‘past’ powerful chiefs. In such cases, they either refrain from governance or enter indirect rule types of governance arrangements. This provides further evidence that, in the areas where they operate in eastern DRC, armed groups often rely on chiefs, a finding that has been documented by several studies of armed group governance eastern DRC, for example, in relation to the Mayi-Mayi Padiri (Hoffmann, 2014, Hoffmann, Vlassenroot and Mudinga, 2020, Morvan, 2005). This is also consistent with the armed group governance literature which has consistently pointed out that armed groups aiming to govern populations cannot rely on coercion alone and seek to inscribe their authority within legitimate frameworks and forms of authority (Arjona, Kasfir and Mampilly, 2015). Our findings also resonate with Boone (2003)’s analysis of the political topographies of the state in rural Africa, as it provides further evidence that the relative power of pre-existing authorities plays a role in determining the type of governance arrangements that emerge, and that direct rule tends to prevail over time.

Second, our study shows that the power of chiefs cannot be reduced to their administrative power, or their power over land. As has long been documented in anthropology and history (Fortes and Evans-Pritchard, 2015, Vansina, 1990), but overlooked in political science, the spiritual and supernatural dimension of chiefs’ power is important. Although such power is subjective and changing, we devise a way to measure and analyze it. We show that it is closely correlated—yet irreducible—to other dimensions of power, and that it is waning, as more recent chiefs are less powerful in this regard than historical ones. Our approach shows that, contrarily to what is often thought, such forms of power can also be studied with quantitative approaches.

Third, our study provides further evidence of the historical continuities in the modes of governance in eastern DRC, complementing an argument made in other studies (Hoffmann, Vlassenroot and Marchais, 2016). Indirect rule modes of governance have been prevalent in history of the region since at least mid 19th century (and possibly earlier), and institutionalized during the colonial era as the colonial state appointed intermediaries to rule in rural areas or granted concessions

to private actors (Lowes and Montero, 2021). Equally prevalent throughout the contemporary political history of the region has been the use of violence, suggesting that such patterns of rule are part of historical and structural trends, which has important implications for how policy in the region should be approached and conceived.

Fourth, the prevalence of indirect rule in contexts of violent conflict begs the question of its broader institutional, political and economic effects, as well as its long term impact. The literature on colonial indirect rule has shown that it has shaped the trajectories of states and entities in Africa and beyond (Acemoglu et al., 2014, Mukherjee, 2021). One of the institutional effects that has been highlighted is the erosion of the legitimacy of chiefs and the resulting weakening of the institution. Indeed, Indirect rule often pins the chief against the population, thwarting the accountability of chiefs towards their populations and creating animosity and conflict, and thus reducing chiefs' legitimacy and ability to govern, as Mamdani (1996) has shown. Given that the eastern Congolese conflict has lasted for close to 30 years, the governance configurations that have emerged are entrenched and likely to have effects beyond the end of the violent conflict.

## References

- Acemoglu, Daron, Isaías N Chaves, Philip Osafo-Kwaako and James A Robinson. 2014. Indirect rule and state weakness in Africa: Sierra Leone in comparative perspective. In *African Successes, Volume IV: Sustainable Growth*. Chicago: University of Chicago Press pp. 343–370.
- Acemoglu, Daron, Tristan Reed and James A. Robinson. 2014. “Chiefs: Economic Development and Elite Control of Civil Society in Sierra Leone.” *Journal of Political Economy* 122(2):319–368.
- Arjona, Ana, Nelson Kasfir and Zachariah Mampilly. 2015. *Rebel Governance in Civil War*. New York: Cambridge University Press.
- Baldwin, Kate. 2016. *The paradox of traditional chiefs in democratic Africa*. Cambridge University Press.
- Balán, Pablo, Augustin Bergeron, Gabriel Tourek and Jonathan L. Weigel. 2022. “Local Elites as State Capacity: How City Chiefs Use Local Information to Increase Tax Compliance in the Democratic Republic of the Congo.” *American Economic Review* 112(3):762–97.  
**URL:** <https://www.aeaweb.org/articles?id=10.1257/aer.20201159>
- Bishikwabo, Chubaka. 1980. “Le Bushi au XIXe siècle: un peuple, sept royaumes.” *Revue française d’histoire d’outre-mer* 67(246-247):89–98.
- Blair, Robert A and Pablo Kalmanovitz. 2016. “On the rights of warlords: Legitimate authority and basic protection in war-torn societies.” *American Political Science Review* 110(3):428–440.
- Blanton, Robert, T David Mason and Brian Athow. 2001. “Colonial style and post-colonial ethnic conflict in Africa.” *Journal of Peace Research* 38(4):473–491.
- Boone, Catherine. 2003. *Political Topographies of the African State: Territorial Authority and Institutional Choice*. Cambridge: Cambridge University Press.
- Boone, Catherine. 2014. *Property and Political Order in Africa: Land Rights and the Structure of Politics*. New York: Cambridge University Press.
- Brown, Norman R, Steven K Shevell and Lance J Rips. 1986. *Public Memories and Their Personal Context*. New York: Cambridge University Press.

- Burume, Louis Lwigulira. 1993. *Histoire et culture des Bashi au Zaïre: “six derniers règnes” antérieurs à 1980*. Kinshasa: Centre Protestant d’éditions et diffusion.
- Chrétien, Jean-Pierre. 2000. *L’Afrique des Grands Lacs: Deux Mille Ans d’histoire*. Paris: Aubier.
- Congo Research Group. 2020. For the Army, With the Army, Like the Army. The Rise of Guidon Shimiray and the NDC–Rénové in the Eastern Congo. Technical report Center on International Cooperation, New York University.
- Conway, M. A. and D. A. Bekerian. 1987. “Organization in Autobiographical Memory.” *Memory & Cognition* 15(2):119–132.
- de Nicola, Francesca and Xavier Giné. 2014. “How accurate are recall data? Evidence from coastal India.” *Journal of Development Economics* 106:52–65.
- Eggers, Nicole. 2020. “Authority that is customary: Kitawala, customary chiefs, and the plurality of power in Congolese history.” *Journal of Eastern African Studies* 14(1):24–42.
- Fortes, Meyer and Edward Evan Evans-Pritchard. 2015. *African political systems*. Routledge.
- Henn, Soeren J. 2023. “Complements or Substitutes? How Institutional Arrangements Bind Traditional Authorities and the State in Africa.” *American Political Science Review* 117(3):871–890.
- Henn, Soeren J, Christian Mastaki Mugaruka, Miguel Ortiz, Raúl Sánchez de la Sierra and David Qihang Wu. 2023. “Monopoly of Taxation Without a Monopoly of Violence: The Weak State’s Trade-Off Between Taxation and Safety.” *Review of Economic Studies* (Forthcoming).
- Hoffmann, Kasper. 2014. *Ethnogovernmentality: The Making of Ethnic Territories and Subjects in Eastern Congo* PhD thesis Roskilde University.
- Hoffmann, Kasper. 2015. *Myths Set in Motion: The Moral Economy of Mai Mai Governance*. In *Rebel Governance in Civil War*, ed. Ana Arjona, Nelson Kasfir and Zachariah Mampilly. Cambridge University Press pp. 158–179.
- Hoffmann, Kasper. 2021. “Ethnogovernmentality: The making of ethnic territories and subjects in Eastern DR Congo.” *Geoforum* 119:251–267.

- Hoffmann, Kasper and Judith Verweijen. 2019. "Rebel rule: A governmentality perspective." *African Affairs* 118(471):352–374.
- Hoffmann, Kasper, Koen Vlassenroot and Emery Mudinga. 2020. "Courses au pouvoir: the struggle over customary capital in the eastern Democratic Republic of Congo." *Journal of Eastern African Studies* 14(1):125–144.
- Hoffmann, Kasper, Koen Vlassenroot and Gauthier Marchais. 2016. "Taxation, Stateness and Armed Groups: Public Authority and Resource Extraction in Eastern Congo." *Development and Change* 47(6):1434–1456.
- Holzinger, Katharina, Florian G. Kern and Daniela Kromrey. 2016. "The Dualism of Contemporary Traditional Governance and the State: Institutional Setups and Political Consequences." *Political Research Quarterly* 69(3):469–481.
- Honig, Lauren. 2017. "Selecting the State or Choosing the Chief? The Political Determinants of Smallholder Land Titling." *World Development* 100:94–107.
- Kalyvas, Stathis. 2015. Rebel Governance During the Greek Civil War, 1942–1949. In *Rebel Governance in Civil War*, ed. Ana Arjona, Nelson Kasfir and Zachariah Mampilly. Cambridge: Cambridge University Press.
- Kasfir, Nelson, Georg Frerks and Niels Terpstra. 2017. "Introduction: armed groups and multi-layered governance." *Civil Wars* 19(3):257–278.
- Kisangani, Emizet François. 2022. *Civil wars in the Democratic Republic of Congo, 1960–2010*. Boulder: Lynne Rienner Publishers.
- Kohli, Atul. 2004. *State-directed development: political power and industrialization in the global periphery*. Cambridge: Cambridge University Press.
- Lange, Matthew. 2009. *Lineages of despotism and development: British colonialism and state power*. Chicago: University of Chicago Press.
- Logan, Carolyn. 2009. "Selected Chiefs, Elected Councillors and Hybrid Democrats: Popular Perspectives on the Co-Existence of Democracy and Traditional Authority." *Journal of Modern African Studies* 47(1):101–128.

- Lowes, Sara and Eduardo Montero. 2021. "Concessions, Violence, and Indirect Rule: Evidence from the Congo Free State." *The Quarterly Journal of Economics* 136(4):2047–2091.
- Lowes, Sara, Eduardo Montero, Nathan Nunn and James A. Robinson. 2023. "Bokoko: Supernatural Power and Political Authority in the DRC." Working Paper.
- Mahoney, James. 2010. *Colonialism and postcolonial development: Spanish America in comparative perspective*. New York: Cambridge University Press.
- Mamdani, Mahmood. 1996. *Citizen and Subject: Contemporary Africa and the Legacy of Late Colonialism*. Princeton, N.J.: Princeton University Press.
- Mampilly, Zachariah. 2011. *Rebel Rulers: Insurgent Governance and Civilian Life During War*. Ithaca, N.Y.: Cornell University Press.
- Marchais, G. 2016. "He Who Takes the Weapon Becomes Other: A Study of Participation in Armed Groups in South Kivu, Democratic Republic of the Congo." *Unpublished PhD thesis, London School of Economics and Political Science*.
- Marchais, Gauthier, Christian M Mugaruka, Raúl Sanchez de la Sierra and David Qihang Wu. 2021. "The Forging of a Rebel." NBER Working Paper w28714.  
**URL:** <https://www.nber.org/papers/w28714>
- Marchais, Gauthier, Raul Sanchez de la Sierra and Soeren J Henn. 2018. "Indirect Rule in Armed Conflict: Theoretical Insights from Eastern DRC." IDS Working Paper 510.  
**URL:** <https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/13610>
- Morvan, Helene. 2005. Réinventer le quotidien: la cohabitation des populations civiles et des combattants maï-maï au Kivu. Technical report Uppsala Life and Peace Institute.
- Mpoyi, Augustin M. 2013. "Amélioration de la gouvernance du secteur foncier en République Démocratique du Congo : La mise en oeuvre du cadre d'évaluation de la gouvernance foncière (CAGF)." World Bank Working Paper 119613.
- Muchukiwa, Bosco. 2006. *Territoires ethniques et territoires étatiques: pouvoirs locaux et conflits interethniques au Sud-Kivu (RD Congo)*. Anvers: Editions L'Harmattan.

- Mukherjee, Shivaji. 2021. *Colonial Institutions and Civil War: Indirect Rule and Maoist Insurgency in India*. New York: Cambridge University Press.
- Müller-Crepon, Carl. 2020a. “Building Tribes: How Administrative Units Shaped Ethnic Groups in Africa.” *Unpublished Manuscript. University of Oxford*. [http://www. carlmueeller-crepon.org/publication/admin\\_identities/CMC\\_BuildingTribes. pdf](http://www.carlmueeller-crepon.org/publication/admin_identities/CMC_BuildingTribes.pdf).
- Müller-Crepon, Carl. 2020b. “Continuity or change?(In) direct rule in British and French colonial Africa.” *International Organization* 74(4):707–741.
- Naseemullah, Adnan. 2014. “Shades of sovereignty: Explaining political order and disorder in Pakistan’s northwest.” *Studies in Comparative International Development* 49(4):501–522.
- Newbury, David S. 1992. *Kings and clans: Ijwi Island and the Lake Kivu Rift, 1780–1840*. Madison: University of Wisconsin Press.
- Newbury, David S. 2009. *The Land Beyond the Mists: Essays on Identity and Authority in Precolonial Congo and Rwanda*. Athens: Ohio University Press.
- Northrup, David. 1988. *Beyond the bend in the river: African labor in eastern Zaire, 1865–1940*. Vol. 52 Ohio Univ Ctr for International Studies.
- Péclard, Didier and Delphine Mechoulam. 2015. “Rebel Governance and the Politics of Civil War.” Swisspeace Working Paper 1/2015.
- Sánchez De La Sierra, Raúl. 2020. “On the origins of the state: Stationary bandits and taxation in eastern congo.” *Journal of Political Economy* 128(1):32–74.
- Schouten, Peer. 2022. *Roadblock Politics*. Cambridge: Cambridge University Press.
- Staniland, Paul. 2012. “States, insurgents, and wartime political orders.” *Perspectives on politics* 10(2):243–264.
- Staniland, Paul. 2021. *Ordering violence: Explaining armed group-state relations from conflict to cooperation*. Cornell University Press.
- Stearns, Jason K. 2011. *Dancing in the Glory of Monsters*. New York: Public Affairs.

- Stearns, Jason K. 2012. From CNDP to M23: The evolution of an armed movement in Eastern Congo. Technical report Usalama Project I: Understanding Congolese Armed Groups. Rift Valley Institute.
- Stearns, Jason K. 2013*a*. PARECO: Land, Local Strongmen and the Roots of Militia Politics in North Kivu. Technical report Usalama Project I: Understanding Congolese Armed Groups. Rift Valley Institute.
- Stearns, Jason K. 2013*b*. Raia Mutomboki: The Flawed Peace Process and the Birth of an Armed Franchise. Technical report Report of the Usalama Project: Understanding Congolese Armed Groups. The Rift Valley Institute.
- Stearns, Jason K. 2022. *The War That Doesn't Say Its Name: The Unending Conflict in the Congo*. Princeton, N.Y.: Princeton University Press.
- Stearns, Jason and Raphaël Botiveau. 2013. "Repenser la crise au Kivu : mobilisation armée et logique du gouvernement de transition." *Politique africaine* 129(1):23–48.
- Tourangeau, Roger. 2000. Remembering What Happened: Memory Errors and Survey Reports. In *The Science of Self-report: Implications for Research and Practice*. Mahwah: Lawrence Erlbaum Associates Publishers.
- Tull, Denis M. 2003. "A reconfiguration of political order? The state of the state in North Kivu (DR Congo)." *African Affairs* 102(408):429–446.
- Turner, Thomas. 2007. *The Congo wars: conflict, myth and reality*. London: Zed Books.
- Van der Windt, Peter, Macartan Humphreys, Lily Medina, Jeffrey F. Timmons and Maarten Voors. 2018. "Citizen Attitudes Toward Traditional and State Authorities: Substitutes or Complements?" *Comparative Political Studies* (Forthcoming).
- Vansina, Jan. 1978. *The Children of Woot: A History of the Kuba Peoples*. Madison: University of Wisconsin Press.
- Vansina, Jan. 2004. *Antecedents to Modern Rwanda: The Nyiginya Kingdom*. Madison: University of Wisconsin Press.



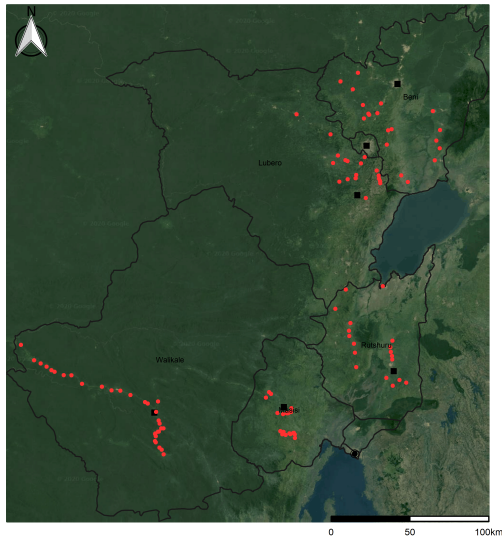
- Vansina, Jan M. 1990. *Paths in the rainforests: toward a history of political tradition in equatorial Africa*. University of Wisconsin Pres.
- Verweijen, Judith and Koen Vlassenroot. 2015. “Armed mobilisation and the nexus of territory, identity, and authority: the contested territorial aspirations of the Banyamulenge in eastern DR Congo.” *Journal of Contemporary African Studies* 33(2):191–212.
- Verweijen, Judith and Vicky Van Bockhaven. 2020. “Revisiting colonial legacies in knowledge production on customary authority in Central and East Africa.” *Journal of Eastern African Studies* 14(1):1–23.
- Vogel, Christoph. 2014. Contested Statehood, Security Dilemmas and Militia Politics: the Rise and Transformation of Raia Mutomboki in Eastern DRC. In *L’Afrique des Grands Lacs. Annuaire.*, ed. Filip Reyntjens, Steph Vandeginste and Marijke Verpoorten. Paris: L’Harmattan.
- Vogel, Christoph, Giovanni Salvaggio, Pierre Boisselet and Jason K Stearns. 2021. The Landscape of Armed Groups in Eastern Congo: Missed Opportunities, Protracted Insecurity and Self-Fulfilling prophecies. Technical report Kivu Security Tracker—Congo Research Group—NYU Center on International Cooperation.
- URL:** [https://kivusecurity.nyc3.digitaloceanspaces.com/reports/39/2021\\_KST\\_report\\_EN.pdf](https://kivusecurity.nyc3.digitaloceanspaces.com/reports/39/2021_KST_report_EN.pdf)
- Wucherpfennig, Julian, Philipp Hunziker and Lars-Erik Cederman. 2016. “Who inherits the state? Colonial rule and postcolonial conflict.” *American Journal of Political Science* 60(4):882–898.
- Young, Crawford and Thomas Edwin Turner. 1985. *The rise and decline of the Zairian state*. Madison: University of Wisconsin Pres.

# Appendix

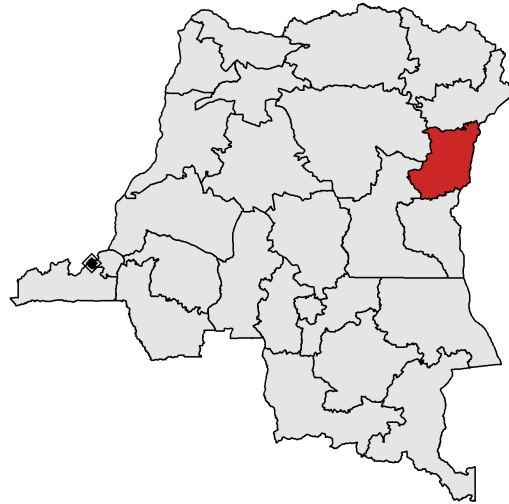
## A Additional Figures

Figure A.1: Map of Sample and DRC

Panel A: Map of Sample Villages

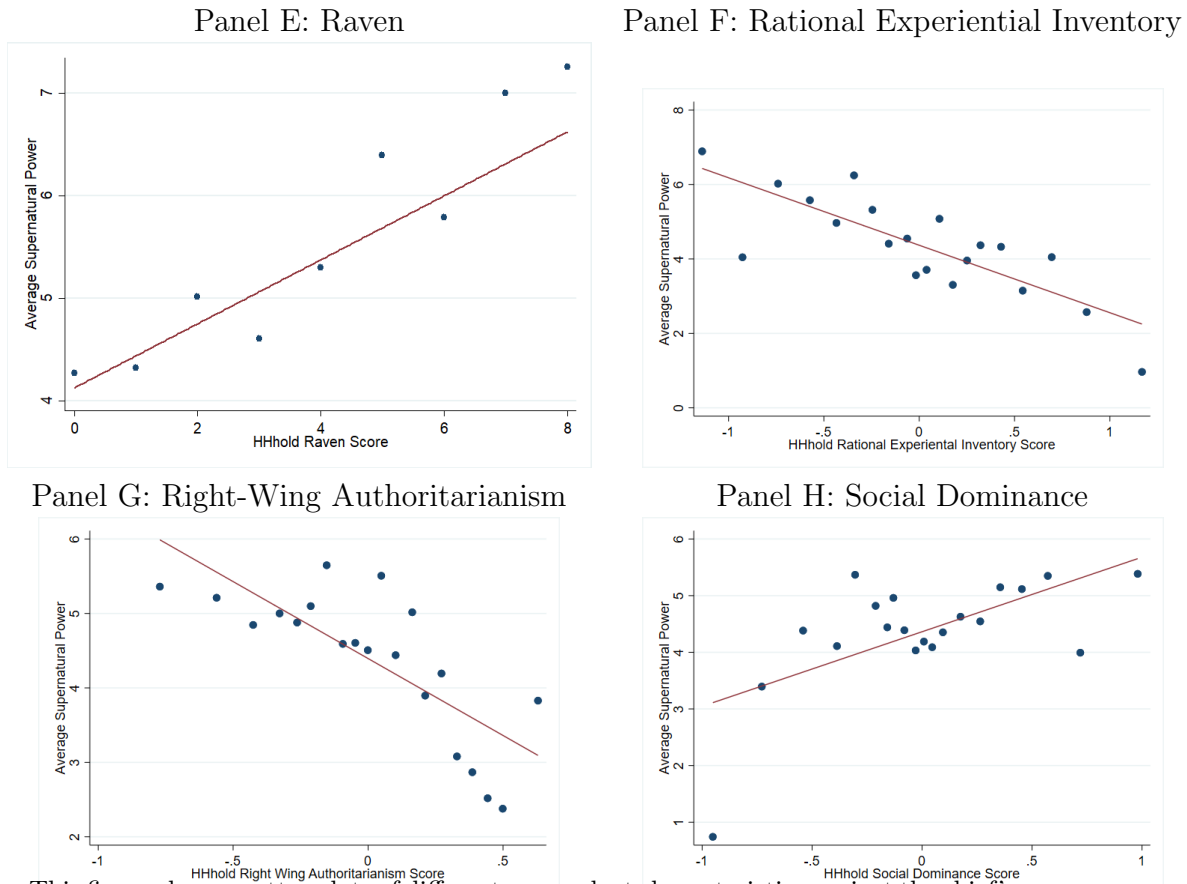


Panel B: Location of North Kivu



*Notes:* This figure shows our study locations. Panel A shows the coordinates of the villages in our data and Panel B shows the Democratic Republic of Congo on the African continent.

Figure A.2: Correlates of Chiefs' Supernatural Power. Respondent Characteristics.



*Notes:* This figure shows scatter plots of different respondent characteristics against the chief's average supernatural power according to villagers. Panel A shows the respondents score on the Raven's test on the x-axis, Panel B the Rational Experiential Inventory score, Panel C the Right Wing Authoritarianism score, and Panel D the Social Dominance score. The linear trend is added to the scatter plot.

## B Additional Tables

Table B.1: Summary of Armed Group Episodes Using Detailed Group Breakdown

Armed Group	# Episodes	Average Length	Shortest Control	Longest Control	Chief Tax	Chief Admin	Chief Power	Earliest Control	Latest Control
RCD-Goma	49	5.51	1	9	0.92	0.07	0.45	1998	2013
Congolese Army	32	6.69	1	26	0.25	0.70	0.89	1990	2016
CNDP	25	4.08	2	9	0.85	0.09	0.16	1998	2011
Mayi-Mayi	23	2.26	1	6	0.89	0.30	0.39	1994	2015
Congolese Security Agencies	15	7.60	1	12	0.08	0.93	0.93	1990	2016
Mayi-Mayi Mudohu	12	2.58	1	5	0.79	0.04	0.09	2000	2005
FDLR	9	4.00	2	8	0.89	0.10	0.44	1993	2015
Rwandan Group	8	4.25	1	11	0.69	0.18	0.50	2000	2015
Nyatara	7	2.29	1	4	0.82	0.00	0.14	2010	2015
Mayi-Mayi Lulwako	7	5.00	1	26	0.43	0.06	0.43	1990	2016
AFDL	5	2.40	2	4	0.20	0.20	0.50	1996	2000
M23	5	2.80	2	3	0.80	0.00	0.00	2008	2014
PARECO	5	3.00	2	4	0.90	0.00	0.20	2003	2010
ADF	4	1.75	1	4	0.00	0.75	0.00	1997	1999
Mongore	3	1.00	1	1	0.67	0.33	0.00	2003	2005
Mayi-Mayi Kifuafua	3	2.67	1	4	0.67	0.00	0.33	1994	1997
Raia Mutomboki Eyadema	3	2.00	1	4	0.83	0.50	0.33	2001	2013
RCD-Kisangani	2	2.00	1	3	0.50	0.50	0.50	1999	2002
RCD-Mongore	2	4.50	4	5	1.00	0.00	0.00	2001	2005
Mayi-Mayi Kaganga	2	1.50	1	2	0.50	0.50	0.50	1996	1997
Mayi-Mayi Kasingie	2	4.00	2	6	1.00	0.00	0.00	1992	1997
Mayi-Mayi Samy-Mze wa meno	2	2.00	2	2	0.50	0.00	0.00	2004	2006
Mayi-Mayi Simba	2	1.50	1	2	1.00	0.00	0.50	1999	2000
Mayi-Mayi Simba-Samy	2	3.50	3	4	1.00	0.00	0.50	1999	2007
Janvier	2	3.50	3	4	0.50	0.00	0.50	2008	2011
Banyamulenge	2	1.00	1	1	0.00	0.50	.	1997	1997
Mayi-Mayi Kabuchibuchi	1	1.00	1	1	1.00	0.00	1.00	2002	2002
Mayi-Mayi La Fontaine	1	1.00	1	1	1.00	0.00	0.00	2011	2011
Mayi-Mayi Werrason Mbusa	1	1.00	1	1	1.00	1.00	1.00	2007	2007
Mayi-Mayi Kifuafua-Padiri	1	2.00	2	2	1.00	0.00	0.00	2001	2002
Mayi-Mayi Surambaya	1	1.00	1	1	1.00	0.00	0.00	2002	2002
Mayi-Mayi Samy-Kabuchibuchi	1	2.00	2	2	1.00	0.00	1.00	2006	2007
Mayi-Mayi Padiri Karendo	1	3.00	3	3	1.00	0.00	1.00	1997	1999
Raia Mutomboki	1	1.00	1	1	1.00	0.00	1.00	2012	2012
Deserters	1	1.00	1	1	0.00	0.00	1.00	1998	1998
Foreigners	1	3.00	3	3	0.00	0.00	0.00	2012	2014
Kasidiens	1	3.00	3	3	1.00	0.00	0.00	1998	2000
Mbairwe	1	4.00	4	4	1.00	0.00	0.00	1993	1996
Batiri	1	5.00	5	5	1.00	0.00	0.00	1993	1997
RCD-KML	1	6.00	6	6	0.50	0.33	1.00	1997	2002
Hutu Group	1	5.00	5	5	1.00	0.00	0.00	1993	1997
	249	4.25	1	26	0.68	0.26	0.43	1990	2016

*Notes:* This table shows summary statistics of armed group episodes by all armed groups in our data.

Table B.2: Institutional Choice by Ethnic Match: Direct and Indirect Rule

<i>Panel A: Direct Rule</i>						
	Direct Rule Index					
	(1)	(2)	(3)	(4)	(5)	(6)
Coethnic Village-Chief	-1.578*** (0.590)			-1.852*** (0.633)	-1.847*** (0.628)	-2.479*** (0.867)
Coethnic Group-Chief		0.968* (0.495)		1.385** (0.554)	1.379** (0.532)	0.0777 (0.565)
Coethnic Village-Group			0.446 (0.662)		0.0386 (0.629)	
Coethnic Village-Chief $\times$ Group-Chief						-0.625 (0.636)
Observations	136	155	155	136	136	136
$R^2$	0.447	0.400	0.386	0.477	0.477	0.488
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
AG FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	IDV	IDV	IDV	IDV	IDV	IDV
<i>Panel B: Indirect Rule</i>						
	Indirect Rule Index					
	(1)	(2)	(3)	(4)	(5)	(6)
Ethnicity of chief same as village	0.475 (0.592)			0.694 (0.571)	0.681 (0.559)	0.735 (0.751)
Coethnic Group-Chief		-0.732 (0.474)		-1.113** (0.493)	-1.095** (0.525)	-1.029 (1.051)
Coethnic Village-Group			-0.391 (0.610)		-0.115 (0.675)	
Coethnic Village-Chief $\times$ Group-Chief						-0.408 (0.755)
Observations	136	155	155	136	136	136
$R^2$	0.287	0.287	0.274	0.326	0.326	0.326
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
AG FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	IDV	IDV	IDV	IDV	IDV	IDV

*Notes:* This table repeats the analysis of Table 4 but instead of using the difference between Indirect and Direct Rule indicators as the outcome variable, Panel A uses the Indirect Rule indicator and Panel B the direct Rule indicator. The analysis is at the armed group episode level, taking the governance arrangements from the first year of a group's occupation of a village. It implements Specification 2 and has the binary indicators for whether the chief and armed group, chief and majority of village, and armed group and village share the same ethnicity as the explanatory variable. Standard errors, clustered at the village level, are shown in parentheses. \*, \*\*, \*\*\* indicate that the corresponding coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.

Table B.3: Institutional Choice For Different Dimensions of Rule

Panel A: Predictor 1												
	Taxation		Recruitment		Legitimation		Administration		Justice		Political	
	Direct (1)	Indirect (2)	Direct (3)	Indirect (4)	Direct (5)	Indirect (6)	Direct (7)	Indirect (8)	Direct (9)	Indirect (10)	Direct (11)	Indirect (12)
Predicted Chief Power 1	-0.203 (0.124)	-0.243 (0.172)	-0.0642 (0.101)	-0.108 (0.217)	-0.114 (0.140)	0.245 (0.240)	-0.118 (0.224)	0.381** (0.179)	-0.540*** (0.194)	0.540*** (0.194)	-0.455** (0.193)	0.215 (0.151)
Observations	116	116	116	116	116	116	116	116	116	116	114	114
$R^2$	0.696	0.548	0.462	0.438	0.691	0.460	0.582	0.454	0.463	0.463	0.463	0.526
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AG FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV
Panel B: Predictor 2												
	Taxation		Recruitment		Legitimation		Administration		Justice		Political	
	Direct (1)	Indirect (2)	Direct (3)	Indirect (4)	Direct (5)	Indirect (6)	Direct (7)	Indirect (8)	Direct (9)	Indirect (10)	Direct (11)	Indirect (12)
Predicted Chief Power 2	-0.344** (0.138)	-0.366** (0.174)	-0.0213 (0.112)	-0.197 (0.295)	-0.185 (0.151)	0.124 (0.346)	-0.0275 (0.272)	0.468** (0.181)	-0.501** (0.213)	0.501** (0.213)	-0.422** (0.204)	0.351 (0.210)
Observations	73	73	73	73	73	73	73	73	73	73	70	70
$R^2$	0.681	0.630	0.406	0.446	0.669	0.481	0.577	0.451	0.512	0.512	0.520	0.587
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AG FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV
Panel C: Group Tenure												
	Taxation		Recruitment		Legitimation		Administration		Justice		Political	
	Direct (1)	Indirect (2)	Direct (3)	Indirect (4)	Direct (5)	Indirect (6)	Direct (7)	Indirect (8)	Direct (9)	Indirect (10)	Direct (11)	Indirect (12)
Group's tenure (years)	0.169** (0.0664)	0.0831 (0.0562)	0 (.)	0.00587 (0.0174)	-0.0283 (0.0354)	-0.244*** (0.0915)	0.00524 (0.00627)	-0.0432 (0.0517)	0.187** (0.0796)	-0.187** (0.0796)	0 (.)	0 (.)
Observations	772	772	772	772	772	772	772	772	772	772	749	749
$R^2$	0.919	0.904	1.000	0.975	0.844	0.750	0.998	0.889	0.845	0.845	1.000	1.000
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AG FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV	IDV

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table B.4: Institutional Choice by Different Measure of Chief Power

	Difference Direct-Indirect Rule				
	(1)	(2)	(3)	(4)	(5)
Supernatural power (Mean)	-0.274 (0.285)				
Power to control rain (Mean)		-2.537 (2.057)			
Managment skills (Mean)			0.0161 (0.450)		
Related to previous chief (Mode)				-0.767 (1.348)	
Traditional owner of land? (Mode)					-4.298** (1.878)
Observations	108	108	108	108	105
$R^2$	0.364	0.372	0.354	0.357	0.413
Year FE	Yes	Yes	Yes	Yes	Yes
AG FE	Yes	Yes	Yes	Yes	Yes
Cluster	IDV	IDV	IDV	IDV	IDV

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table B.5: Institutional Choice including Congolese Army

Panel A: Predicted Chief Power	<i>Dependent Variables:</i>					
	Direct Rule		Indirect Rule		Difference	
	(1)	(2)	(3)	(4)	(5)	(6)
Predicted Chief Power 1	-1.436*** (0.446)		0.613 (0.464)		-2.049** (0.775)	
Predicted Chief Power 2		-1.475** (0.631)		0.276 (0.651)		-1.751 (1.182)
Observations	138	85	138	85	138	85
R <sup>2</sup>	0.608	0.643	0.480	0.452	0.591	0.572
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
AG FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	IDV	IDV	IDV	IDV	IDV	IDV
Panel B: Coethnicity	<i>Dependent Variables:</i>					
	Difference Direct-Indirect Rule					
	(1)	(2)	(3)	(4)	(5)	
Coethnic Village-Chief	-2.398** (0.971)		-2.724*** (1.013)	-2.814*** (0.996)	-3.291*** (1.295)	
Coethnic Group-Chief		0.370 (0.807)	1.669* (0.916)	1.815** (0.891)	0.389 (1.234)	
Coethnic Group-Villagers				-0.618 (1.134)		
Coethnic Village-Chief × Group-Chief					-1.221 (1.093)	
Observations	170	193	170	170	170	
R <sup>2</sup>	0.570	0.510	0.585	0.586	0.588	
Year FE	Yes	Yes	Yes	Yes	Yes	
AG FE	Yes	Yes	Yes	Yes	Yes	
Cluster	IDV	IDV	IDV	IDV	IDV	

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



Table B.6: Institutional Choice by Predicted Chief Power and Group Tenure including Congolese Army

	Difference			
	(1)	(2)	(3)	(4)
Group's tenure (years)	0.878*** (0.297)		0.222* (0.119)	0.296** (0.128)
Predicted Chief Power 2		-0.291 (0.750)	-0.590 (0.769)	-0.813 (0.761)
Predicted Chief Power 2 $\times$ Group's tenure (years)				0.0778* (0.0444)
Observations	885	475	451	451
$R^2$	0.948	0.948	0.957	0.957
Year FE	Yes	Yes	Yes	Yes
AG Episode FE	Yes	Yes	Yes	Yes
Cluster	IDV	IDV	IDV	IDV

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table B.7: Armed Group Control by Chief Power

	Village Controlled by Armed Group			
	Any (1)	excluding Army (2)	Any (3)	excluding Army (4)
Predicted Chief Power 1	-0.0305 (0.0560)	-0.0575 (0.0421)		
Predicted Chief Power 2			-0.0303 (0.0618)	-0.0628 (0.0486)
Observations	2069	2069	1321	1321
$R^2$	0.153	0.296	0.141	0.339
Year FE	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes
Cluster	IDV	IDV	IDV	IDV

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

*Notes:* This table shows the effects of chief power on whether an village is occupied by an armed group. The analysis is at the village-year level. Standard errors, clustered at the village level, are shown in parentheses. \*, \*\*, \*\*\* indicate that the corresponding coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.