

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

European Journal of Political Economy

journal homepage: www.elsevier.com/locate/ejpeLegal pluralism in post-conflict Sierra Leone[☆]Pedro Naso^a, Erwin Bulte^b, Tim Swanson^{a,*}^a Department of Economics, Graduate Institute of Geneva (IHEID), Maison de la Paix, Ch. Eugene-Rigot 2, CH-1211, Geneva, Switzerland^b Department of Economics, Utrecht University and Wageningen University, P.O.Box 8130, 6700, EW, Wageningen, the Netherlands

ARTICLE INFO

JEL classification:

O17

H11

P48

K42

Keywords:

Legal dualism

Enforcement externalities

Civil war

Africa

ABSTRACT

We examine the interaction between two legal systems in post-conflict Sierra Leone. To do that, we measure the impact of competition between state and non-state legal authorities on the number of disputes and on the amount of fines charged per dispute. Our results suggest a potential negative externality between regimes for civil disputes that is, an increase in the cost of apprehending a person and a reduction in the amount of fines per dispute collected when two regimes operate in the same village. This indicates that a potential benefit to the local people from multiple competing regimes is a reduction on expected authoritative expropriation.

1. Introduction

As is often the case in post-colonial societies, Sierra Leone is an example of a nation governed under multiple legal regimes, one instituted by the nation-state when administered by a colonial power and one existing before the state came into being. The traditional legal regime evolved within local rural communities and existed over many years, while the colonial legal regime was transplanted from the ruling European power (here, the United Kingdom) by means of its establishment primarily within a colonial capital (here, Freetown). With time, there was an attempt to diffuse the authority of the state regime outside of the capital, through the establishment of a set of rural authorities (labelled the “Paramount Chieftaincy”) (Jackson (2011)). For most of a hundred years, the two regimes have

[☆] The authors would like to thank their respective institutions for support in this project, and the following for discussions and comments at various points along the way: Shaun Larcom, Maarten Voors, Andreas Kontoleon. Special thanks to Francesca DiNuzzo for excellent research assistance in regard to the initial analysis of the Sierra Leone database. And thanks to our colleague Shaun Larcom for his investigation of the legal and institutional structure prevailing in Sierra Leone (and creation of Fig. 1). The Sierra Leone database used in this study was developed by Wageningen University and Cambridge University (Erwin Bulte and Maarten Voors, Coordinators) with partial funding from the RSPB UK. Partial funding for the research assistance provided by Francesca DiNuzzo was provided by the European Union’s Seventh Framework Programme FP7/2007–2011 under Grant Agreement no 290693 FOODSECURE.

* Corresponding author.

E-mail addresses: pe-dro.guimaraes@graduateinstitute.ch (P. Naso), erwin.bulte@wur.nl (E. Bulte), tim.swanson@graduateinstitute.ch (T. Swanson).

operated in tandem, albeit with a significant amount of popular dissatisfaction regarding their method and mode of operation.¹

In Sierra Leone, the outcome of any legal claim frequently results in a benefit primarily for the court authority (either by reason of the authority placing a general fine or labour penalty on the person concerned, or by asserting a claim on behalf of the rights of the same elite). Evidence for this sort of practice is observed in the relationship between legal disputes² and the work cycle, where the elite's need for workers is seen to be related to the number of actions being prosecuted (Mokuwa et al. (2011)). This practice is also evident in the prevalence of claims for items such as "woman damage" (adultery), where the elite makes use of their rights over women to generate actions against unentitled men.³ Unlike places where courts are reactive, claims prosecuted within these sorts of legal regimes are more proactive⁴, and can be used as a general mechanism for placing claims upon the labour or other resources of the subject populace.

This paper attempts to analyse how the two legal regimes state and non-state that coexist in Sierra Leone are used for expropriation of the populace. Similar to other research that has examined the roles of legal regimes in Africa (Gennaioli and Rainer (2007), Platteau (2009), Glennerster et al. (2013), Logan (2013) and Cecchi and Melesse (2016)), we examine how these two institutional authorities have interacted in their administration of villages in a given region the Gola forest in postconflict Sierra Leone and whether multiple legal regimes increase or decrease authoritative expropriation.

To conduct our empirical analysis, we exploit the consequences of a historical event. Sierra Leone's long civil war (1991–2002) severely damaged both the country's state and non-state legal regimes (Fanthorpe (2006), Bellows and Miguel (2006) and Mokuwa et al. (2011)). The Revolutionary United Front (RUF) sought out and killed many of those who administered the law. In rural areas, the state legal structure was entirely destroyed during the war. In certain villages, the non-state legal system also suffered a significant weakening of capacity due to the killing of large numbers of village chiefs and elders (the primary administrators of non-state courts) (Jackson (2011)).⁵ The entirety of both regimes was moved back towards "year zero" by the end of the conflict.

Following concerted efforts by international donors, the state legal infrastructure was completely rebuilt from 2005, and commenced functioning as a newly initiated state regime. At the same time, the non-state system was also reestablished in many places, and new chiefs and elders came into being. Yet, in some villages in the Gola forest, the non-state system took years to be reestablished or was not reestablished at all. By indiscriminately killing village chiefs in many areas, the rebel forces destroyed the traditional justice system in some villages and not others. This allows us to compare villages where there were two legal regimes, with villages where only the state regime operated.⁶

We examine two ways in which legal regimes can interact: on the number of disputes and on the amount of fines collected per dispute. Our results suggest that there are negative externalities for civil disputes between regimes; that is, the number of disputes per person is smaller when two regimes operate than it would be if there were no externalities. We also show that there is reduction on the magnitude of fines per dispute when state and non-state regimes coexist. Overall, this indicates that legal competition might reduce the expected amount of authoritative expropriation that occurs in this society.⁷

Building upon the idea of governance systems or authorities in newly developing areas (see Olson (2000), McGuire and Olson (1996) and van Besouw et al. (2016)), we offer a possible interpretation for our empirical results.⁸ We focus on competition based on quantities

¹ Both the non-state and state justice systems had been severely criticised in the aftermath of the civil war. Each institutional authority in Sierra Leone was believed to have some malign impacts on the people subject to its jurisdiction. The administration of justice by the Paramount Chieftaincy (courts operated for the state) and the local village chiefs have been described by various commentators as 'despotic', 'corrupt', 'arbitrary' and 'harsh' and operating for the benefit of a small, elderly male elite (see Jackson (2005), Fanthorpe (2006), Jackson (2007), Gennaioli and Rainer (2007), Acemoglu et al. (2014a) and Acemoglu et al. (2014b)).

² More specifically, Mokuwa et al. (2011) refer to an 'actionable offence', which is any type of offence (a breach of a law or rule) that affords grounds for legal action. This Definition will be used throughout the paper.

³ Claims for "woman damage" (interference by one man with the claimed rights of another man in a designated woman) represent about 30% of the total number of claims in the database (Mokuwa et al. (2011)).

⁴ Throughout this paper, we define as 'proactive' a legal authority that has complete control over the definition of actionable offences and the pursuit of enforcement. This definition will serve as a simplification to help us understand how legal authorities interact in rural Sierra.

⁵ On this Jackson (2011) states that 'the governance infrastructure of state institutions symbolising the power structures that RUF fought against, had been entirely destroyed. In the countryside there were no government records or buildings and the chiefs had largely fled or been killed. In sum, the situation after the war was one of rather literal state-building. There was no existing state left at almost any level'.

⁶ In effect, we are making the following three assumptions to substantiate the conclusions from our empirical analysis: (i) the assumption of indiscriminate killing of chiefs by rebels. The results may be driven by selection bias if chiefs with specific characteristics were targeted, or if chiefs in villages with specific characteristics were targeted (if these characteristics are associated with judicial authority); (ii) the assumption that dismantling institutional capacity leaves an institutional legacy. If village chiefs are murdered, it takes considerable time to restore the full capacity of the local judicial system; (iii) the assumption that destroying local legal capacity (murdering the chief) does not affect the flow of disputes.

⁷ We perform several robustness checks to our main findings. Our results concerning the number of disputes per person are the most robust one.

⁸ Most work on legal pluralism has considered the impact of one regime on the other as a question of interacting legal frameworks or interacting monitoring systems (e.g. Larcom and Swanson (2015), Zasu (2007) and Kaplow and Shavell (2007)), but always within a single governance unit (two exceptions to this are Aldashev et al. (2012b) and Aldashev et al. (2012a)). We take a slightly different approach by examining legal authorities as competing governance units.

(number of disputes) and model both regimes as organs seeking to assert authority over the same populace in a given territory.⁹ Each unit would like to maximise its area of governance and the number of people from which it is able to appropriate rents (or fines in this case). A regime may attempt to exert authority over a population, but be limited in its ability by reason of the costs of doing so. One reason that there may be costs in asserting authority is the spatial cost of governance; that is, a regime's ability to exercise authority may be potentially wasting with distance. Another reason that the costs of asserting authority may vary is the existence of other, competing regimes. It might be the case that multiple governance regimes complement one another in enforcement, resulting in reduced costs at the intersection. Alternatively, it could be the case that the intersecting regimes create interference for one another, resulting in extra costs. Here, we see pluralism more like a contest between regimes competing to assert governance, and their interaction may create costs to one another.

The paper proceeds as follows: Section 2 relates this paper to existing literature. Section 3 outlines the institutional characteristics of the country and the conflict. Section 4 presents our theoretical model. Section 5 provides our empirical analysis and presents our main results. Section 6 presents our robustness checks. Section 7 concludes.

2. Related literature

Our study is closely related to the literature on the interaction between competing authorities in Africa. Part of this literature examines the impact of pre-colonial institutions (Acemoglu et al. (2014a) and Platteau (2009)) and ethnic divisions (Glennerster et al. (2013) and Michalopoulos and Papaioannou (2013)) in Africa's current economic development. Similar to our work, these studies are concerned with understanding the outcome of the interaction between state and non-state institutions on the people subject to them. A second branch of this literature studies the effects of different types of land property rights statutory (state) and customary (non-state) on land investment, and why customary property rights are so persistent (Fergusson (2013) and Goldstein and Udry (2008)). Finally, a third branch analyzes the political outcome of the competition between authorities (Baldwin (2013) and Kasara (2007)).

More specifically, our paper is related to research from that literature that models explicitly competition between two authorities. Analogously to Mizuno (2016), we model how two different overlapping authorities state and non-state compete for rent-extraction in a rural setting. Our theoretical set up is somewhat similar to the one in his first model, where the relative power of the competing authorities ends up determining the revenue they are able to extract from farmers. However, in our model, local people are immobile and do not respond to authorities' actions.

As in Aldashev et al. (2012b), we develop a model of legal dualism with competing jurisdictions. They study how changes in the state legal regime affects customary law, and allow for the possibility of a legal reform. In the sense that we allow for externalities between legal regimes, our model also captures this idea of one regime impacting the other. Their conclusion is that state legislation can make customs evolve to a more welfare enhancing outcome depending "upon the incentives of the customary authorities to keep their people within the fold".

Our inquiry is also part of a growing literature analysing the interaction of state and non-state legal institutions under the broad headings of 'law and norms' and 'legal pluralism'. Analysts have modelled various aspects of how state and non-state legal institutions can interact with one another: these include modelling fundamental relationships in terms of substitutability (Zasu (2007)), complementarity (Kaplow and Shavell (2007)), convergence (Aldashev et al. (2012b)), and dissonance (Larcom and Swanson (2015)). Despite these theoretical works, there is virtually no empirical work quantifying the effect on disputes and fines resulting from a move from legal monism to legal pluralism in either the developed or developing world.¹⁰

To this list of assessments of the impacts of pluralism, we add the seminal work of Olson in considering the origins of governance regimes (Olson (2000) and McGuire and Olson (1996)). In Olson's framework, the origins of governance rest on the activities of roving bandits. They are organised groups that control the means of coercion and extract rents from a given population. Once these bandits realise that they can increase rents by encouraging local production, they become stationary and rationalise theft in the form of taxes. We consider the problem of governance in post-conflict Sierra Leone to be similar to this situation. In our model, traditional and state authorities behave as roving bandits, competing for rents, extracted in the form of fines.

We are not the first to apply Olson's framework in such a situation. Previously, Acharya et al. (2017) employed a similar framework to study how institutions limiting predation have emerged in Northern Somalia.¹¹ Kurrild-Klitgaard and Svendsen (2003) also draw upon this work to study the actions of Viking forces and their settlements. Our work is distinct in that we attempt to quantify the nature

⁹ In Olson's model, the incentive for the establishment of authority is to capture a flow of rents from the provision of governance, but at the earliest stages of government there may be far more appropriation in evidence than there is governance. Three other papers have also used Olson's concepts to model the behaviour of rudimentary governments as potentially predatory agents (Kurrild-Klitgaard and Svendsen (2003), Acharya et al. (2017) and van Besouw et al. (2016)). For a law and economics perspective on the development and design of institutions, see Friedman (1984), Shavell (1993) and Parisi and Dari-Mattiacci (2004).

¹⁰ To a lesser extent, this paper also relates to the literature on state capacity formation (Acemoglu (2005), Acemoglu et al. (2010), Besley and Persson (2009), Besley and Persson (2010), and Besley (2011)). Acemoglu (2005) and Acemoglu et al. (2010) discuss the concepts of weak and strong states and which equilibria allow the existence of them. They view strong states as political authorities that achieve the monopoly of violence similarly to the idea we present here that predatory authorities compete for the monopoly of fine extraction in a given domain (Olson (2000)). Besley and Persson (2009), Besley and Persson (2010) and Besley (2011) analyse incentives weak states have to invest in state formation and in capacities to raise revenue and support markets.

¹¹ Similar to Sierra Leone, Somalia's lack of a strong state has encouraged local authorities (traditional clan-based authorities) to compete for rents and, eventually, to function as a state.

of interaction between authorities in this context. In sum, there is an interesting literature based on Olson's framework of competing authorities, but, to our knowledge, we are the first to use it to look at the interaction of governance units within a post-conflict context, and to attempt to quantify how this competition impacts upon the subject populace.

3. Legal pluralism in Sierra Leone and the impact of the civil war

Sierra Leone's colonial history is one of legal bifurcation between the colony of Freetown and the dissimilar rural protectorate of Sierra Leone. The coastal Crown Colony of Freetown was established in 1808 and consisted primarily of repatriated slaves, while the larger rural Sierra Leone Protectorate was incorporated much later in 1896 and was governed by indirect rule. While a western colonial legal infrastructure existed in Freetown, at first it made little effort to project its authority into the rural interior of the protectorate of Sierra Leone.

This changed with the 1896 ordinance that established the 'Courts of the Native Chiefs' to deliver customary law to the rural populace. These were state courts later named 'Local Courts' that used non-state codes and rules. They were administered by a newly created authority entitled the "Paramount Chieftaincy" and operated in tandem with the non-state legal system (village courts and moots, always present in rural Sierra Leone). Today, Sierra Leone can be described as a society that has been subject to a legal transplant, where the state has also tried to accommodate elements of the 'traditional' legal institutions into its own, but where large parts also remain outside of it.

Sierra Leone's legal circumstances are represented in Fig. 1 above.¹² As can be seen, a distinction is made between state legal institutions and the non-state legal institutions. The state legal institutions consist of western-style courts, police, prisons, and courts administered by Paramount chiefs. The non-state institutions consist of village courts, moots, and other non-state dispute settlement mechanisms and are usually administered and enforced by village chiefs, elders and respected family members. Note that both Local Courts (state justice) and village courts (non-state justice) administer customary law, but the existence of village courts is expressly forbidden by the Local Courts Act (1963).

The most widely used state courts are Local Courts, which are found in each chiefdom headquarters town and a number of section towns. Local court chairmen are required to be knowledgeable in local custom and history, and are appointed by the Paramount chief with central government approval. While these courts are empowered to hear only minor cases (crimes punishable by less than six months imprisonment) central oversight is minimal and in practice they often exceed their jurisdiction both in terms of cases and penalties (Jackson (2011) and Castillejo (2009)). Sentences (usually in the form of a fine) are a process of negotiation between the parties involved with consideration paid to the financial resources of the accused (Fanthorpe (2006) and Kelsall (2006)). They are enforced by court officers referred to as 'chiefdom police', and those unwilling or unable to pay the fines are forced to flee the chiefdom or go to prison (Jackson (2011)).

Despite the existence of state courts, many Sierra Leoneans rely on non-state courts, moots, and unofficial mediation processes to seek redress, punish criminals and solve disputes.¹³ Maru (2006) notes that '[t]he vast majority of village and section chiefs adjudicate claims within their localities, issuing summonses, conducting hearings, making judgements, and collecting fines [...]'. Despite having no state authority, village courts often mimic the state sanctioned customary courts with village chiefs issuing fines and fees for their services in a similar manner to Local Courts (Maru (2006)).

One of the traditional roles of chiefs at all levels in Sierra Leone has been to help their constituents resolve conflicts. Therefore, even though village chiefs are prohibited from operating courts by statute, their courts maintain legitimacy through non-state means such as culture and traditional institutions. If an individual objects to a village court's ruling, he or she can choose to refuse to pay the fine and abscond from the village. Another option available to a dissatisfied disputant at village justice level is to appeal to the Paramount chief directly or to one of the Local Courts in his chieftaincy (that is, to go to the state system). This scenario can see a disputant appealing the decision of an illegal court (i.e. the village court) within a legal court (i.e. the Local court).

3.1. The impact of the civil war on pluralism

This study builds on individual and village level data collected in the area in and around the Gola forest in south-eastern Sierra Leone. The Gola region has suffered from the effects of the civil war since its earliest stages. RUF rebels invaded the country from the Liberian border and settled in this area, with the conflict subsequently spreading to the rest of Sierra Leone (Bellows and Miguel (2006)). Throughout the war, the Gola forest reserves sheltered the RUF headquarters (Mokuwa et al. (2011)). Bellows and Miguel (2009) show that the eastern region along the Liberian border consistently experienced the highest level of war victimization. They also suggest that war violence was locally correlated with rebels' recruitment, as many RUF fighters were ruthlessly sent to raid their own villages. The Gola region is indeed the only region where rebels exerted a significant degree of voluntary participation from marginalized rural youth with no patronage and poor marriage opportunities (Mokuwa et al. (2011)).

There is a strong narrative in the literature that in pre-war times ruling elites were despotic and unjust, and that they frequently abused their powers and implemented laws to their own benefit. Some suggest that years of grievances fuelled the rebellion and many

¹² Manning (2009) provides a thorough and in-depth description of the interaction of state and non-state courts and dispute settlement mechanisms in Sierra Leone.

¹³ Jackson (2011) suggests that 'around 80% of people access justice through traditional mechanisms', although he acknowledges that this is difficult to verify.

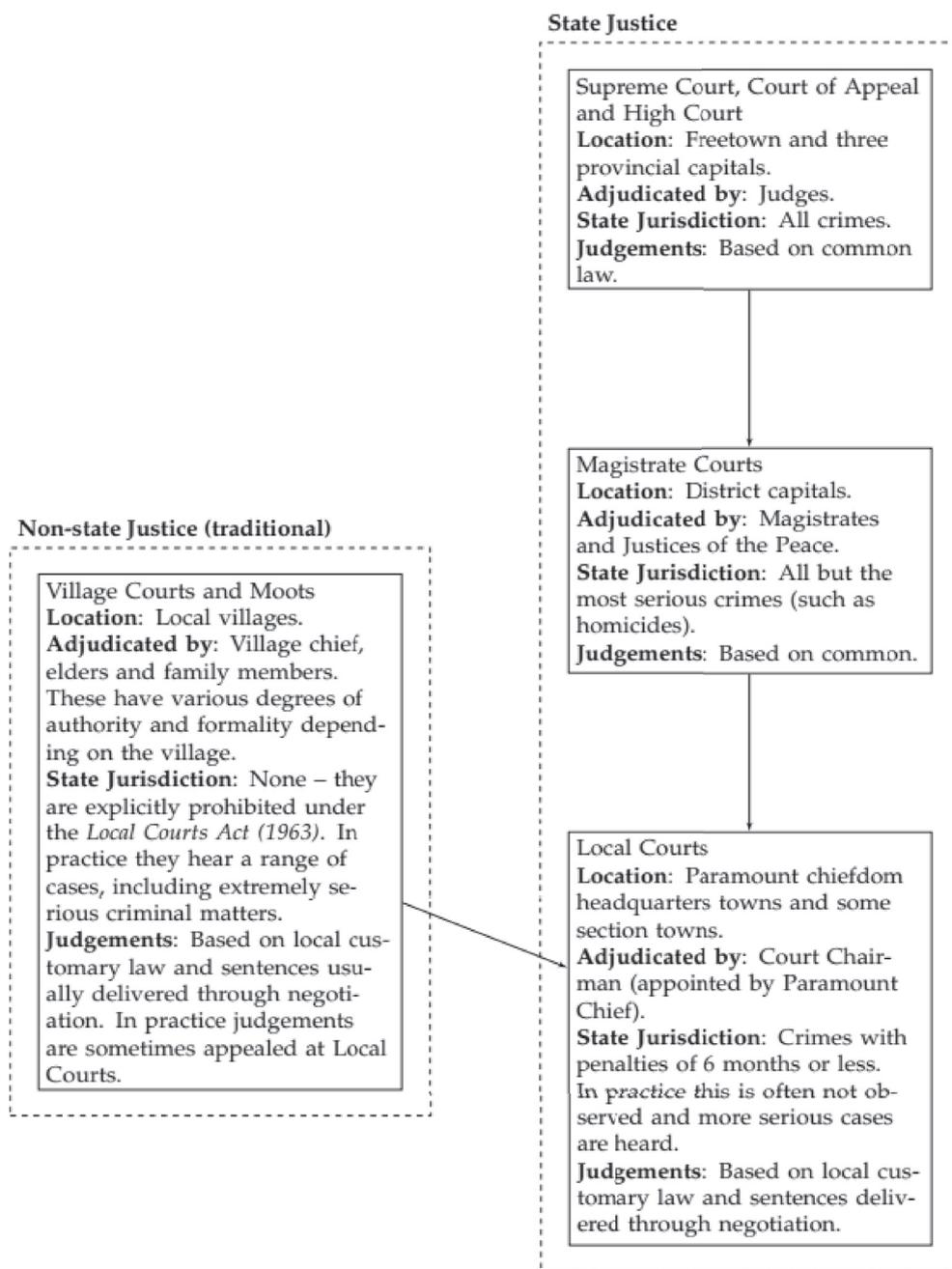


Fig. 1. Legal pluralism in Sierra Leone: State and non-state justice.

youths joined the RUF to settle ‘old scores for justice gone sour’ (Archibald and Richards (2002)). Some state bodies, such as the Sierra Leone Police, were also reportedly ‘corrupt’, ‘nepotistic’ and ‘oppressive’, and engaged in acts of human rights violation (Baker (2005)). Sometimes, even traders were targeted by the RUF because they were perceived to have contributed to this exploitative system (Baker (2005)). Some suggest there was a sentiment of hatred against all kinds of visible hierarchical authorities, from Paramount chiefs down to administrators and village chiefs.¹⁴ As a result, Paramount and Local chiefs, district officers, and other authority figures, were targeted

¹⁴ One of the consequences of this spirit of resentment against state and non-state authorities was that people sought alternative sources of public services provision and crime prevention, e.g. policing and security. Communities created local committees for peace monitoring, dispute settlement and guarding that were arguably more accessible and less costly (Baker (2005)). This further reinforces our view that legal pluralism in Sierra Leone has crucial effects on development outcomes and institutional performance.

as representatives of a despotic hierarchical system (Jackson (2005)). Many were humiliated and arbitrarily executed by rebels out of a spirit of revenge against their prolonged bad governance (Jackson (2011)). There is reasonably strong evidence for the belief that both legal systems (state and non-state) were applied in an oppressive manner and were used as systems for advancing the interests of the authorities.

The impact of the conflict on pluralism was first and foremost the incapacitation of the state system. All Paramount chiefs (in the survey area) fled at the beginning of the conflict. Some died outside of the chiefdom and only one came back after the war. None of them were replaced during the conflict (Reed and Robinson (2013)). The civil war essentially left the state judicial system incapacitated until 2005 when it was re-instated through international interventions. The second impact of note is that the non-state justice system was destroyed in some villages and not others. Rebel forces sought out and killed village chiefs in many of the local areas in which they were active. Around 40 percent of villages in the sample area reported the killing of the incumbent chief during the civil war. For those villages, there was a severe shock to the administration of the non-state regime.

4. A theoretical model of competing legal regimes

The theoretical framework we develop in this section is a possible way to think about legal pluralism in a post-conflict society, where institutional capacity is low. Analogously to the models of early-developing authorities which were elaborated by Olson (Olson (2000) and McGuire and Olson (1996)), we assume that legal regimes are appropriative authorities; that is, like roving bandits, these authorities wish to maximise rents extracted from the populace. Their objective is to apprehend as many people as they can to extract fines from them, and their only obstacle to accomplish this goal are costs related to this process (that we call 'capture costs'). In other words, we consider them to be fine-seeking authorities that are mainly concerned with punishing offences and not so much with resolving disputes.

This means that our focus here is on a competition based on the number of disputes which is proportional to the number of people apprehended by legal authorities but not on the amount of fines charged as legal punishment. Another way to examine legal pluralism in postconflict Sierra Leone is to consider that legal regimes are less proactive than what we assume here. That is, they attract people seeking dispute resolution (instead of punishing offences) by lowering fines and legal costs. This would enable litigants to perform some type of forum shopping.¹⁵ In this section, however, we do not discuss this possibility. We assume that legal authorities are proactive: they completely control both the definition of an offence and the pursuit of enforcement.¹⁶

Following a recent literature that models explicitly how state and non-state authorities interact (Aldashev et al. (2012b), Baldwin (2014) and Mizuno (2016)), we construct a dynamic game in which legal regimes choose their level of predatory effort and geographic reach within a competitive system. We also model whether an authority's level of predatory effort might generate extra costs or benefits (pluralism externalities) for the other authority in the region of their intersection. We are interested in understanding how legal systems are used for expropriation and how the interaction of multiple regimes affect the amount of rents extracted.

Given Sierra Leone's post-conflict socioeconomic context, we will assume that its level of institutional governance is similar to the level of a pre-state society, in which different groups still compete for control over the right to assert authority over the governed populace:

Assumption 1. In the context where the state is weak or absent, the objective of a legal regime is to assert jurisdiction over the largest possible group of people, in order to maximise its appropriation of value from the populace.

Individuals managing implementation of each legal regime pursue the objective of appropriation of rents with regard to enforcement activity in that they are usually allowed to retain a high proportion of fines levied in the course of such activity.¹⁷ They extend or restrict their geographic reach and level of predatory effort in order to maximise the amount of rents they appropriate from society.

We wish to investigate how spatial competition between regimes changes the amount of rents they are able to appropriate when compared to a situation of no competition. We begin by modelling the behaviour of one legal regime, and then extend the analysis to the case of two coexisting legal regimes.

4.1. A model of an appropriative authority

Consider a community where there is one proactive legal regime, i.e. it has its own demand for actions because they provide a potential source of income.¹⁸ Essentially, we think of an opportunity for appropriation arising out of any manner of disagreement or

¹⁵ Forum shopping is a practice adopted by litigants to get their cases heard in a particular court that is likely to provide a favourable judgement. See section 5.3.

¹⁶ This assumption is motivated by previous work that shows that the local elite in Sierra Leone (village chiefs, elders, etc.) makes use of their rights over women to generate actions against unentitled men in order to mobilise a working force in the village (Mokuwa et al. (2011)). Note that, however, this is only an assumption. In reality, courts have to be also reactive to be able to adjudicate and resolve disputes. In section 5, we come back to this issue.

¹⁷ We assume that courts identify individuals who may be found to be in violation of either civil, criminal, or even simple social norms (such as paying respect toward authority), and then pursue enforcement actions against anyone in these three categories in pursuit of profit. The assumption implies that the definition of the actionable offence and the pursuit of enforcement are both within the control of a single authority. That is, there is no distinction between prosecutorial and judicial arms of governance. For this reason the numbers of actions that occur can be indicative of both the number of violations of local norms or codes and the degrees of pursuit of self-interest by the local authority.

¹⁸ As Castillejo (2009) points out, court fines are a key source of chiefdom income in Sierra Leone.

undesired behaviour within a community which might result in a fine (for a misdemeanor).

Given that the regime seeking out such disputes acts in both prosecutorial and judicial capacities (judge and jury), the number of disputes administered within a given jurisdiction depends much less on the actual flow of disputes (the supply of disputes) as compared to countries where legal systems are reactive.¹⁹ Thus, we make the following assumption:

Assumption 2. The number of disputes is within the control of the regime administrator, subject to the costs of bringing action against any individual.

Regime i has its own production function with regard to the production of appropriative actions against individuals under its jurisdiction. Individuals are uniformly distributed along a line of length one and are immobile.²⁰ This line represents the territorial extension of the society we are studying. The regime is located at the point $d = 0$, according to Fig. 2. Regime i chooses its level of predatory effort and geographic reach, i.e. how far it should extend its authority.

The production of actionable disputes by this authority is given by

$$n_i(e_i, x_i) = e_i \cdot x_i, \quad (1)$$

where n_i is the number of people against which predatory effort takes place, $0 < e_i < 1$ is the level of predatory effort and $0 < x_i < 1$ is the geographic reach. We can interpret e_i as the likelihood of an individual to be apprehended by regime i . Increases in either of the arguments of $n_i(e_i, x_i)$ increase the number of people against which action occurs.²¹

The cost of capturing one individual is an increasing function of both predatory effort and reach,

$$c_i(e_i, x_i) = e_i + \tau x_i, \quad (2)$$

where the positive constant τ captures costs of extending authority from the seat of power to capture an individual. The farther this regime decides to extend its authority, the greater are incurred costs of enabling its subordinates to exercise that jurisdiction (in terms of wages, transport, infrastructure and risks involved).

Regime i 's optimisation problem is given by

$$\max_{0 < e_i < 1, 0 < x_i < 1} n_i(e_i, x_i) \cdot (F - c_i(e_i, x_i)),$$

where F is the fine that is obtained from one individual. We assume that this amount is fixed and exogenous.²²

Therefore, in equilibrium, we have that the total number of individuals captured is an increasing function of the ratio between the gain of capturing one more individual and the cost of reaching that individual, $n_i^* = f\left(\frac{F}{\tau}\right)$.

4.2. Competition between two legal regimes

Competition between regimes may have no impact other than to provide subjects with potentially-preferred outcomes (as in a competition in fines), but they might also provide competition in other dimensions (such as the production of predatory effort). We are interested in the latter, a measurable indicator of the impact on outcomes in overlapping jurisdictions.²³ In particular, we will assume that this legally pluralistic relationship in Sierra Leone will result in externalities between the state and non-state regimes, depending upon the existence of an area of common jurisdiction.

Consider the same community described previously. We now have two different regimes, a state legal regime and a non-state legal regime.²⁴ The state regime (subscript s) is located at the point $d = 0$ in Fig. 2, whereas the non-state regime (subscript ns) is located at $d =$

¹⁹ Of course the definition of a dispute or a misdemeanor lies within the discretion of the regime, so identifying such opportunities is never an entirely objective matter.

²⁰ The idea here is that it is very costly for individuals to migrate. This is motivated by the fact that, in the region studied, it is rare for individuals to change villages.

²¹ In an anarchic environment, roving bandits are only concerned with appropriating as much output as they can (Olson (2000)). Although they have coercive power, they do not have operational capacity to appropriate 100% of output in a given territory. Our production function captures this idea: for a given x_i , court i can increase the number of people against which enforcement takes place simply increasing its predatory effort.

²² We assume that $1 + \tau < F < 3\tau$. This assumption guarantees that: i) predatory effort and geographic reach are always smaller than one; and ii) authority i always wants to set positive levels of these variables.

²³ In section 5, we address empirically the question of competition in fines between legal regimes.

²⁴ We only include two legal regimes in this section because that is the way the legal system of Sierra Leone works: there is the non-state legal authority and the state authority (see section 3). However, in a more general theoretical setting, nothing would prevent the appearance of several legal regimes. In the context of Sierra Leone, cultural traditions and social hierarchy work as a barrier for potential new entrants in the legal system (and this is our underlining assumption). Only the non-state and the state regimes are legitimised to operate by the structure of the rural society and by its cultural codes and norms.

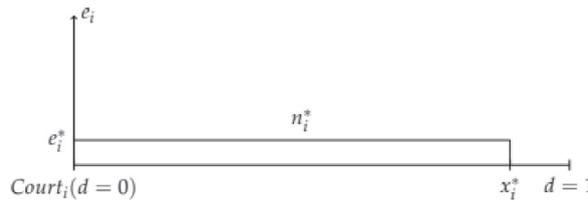


Fig. 2. Territorial Extension. We assume individuals are distributed uniformly across space and are immobile (similarly to the model in Hotelling (1990)). The authority chooses its geographic reach and predatory effort given costs to apprehend an individual.

1. We assume that the non-state regime is able to cover the whole territory of the community, $x_{ns} = 1$.²⁵

Assumption 3. The cost of extending non-state authority is equal to zero, $\tau_{ns} = 0$.

We also assume that the state regime has to choose its area of reach, x_s , before it chooses its predatory effort, e_s . This assumption is motivated by the fact that there has to be some infrastructure in place in the form of courts or administrative offices, for example for the state to begin exerting its authority.

Assumption 4. The state legal regime chooses its geographic reach before it chooses its level of predatory effort.

Combining these assumptions, we have that state and non-state authorities play the following dynamic game:²⁶

- $t = 0$: The non-state regime exists and operates;
- $t = 1$: State regime chooses extension of its authority, x_s ;
- $t = 2$: State and non-state regimes choose levels of predatory effort, e_s and e_{ns} .

At $t = 2$, the non-state regime updates its level of predatory effort according to the state regime’s decision at $t = 1$. At $t = 0$, the non-state regime enforces its monopolistic level of appropriation.²⁷

We define two new *cost of capture* functions,

$$c_s(e_s, e_{ns}, x_s) = e_s + be_{ns} + \tau x_s, c_{ns}(e_{ns}, e_s) = e_{ns} + be_s \tag{3}$$

where c_s refers to the cost of capture of the state legal regime, while c_{ns} refers to the cost of capture of the non-state legal regime. The coefficient b measures the effect of regime j ’s predatory effort level on regime i ’s cost.

Definition. The impact of one legal regime on another depends entirely on the interaction of costs with each regime’s predatory efforts. This is measured by the externality parameter, b :

$$b = \begin{cases} b > 0, & \text{negative externalities} \\ b < 0, & \text{positive externalities} \\ b = 0, & \text{no externalities} \end{cases}$$

A negative b means that regime i ’s activity decreases regime j ’s cost (i.e. complementarity); that is, it becomes less costly to apprehend individuals when the two regimes are operating together. On the other hand, a positive b means that the two courts behave as substitutes, their competition for individuals increase their costs of capture.

We solve this game by backward induction. At $t = 2$, state and nonstate regimes solve the following simultaneous optimisation problem:

$$\max_{0 < e_s < 1} e_s x_s \cdot (F - e_s - be_{ns} - \tau x_s), \max_{0 < e_{ns} < 1} e_{ns} \cdot (F - e_{ns} - be_s),$$

We have that the optimal levels of predatory effort are given by

²⁵ This assumption is motivated by the features of the empirical problem we examine. We study competition between “Local Courts” (state regime) and “Village courts” (nonstate regime). Our basic unit of analysis will be the village. Local courts are located far from the villages we examine in some cases it takes half a day by car from the local court to a village whereas village courts are located inside these villages. Hence, it seems reasonable that village courts do not incur in any transportation costs to capture individuals.

²⁶ This time structure is motivated by the timing of events in Sierra Leone. The civil war lasted until 2002. The state legal apparatus was completely destroyed during the war, leaving only non-state courts (in villages where chiefs were not killed). These courts were operating alone until the state regime was rebuilt in 2005. After the state regime was restored, state courts decided how farther to extend their authority, and, together with non-state courts, set new predatory effort levels.

²⁷ Note that, because there will always be an overlapping area between regimes, it is optimal for the non-state regime to update its predatory effort level at the last period.

$$e_s^* = \frac{F - \tau x_s}{2} - \frac{b}{2} e_{ns}^* \quad e_{ns}^* = \frac{F}{2} - \frac{b}{2} e_s^* \tag{4}$$

Thus, if $b > 0$, the effort level of one regime decreases the effort level of the other one. This means that for a given τ and a point in the line where both courts operate, a positive b guarantees that n_i total number of people apprehended by i decreases with n_j .

At $t = 1$, the state regime solves the following problem:

$$\max_{0 < x_s < 1} e_s x_s (F - e_s - b e_{ns} - \tau x_s).$$

Solving for the Subgame Perfect equilibrium of this game, we have that the predatory effort of both regimes is a decreasing function of b , the externality coefficient, and an increasing function of F , the fine charged:

$$\frac{\partial e_i^*}{\partial b} < 0 \quad \frac{\partial e_i^*}{\partial F} > 0 \tag{5}$$

There are two other features of the Subgame Perfect equilibrium worth highlighting here. First, non-state predatory effort is always greater than state predatory effort, $e_{ns} > e_s \forall b, F$. This happens because the non-state court does not have to pay for τ , the cost of extending its authority, and concentrates all its resources on predatory effort. Second, the total number of people apprehended, $N^* = n_s^* + n_{ns}^*$, when two legal regimes operate in this society decreases with the externality coefficient, $\partial N^* / \partial b < 0$.

Our model develops a simple framework to examine how two authorities compete over appropriation of rents, and how this competition affects the total number of disputes and the predatory effort of each legal regime. This is one possible illustration of the way legal systems interact, which helps us to interpret some of our empirical results. However, there are other types of interaction that we do not examine here, the most important one being competition in fines charged. We come back to this issue at the end of the next section.

5. An empirical analysis of externalities between legal regimes

Our empirical work derives from two large randomised surveys, both undertaken in 2010 in seven chiefdoms in and around the Gola forest, namely the chiefdoms of Barri, Gaura, Koya, Makpele, Malema, Nomo and Tunkia (Mokuwa et al. (2011)). The first survey contains individual and socioeconomic observations regarding 2239 households and 173 villages. Household members were asked to list the number and type of conflicts they have been involved in during the previous ten years, which allowed to compile a dataset of 3202 cases. The second survey, administered in the same villages, provides information on village characteristics, facilities and history.²⁸

We look at the data on all matters (civil and criminal) handled by either regime, state or non-state. These are usually handled by a court administered by one authority or the other. From a preliminary analysis of the data, we observe that nearly half of all civil disputes—family and land issues, debt and inheritance conflicts—are adjudicated by non-state justice, i.e. village or section chiefs. This number increases to approximately 90 percent for criminal disputes, which include violation of byelaws, public violence and theft. Moreover, almost 30 percent of all disputes in our dataset are ‘woman damage’ (adultery) cases. As Mokuwa et al. (2011) show, these are used by the village elite to mobilise young men to labour in farms.²⁹

It is important to mention that our empirical analysis is constrained by the quality of our data. We do our best to obtain econometric coefficients that can be interpreted as causal. However, we are aware of the potential problems in our identification strategy. In any case, we think that the question we are answering here is interesting enough to deserve an empirical analysis—even if an imperfect one.

5.1. Descriptive statistics

We group disputes reported by households into three categories: total number of disputes, civil disputes and criminal disputes. They are compiled from observations dating from 2005 to 2010 and aggregated by village. In particular, criminal disputes include theft, public violence and alcohol abuse (often associated with violence).³⁰

Descriptive statistics of the variables we use in our regressions are shown in Table 1.³¹ We also provide definitions for each variable. There are two important things to notice here. First, 38% of villages in our sample had their chief targeted and killed. Second, it takes, on average, less than 30 minutes to go from a village to the state court.³²

²⁸ The village survey also contains data on wrongs and dispute settlement. However, from comparison with household-level data, there seems to be an underreporting issue, as the number of observations is drastically lower. In addition, data are compiled from responses by local chiefs and deputies, with this determining potential bias. Therefore, we only use the 3202 cases reported in the household-level data.

²⁹ From now on, the terms disputes and cases are used interchangeably.

³⁰ Public violence is probably a large category that includes different types of violent wrongs, such as robbery, assault and homicide. Unfortunately, codes in the survey do not allow for any differentiation of this kind.

³¹ In our dataset, the number of disputes is reported as count data. We present the rate of disputes (in per capita terms) in Table 1 to make interpretation easier.

³² Table 4 (Panel A) in the Appendix presents the percentage of civil and criminal disputes involving a fine (either in money, labour or both) and the average amount of fines. The fact that almost 70 percent of civil cases and about 90 percent of criminal cases involved payment of a fine (to the authority) arguably speaks for the ‘proactivity’ of both legal regimes.

Table 1
Descriptive statistics of variables used in our main regressions.

	Definition	Obs	Mean	S.D.	Min	Max
Dependent variables (per capita)						
Total disputes	Overall number of disputes reported in the village.	170	0.13	0.17	0	1.1
Civil Disputes	Number of civil disputes (e.g. land issues, debt matters, marriage conflicts).	170	0.08	0.10	0	0.63
Criminal Disputes	Number of criminal disputes (e.g. public offences, failure to do community work, violence).	170	0.06	0.08	0	0.47
Independent variables						
Chief being killed	Indicates whether village chiefs were targeted and killed during the war.	173	0.38	0.49	0	1
Distance to court	Distance to nearest court in travel time.	155	2.24	1.12	1	7
Population 1990	Population of the village in 1990	168	582	858	40	8000
Population growth	Population growth from 1990 to 2010.	168	1.15	2.22	-0.84	14
War victims	Violent events: road ambush, kidnapping, rape, forced labour and property theft (1990–2002).	173	36	13	2	69
NGO activities	Number of NGO activities in the village before the war.	170	0.49	0.97	0	5
Consumption Expenditure 2010	Consumption expenditure in rice, fruits, roots, beans, fish, meat and palm oil.	173	28912	84915	1104	1124040

Consumption expenditure is expressed in local currency units (leones).

5.2. The impact of pluralism on disputes

Baseline specification We use the following model to investigate the effects of legal pluralism on the total number of disputes:

$$N_i = \beta_0 + \beta_1 * 1(\#courts_i > 1) + X_i'\theta + \lambda_i + \varepsilon_i \quad (6)$$

Our dependent variable, N_i , is the number of disputes for which fines were greater than zero in a village per person. That is, the number of disputes that were taken to a court, and for which a fine was paid by the household, divided by 2010 village population. We use disputes per capita to control for possible differences in the capacity to process cases.

The variable $\#courts_i$ captures the existence of two legal regimes in a village. This is the variable of interest, taking the value 1 if only the state court operates in that village, and 0 if state court and non-state courts operate together. We use the targeting and killing of a village chief during the war as a proxy for the absence of the non-state regime. As we show in section 3, village chiefs are the main administrators of the non-state court in a village.

The term X_i refers to a vector of controls we add in our baseline specification to control for potential omitted variables and selection biases. We include controls that might be correlated to our variable of interest number of courts in a village and that might also determine the number of disputes generated. These are: distance to the nearest state court (Local court)³³, population of a village before the war, population growth (1990–2010), war victims, NGO activities before the war and consumption expenditure in 2010. Additionally, we include chiefdom dummies³⁴, λ_i , to capture region-specific non-random variation.

Consumption expenditure is used as a control for economic output in a village. Since we are studying an agrarian society, and most expenditure is in agricultural goods, this variable also captures some region-specific effects related to soil fertility and availability of technology.³⁵

Therefore, we look across local jurisdictions to see how the existence of a second legal system might impact upon the total number of disputes that are generated. We compare villages where the non-state regime was maintained to villages where this regime was severely damaged or destroyed, and only the state legal regime functioned properly.

5.2.1. Identification

Our identification strategy relies on three conditions:

1. Village chiefs were indiscriminately killed by rebels during the war;
2. If the village chief was killed, then the non-state legal regime was seriously undermined in the period thereafter for a long time;
3. The flow of actionable disputes in a village was not affected by the destruction or near destruction of local legal capacity.

³³ This is the distance from the village to the nearest state court, which can be located in Paramount chiefs' headquarters towns or section towns. Note that the non-state courts are located inside each village.

³⁴ Chiefdoms are administrative units that were formalised by the British rule in the 1930s (Bellows and Miguel (2009)). We have seven chiefdoms in our dataset.

³⁵ As it will be clear in the next section, ideally we would use consumption expenditure in 1990 before the war began to control for possible targeting of chiefs that ruled wealthier villages. Unfortunately, we do not have information on any economic variable for a village before the war started. It could be argued, for example, that wealthier villages have greater chances to have their chiefs killed during the war. Also, that economic outcomes partially determine number of disputes and fines in a village. Considering these issues, we decide to add consumption expenditure in 2010. Note that these are agrarian and poor villages; thus, consumption expenditure on food is a good proxy for a village's economic development.

Hence, if conditions (2) and (3) are satisfied, then the coefficient β_1 will give us the difference in number of disputes between a situation in which there is only the state legal regime and a situation in which two legal regimes coexist. We need condition (1) to guarantee that our results are not driven by selection bias (i.e. rebels targeting specific chiefs or villages because of characteristics that are correlated to our dependent variable).

There are reasons to believe that these conditions might hold for villages in the Gola forest, our region of interest. We provide some of them in the following paragraphs. We begin by condition (3), that is, that the flow of disputes remained constant after the killing of a chief.

As we mention in section 3, historical literature on the civil war offers the narrative that, in pre-war times, elites were despotic and unjust (Baker (2005)). There are accounts of abuse of power and corruption by both the state and non-state legal regimes (Jackson (2005)).³⁶ Some authors even support the view that one of the key causes of conflict was the social exclusion of the young and poor many of which joined the RUF (Richards (2003) and Peters and Richards (1998)). As a result, Paramount and village chiefs were targeted as representatives of a despotic hierarchical system. This suggests that, although there were many civilian casualties during the war, the violence was directed. The RUF did not intend to attack every villager or to disrupt village life entirely, but to undermine what was considered to be an unfair hierarchical arrangement.

Our dataset provides some evidence of this. For example, the average percentage of total population (1990) of villagers killed during the war in villages where the chief was also killed is 7%. This number increases to 11% if we consider victims of the war in general villagers that were killed, kidnapped, subjected to forced labour etc. These two figures are similar to the percentage of villagers killed during the war, 4%, and war victims, 14%, in villages that did not have their chief killed. This does not indicate that village life was normal during the war, but suggests that the killing of a chief did not bring complete social deterioration in an already shaken society (the vast majority of villagers was not directly affected by the conflict). Moreover, the difference in war victims is relatively small between villages where the village chief was killed and other villages. Our baseline assumption here is that if population levels are constant and villagers' land is not destroyed (their main source of revenue), then there will not be great changes in the natural flow of disputes that is, in the equilibrium number of disputes arising from the interaction between villagers.

Even if we assume that the equilibrium number of disputes was substantially altered after the village chief was killed, condition (3) might still hold if the flow of disputes was normalised within three years. In other words, if the flow of disputes went back to equilibrium levels that are not correlated with the killing of a village chief. This is so because of the timing of the information we collected. Our survey asked respondents to list any disputes for which they were fined in the period from 2005 to 2010. The civil war in Sierra Leone ended in 2002. Hence, the number of disputes and fines collected by authorities are comparable across our sample if, in 2005, the flow of disputes in all villages reached levels that were unrelated to the killing of a village chief, and remained unaffected until 2010.

To make the flow of disputes comparable across villages, we control for intensity of violence during the war. We use the total number of victims of acts related to the war in a village. This variable includes villagers that were killed, kidnapped, raped, robbed, forced to work, ambushed etc. We also include population in 1990 and population growth from 1990 to 2010 to account for other possible endogenous differences in the natural flow of disputes.

Condition (2) states that the killing of a village chief destroyed or severely damaged the non-state legal regime of a village. From the literature, we know that village chiefs adjudicate claims within their villages, conduct hearings and collect fines (Mokuwa et al. (2011) and Jackson (2005)). Non-state courts (village chief courts) have existed for generations, and have an important role as conflict resolution arenas. In the early days of the war, the RUF targeted and killed village chiefs and court chairmen (Archibald and Richards (2002)). Attacks and threats by rebels closed many courts across Sierra Leone. Without a chief, nonstate courts in villages were not able to function properly. Thus, given these features, we believe that the killing of a chief can be considered a severe shock to the non-state legal regime.³⁷

Our dataset offers some evidence for this claim as well by comparing the number of disputes per person in villages where the village chief was killed and other villages. There is a drop of approximately 33% in the number of cases adjudicated by the non-state court in villages that had their chief killed as compared to other villages. The average number of civil cases per person adjudicated by the non-state court in these villages is roughly 0.03, whereas the average number of criminal cases per person is equal to 0.02.³⁸

Inhabitants of villages affected by the killing of a chief, then, from that point in time onward, were subject only to the state legal regime. For identification, we need to guarantee that the state maintained the monopoly over the legal system for most of the period from 2005 to 2010. That is, even if another village chief was appointed after the war³⁹, and the non-state system showed signs of recovery, it was the state legal regime that mostly operated in the village. Unfortunately, we do not have dynamic information on the number of disputes and fines in each village, so it is difficult to verify empirically this assumption.

Finally, condition (1) requires that the distribution of chiefs killed is exogenous to total number of disputes. Table 6 in the Appendix shows the results of a probit regression where the dependent variable is $\#courts_i$, that is, whether the village chief was killed. Independent variables in this regressions are: village population in 1990, number of war victims, number of NGO projects before the war began, village consumption expenditure in 2010, distance to the Gola forest in travel time, number of permanent migrants, number of recruited combatants in a village and distance to the nearest police station in travel time in 1990. All these variables are used in logs.

It seems that our variable of interest is not determined by any of the variables in that regression. Chiefs in more populous villages in

³⁶ According to Archibald and Richards (2002), "many villagers considered customary justice expensive, unpredictable and open to bribery".

³⁷ As Mokuwa et al. (2011) points out, the village chief is a key actor in local arbitration, settling around half of all cases in the data we have.

³⁸ Note that these figures consider total number of cases for the whole period 2005–2010.

³⁹ We know that this happened in most villages (Albrecht (2017)).

1990, or in villages that were closer to a police station, were not more targeted than chiefs in other villages. Distance to the Gola forest the region that sheltered the RUF headquarters also does not determine whether a chief was killed or not. Moreover, variables that are function of war intensity, such as war victims, permanent migrants in a village and recruited combatants, are also not correlated to the chief-being-killed dummy. This suggests that, on average, villages that suffered more during the war did not necessarily have their chief killed as well. Finally, in places where economic and NGO activities were more intense, chiefs were not targeted when compared to chiefs in other villages. Hence, chiefs of more prosperous villages or villages that received more external aid were not more targeted than other chiefs.

This evidence suggests that there was no particular pattern spatial or economic in the killing of village chiefs in our sample. The literature on Sierra Leone does not offer a clear description of the way village chiefs were targeted and killed during the war. As the literature on political violence suggests, a motive that might have led rebels to fight is grievance (Cederman et al. (2013) and Azam (2001)). As mentioned earlier, part of the RUF's motivation was to destroy what they considered a despotic and corrupt system (Richards (2003) and Mokuwa et al. (2011)). Thus, chiefs that were perceived as corrupt or authoritarian might have been targeted. This indicates that our variable of interest might be correlated with political variables, such as trust in a village chief before the war. Unfortunately, this is a limitation of our work since we cannot test this correlation with the data we have.⁴⁰

5.2.2. Results

Table 2 presents our first set of results. We run three regressions here: total number of disputes per person, civil disputes per person and criminal disputes per person, on the number of courts dummy and several controls. Our variable of interest, number of courts, indicates whether the village has one (state) or two (state and non-state) legal regimes. The coefficient associated to this variable is equal to the percentage variation in number of disputes per person when we move from one to two legal regimes.⁴¹

We see that there is a reduction in the number of disputes per person in every category analysed. The number of total cases decreases in roughly 28% when only the state court exists in a village. When we break total cases in two categories, we see that the number of civil and the number of criminal cases decrease by approximately 27% and 38%, respectively.

If we employ our theoretical framework to interpret these results, we are tempted to conclude that the likelihood of a villager to be fined by a legal authority decreases in almost 30% when non-state legal capacity is seriously damaged. Two fine-seeking authorities are better at apprehending individuals than one alone, even if they generate costs to each other what we call in our theoretical model legal externalities.

Another possible explanation for these results, however, is that, with the deterioration of the non-state system of justice, many villagers where village chiefs were killed were not able to solve their disputes and, then, these disputes were not even filed or filed in the state court. This explanation goes more in line with the idea of forum shopping discussed previously: in the absence of the non-state court, villagers sought the state court to solve disputes that were previously solved by the village chief. Assuming, as we discussed before, that the flow of disputes remained more or less constant, if there was forum shopping, we would see an increase in the number of disputes resolved by the state court. However, we do not see any substantial variation in these figures. For instance, villages where the chief was killed have, on average, 0.018 civil disputes per capita adjudicated in state courts whereas other villages have 0.013. This similarity in the number of disputes per capita between different villages appears to suggest that legal authorities are in fact very proactive.⁴²

This first set of results describes what happens in absolute terms to the number of disputes per person when only one legal regime exists in a village. That is, as we mention before, it shows that a villager that lives in a locality under one regime is less likely to be fined when compared to a villager living in a place where both regimes coexist. However, these figures do not inform us directly about the nature of interaction between both regimes, the legal externality. It can be the case that this reduction in the number of disputes is due to decreased total legal capacity in a village one court is likely to be worse at apprehending than two courts even if there are no negative externalities between them. We will not uncover the exact value of the externality parameter between legal regimes here. Nonetheless, with our results from Table 2, we can infer the nature (sign) of this legal externality.

If externalities between regimes were equal to zero that is, the costs that these regimes generate on each other are exactly equal to zero then the coefficient associated to the main variable in Table 2 should be equal to -0.5 . In other words, controlling for distance, population and other important variables, the reduction in the likelihood of being apprehended should be equal to 50%. Since this is not the case, our results suggest that there are negative externalities between regimes. Although the rate of disputes per capita decreases when only the state court operates in a village, this reduction is not exactly proportional to the reduction in the total number of courts, from two to one.

5.3. The impact of pluralism on fines

So far, we have studied the impact of legal pluralism on the number of disputes, what we call 'competition in quantities'. Our results suggest that the presence of two courts, state and non-state, increases disputes per capita in a village as compared to the case of just one legal authority. However, the increase does not seem to be proportional to the increase in the number of courts, which suggests that there exist legal externalities between courts. These findings characterise one way in which state and non state legal regimes interact in

⁴⁰ We revisit the issue of selection bias in Section 6.

⁴¹ $\widehat{\beta}_1 = \frac{N_1 - N_2}{N_2}$, where N_1 and N_2 are the number of disputes when one and two legal regimes exist, respectively. Note that this is an approximation.

⁴² Note that, in our regressions, we are controlling for the main cost of reaching the state court, distance to the Local court.

Table 2
Number of disputes per person on number of courts (#courts).

	Total	Civil	Criminal
#Courts	-0.284** (0.143)	-0.266* (0.145)	-0.380** (0.165)
Dist Court	0.023 (0.029)	0.021 (0.028)	0.008 (0.034)
Pop 1990	-0.806** (0.080)	-0.842*** (0.081)	-0.800*** (0.083)
Pop Growth	0.242*** (0.035)	0.227*** (0.038)	0.259*** (0.034)
War Victims	0.707*** (0.121)	0.641*** (0.120)	0.609*** (0.126)
NGO	0.010 (0.052)	0.002 (0.054)	0.025 (0.052)
Consumption	-0.032 (0.114)	-0.044 (0.949)	-0.030 (0.939)
Chiefdom	Yes	Yes	Yes
Obs	151	151	151
R ²	0.71	0.71	0.71

Standard errors are in parentheses. *p < 0.10, **p < 0.05, ***p < 0.01.

All standard errors are clustered at village level.

Dependent variables, distance to the court, population in 1990, war victims and consumption expenditure are in logs.

Distance is in travel time and converted to minutes. Dependent variables are always in per capita terms.

post-conflict rural Sierra Leone. Now, we discuss another possible channel of interaction between these two legal regimes, competition in fines.

As we discussed previously, competition in fines might be the result of some sort of forum shopping: litigants choose the court in which they want their dispute to be resolved according to legal costs and probability of winning the dispute.⁴³ By lowering fines for specific offences, legal authorities expect to attract litigants, analogously to competition in prices in space posited by [Hotelling \(1990\)](#). For the context of rural Sierra Leone, this framework could be applied in the following way:

- villagers are mobile and have some power in deciding which court to use (state court or non-state court);
- villagers solve an optimisation problem that involves three parameters, probability of winning the dispute, expected fines and transportation costs;
- legal authorities are aware that villagers have some agency over dispute resolution and set fines such that legal revenue minus costs of operation are maximised.

Note that this way to think about legal pluralism implies that legal authorities are not as proactive as we assumed in our theoretical model. Although legal authorities in post-conflict Sierra Leone tend to be more proactive than reactive, an important part of their operation is concerned with dispute resolution that does not involve actionable disputes or offences.⁴⁴

To investigate this further, we regress fines per dispute on the number of legal regimes. This regression is exactly equal to our previous one (expression (6)), except that our dependent variable N_i is now amount of fines collected by authorities per dispute. Note that our discussion about identification (section 5.2.1) applies to this regression as well.⁴⁵

[Table 3](#) presents our results. There is an increase in the average amount of fines in leones per dispute of roughly 39% when only the state court operates in a village. This means that legal competition forces authorities to charge smaller amounts of fines for the same types of disputes. Authorities are not able to extract as much money as they could compared to the case where there is only one legal regime in a village.⁴⁶

When we split total fines per dispute into civil and criminal cases, we see that civil fines are driving these results. The state court is able to charge roughly 50% more per civil dispute when it is operating alone in a village. Criminal fines do not follow this pattern. There is no difference in the amount charged per case between the situation with one and two courts. We believe that the explanation for this result lies in the fact that legal authorities do not have much discretionary power on the punishment of criminal cases. Because of their nature, criminal disputes are embedded in a more rigid ethical and traditional code. Unlike many types of civil disputes (such as woman damage), criminal disputes are closely observed by villagers, which reduces legal authorities' ability to choose the size of the fines at

⁴³ Models of forum shopping have been extensively studied in the economic literature (see e.g. [Lerner and Tirole \(2006\)](#) and [Atkinson et al. \(2009\)](#)).

⁴⁴ If legal authorities had total control of both the Definition of actionable offences and the pursuit of enforcement, there would not be room for any type of forum shopping. As our results in this section show, this is not the case; villagers, in fact, have some although limited agency over courts.

⁴⁵ Descriptive statistics for the new dependent variable are presented in [table 5](#) in the Appendix. Recall that, in our first regression, our dependent variable was constructed only with disputes that have positive fines.

⁴⁶ This finding supports the view that the amount of fines collected is probably more representative of the financial needs of the chiefs than the actual offence ([Castillejo \(2009\)](#)).

Table 3
Amount of fines per dispute on number of courts (#courts).

	Total	Civil	Criminal
#Courts	0.389** (0.191)	0.501** (0.208)	-0.370 (0.877)
Dist Court	0.023 (0.094)	0.073 (0.104)	0.013 (0.260)
Pop 1990	0.157 (0.147)	0.303* (0.165)	-0.029 (0.467)
Pop Growth	0.012 (0.043)	-0.044 (0.054)	0.004 (0.162)
War Victims	1.13* (0.579)	0.708 (0.484)	1.57* (0.845)
NGO	-0.377 (0.366)	0.048 (0.096)	-0.482 (0.379)
Consumption	0.946 (0.665)	-0.004 (0.145)	1.15* (0.669)
Chieftdom	Yes	Yes	Yes
Obs	139	148	140
R ²	0.16	0.13	0.09

Standard errors are in parentheses. *p < 0.10, **p < 0.05, ***p < 0.01.

All standard errors are clustered at village level.

Dependent variables, distance to the court, population in 1990, war victims and consumption expenditure are in logs.

Distance is in travel time and converted to minutes. Dependent variables are always in per capita terms.

their own will.

This indicates that the interaction between legal regimes happens in two ways. First, there is competition based on quantities. Regimes exert negative externalities on each other, and this decreases the total number of disputes per person as compared to a situation of zero externalities. Second, authorities also compete in fines. Areas of legal overlapping see a reduction in fines collected per dispute. This last result suggests that villagers have some agency in choosing which court to use, and corroborate the view that, although more proactive than a normal legal regime, legal authorities are also reactive.

Combined, our results offer a description of the way legal pluralism functions in rural Sierra Leone. They suggest that one potential benefit of pluralism is to reduce the pressure of institutions at the local level (state and non-state) on local people. This can be seen by analysing changes in expected authoritative expropriation, the amount of fines a person expects to pay to legal authorities in a village. We define this variable as the probability of apprehension times the fine that has to be paid. Using the coefficients of Tables 2 and 3 for civil disputes and civil fines, we have that the expected expropriation when regimes coexist is 9% lower than for the situation in which only the non-state regime exists.⁴⁷ This means that a typical villager will expect to pay a smaller amount of rents to authorities when there is legal competition.⁴⁸

6. Robustness checks

Our empirical results describe two ways in which legal authorities interact in Sierra Leone. They suggest that there is competition based on the number of disputes and on the amount of fines charged per dispute between state and non-state courts. As we discussed in section 5.2.1, our estimates rely on three conditions: (i) village chiefs were killed indiscriminately during the war, (ii) the killing of a chief implies serious damage on the non-state legal system, and (iii) the flow of disputes is independent of the killing of a chief. In this section, we perform several robustness checks to measure the validity of these conditions. We focus on conditions (i) and (iii), which, if not respected, might result in selection and omitted variables bias.

6.1. Selection bias

If the killing of village chiefs is not independent of our outcome variables disputes per capita and fines per dispute our estimates might suffer from selection bias.⁴⁹ This means that the killing of a chief might be driven by uncontrolled village characteristics, such as levels of trust or social capital, that also affect our variable of interest.

⁴⁷ Define expected expropriation as probability of apprehension, p , times fine charged, F . When two regimes coexist, we have that, $E_2 = p_2 \cdot F_2$. When there is only one regime, we have that $E_1 = p_1 \cdot F_1 = (1 - 0.266)p_2 \cdot (1 + 0.501)F_2 = 1.10p_2 \cdot F_2$. The numbers inside the parentheses are the coefficients we obtained in our regressions. Thus, we have that $E_2/E_1 = 0.91$.

⁴⁸ This is a potential benefit to the local people in this context where legal regimes are more interested in capturing rents than in securing property rights and in providing security. In other situations, where authorities are not appropriative in nature, this benefit would be small in comparison to the increase in villagers' welfare that rule of law would bring.

⁴⁹ In section 5.2.1, we run a probit regression (see Table 6 in the Appendix) to identify possible patterns between the variable of interest and some village characteristics, and we find no statistically significant coefficient, which is a positive sign. However, the threat of selection bias still persists.

We now rerun our main regressions, employing a different specification that attempts to make villages as comparable as possible: propensity score matching (PSM).⁵⁰ We proceed in two steps. First, villages that had their village chief killed and other villages are matched using seven characteristics: distance to the state court, population size before the war (1990), population growth, total consumption expenditure after the war (2010), NGO activities before the war (1990), war victims, and chiefdom of the village.⁵¹

We then run a second set of PSM regressions with two additional characteristics: distance to the Gola forest and number of recruited combatants. Distance to the forest aims to control for the proximity to RUF forces; villagers closer to the rebel's headquarters might have greater probability of having their village chief killed. The recruited combatants variable serves as a proxy for resentment against village chief's authority; arguably, villages where the RUF were able to recruit more combatants had, on average, a greater number of dissatisfied individuals, which might increase the probability of a murder.

Results are presented in [Table 7](#) in the Appendix. PSM regressions matching observations with the seven variables we use in our main regressions do not change our main results. However, when we use distance to the Gola forest and number of recruited combatants as matching variables, we lose statistical significance for our estimates on civil disputes per capita, while the coefficient for criminal disputes (public offences, failure to do community work, violence), remains statistically significant. As we show in the Appendix, this loss in significance is generated by the first additional variable, distance to the forest.⁵² Although the results for the amount of fines per dispute remain statistically significant, the estimates decrease in magnitude.

These new findings suggest that there is some sort of selection bias in our main results associated to the proximity to the RUF's hiding region, which decreases the magnitude of our coefficients. Note that the controls in our main regression and the probit regression we performed in section 5.2.1. were not able to capture this feature of our variable of interest.⁵³

To examine the size of this potential selection bias, we use [Altonji et al. \(2005\)](#) ratio approach. We put bounds on how important unobserved variables need to be to induce enough bias to explain our main results. More specifically, we calculate the amount of selection on unobservables relative to selection on observable required to attribute the entire effect of the killing of a village chief on our outcome variables to selection bias. This procedure makes two important assumptions: (i) that the set of observed variables is chosen at random from the full set of variables that determine disputes per capita and fines per dispute; and (ii) that the number of observed and unobserved variables is large enough such that none of the elements dominates the way village chiefs were killed.⁵⁴

Results are presented in [Table 9](#) in the Appendix. For the case of civil disputes per capita, selection of unobservables would have to be 1.2 times greater than selection on observables for the results to be entirely driven by selection bias. For the case of criminal disputes per capita, the result is even more compelling: selection on unobservables would have to be 2.5 times greater than selection on observables. These two results seem to indicate that it is unlikely that the entire effect we see in our main results is driven by selection on unobservables for disputes per capita. Unfortunately, however, we cannot state the same thing for civil fines per dispute. According to our results in [Table 9](#), it could be the case that most of our coefficient in [Table 3](#) can be explained by selection on unobservables.

6.2. Insensitivity to control selection

In this last section of our empirical analysis, we examine how sensitive our results are for our selection of controls and then we add two additional controls to our main specification. These two controls to try to account for potential omitted variables bias related to level of resentment in a village and distance to the RUF headquarters.

[Tables 9 and 10](#) in the Appendix show our results for the robustness checks of insensitivity to control selection.⁵⁵ It appears that our main results for disputes per capita (see [Table 2](#)) are dependent on the inclusion of chiefdom dummies as covariates (otherwise, controls for population capture all the statistical significance of our variable of interest). These dummies control for unobserved characteristics of the chiefdom—and, consequentially, of the state courts—the villages are located in.⁵⁶ The results for amount of fines per dispute are basically unchanged with the inclusion or removal of covariates. This suggests that our main results for fines (see [Table 3](#)) are robust to covariate selection.

Finally, we rerun our main specification with two additional regressions: distance of a village to the Gola forest and number of

⁵⁰ See e.g. [Angrist et al. \(2013\)](#) and [Becker and Ichino \(2002\)](#).

⁵¹ These are the seven controls we used in our main regressions.

⁵² We present two separate PSM regressions with distance to the Gola forest and number of recruited combatants in [Table 8](#) of the Appendix. Note that when we add distance to the Gola forest as a control variable in our main specification (see section 6.2) results are almost unchanged.

⁵³ There are two important comments on this first robustness check. First, these PSM regressions might suffer from a problem of balance on covariates. This problem becomes specially important for the PSM results where we have fewer than 140 observations (our original sample has 173 observations). Second, if the killing of a village chief variable depends on unobservables that are correlated to the outcomes of interest, our PSM estimators are probably biased. For an in-depth discussion of PSM, see [Caliendo and Kopeinig \(2008\)](#).

⁵⁴ A detailed discussion on the validity of these two assumptions for the case of school attendance is presented in [Altonji et al. \(2005\)](#). We do not intend to repeat it here. We only wish to mention that, because we have a smaller set of covariates, the ratios calculated here serve more as an indication of the size of the selection on unobservables than an actual estimate.

⁵⁵ Note that we divide the seven control variables we use in our main regression in four groups: controls for population (population in 1990 and population growth), war victims, chiefdom dummies and other controls (NGO activities, consumption expenditure and distance to the court). In our main regressions, only population in 1990, population growth, war victims and chiefdom dummies are statistically significant (apart from our variable of interest).

⁵⁶ As discussed previously, the chiefdom constitutes the basic unit of local government. Sierra Leone has 149 chiefdoms governed by Paramount chiefs. Chiefdoms are divided into sections led by section chiefs and sections are divided into villages ([Albrecht \(2017\)](#)).

recruited combatants. As discussed in the previous section, these two covariates intend to control for the proximity to RUF forces and resentment against village chief’s authority. As is shown in Tables 12 and 13 in the Appendix, our main results are essentially unchanged by the inclusion of these new controls.

7. Conclusion

Our results have important implications for legally pluralistic societies where there is institutional reconstruction. The first point to note is that it is not usually the case that a new institution will substitute for the pre-existing one, but rather that the two may interact, perhaps in nonobvious or even perverse fashion. In our Table 11 case, the non-state and the state legal regimes compete over two different dimensions: disputes and fines. The presence of multiple legal regimes increases the number of disputes per capita in a village, but this increase is not proportional to the number of regimes operating at the same time. This suggests that there might be negative externalities between regimes; that is, additional costs of apprehension of individuals. Moreover, there seems to be a reduction on the amount of fines charged per dispute.

The reasons for negative legal externalities between regimes are many. It may be because the personnel within one administration feel some sort of affinity for the persons within the other administration, as in the case of Papua New Guinea (Larcom and Swanson (2015)). Or it may be on account of the perceived reduction of benefits from pursuing actions, when the other administration is competing with the first, as here. In any event, overlapping legal regimes will often have impacts on one another, resulting in an impact on the overall outcome produced by law within the subject population.

In Sierra Leone’s case, it seems that the addition of the state-based layer of institutions reduces the expected monetary expropriation that village courts place on the subject populace. Although non-state legal institutions play the most pervasive role in administering rural Sierra Leonean society, the state institutions appear to serve the purpose of reducing the pressure somewhat of institutions on local people. This is the case despite the fact that state institutions, especially Paramount chiefdom courts themselves have been criticised for being unjust and corrupt.⁵⁷

Appendix

Subgame Perfect Equilibrium (section 4.2) At $t = 2$, the state and non-state regimes solve the following simultaneous maximization problem:

$$\max_{0 < e_s < 1} e_s x_s \cdot (F - e_s - b e_{ns} - \tau x_s), \max_{0 < e_{ns} < 1} e_{ns} \cdot (F - e_{ns} - b e_s),$$

And, at $t = 1$, the state regime solves the following problem:

$$\max_{0 < x_s < 1} e_s x_s \cdot (F - e_s - b e_{ns} - \tau x_s).$$

Therefore, equilibrium values are:

$$e_s^* = \frac{F(2 - b)}{6 - b^2}, e_{ns}^* = \frac{F(3 - b)}{6 - b^2}, x_s^* = \frac{F(2 - b)}{(6 - b^2)\tau}$$

Then, we have that:

$$N^* = n_s^* + n_{ns}^* = \frac{F^2(2 - b)^2}{\tau(6 - b^2)^2} + \frac{F(3 - b)}{6 - b^2}.$$

⁵⁷ These findings are consistent with the bargaining in the shadow of the law literature, that suggests that greater access to state courts can increase the bargaining power of victims (thus increasing the deterrent effects of committing crime) even if these courts are rarely used (see Aldashev et al. (2012b)).

Table 4
Descriptive statistics of civil and criminal disputes where fines

Panel A						
Type of dispute	Total	Cases Involving Fines (money or labour)	Percentage of Cases Involving Fines	Average Fine (local Currency) ¹	Minimum Fine	Maximum Fine
Civil Disputes	3016	2061	68.33%	Le 75,000	Le 15.00	Le 2,000,000
Criminal Disputes	2015	1799	89.28%	Le 25,908	Le 1.00	Le 655,000
				Average Fine (labour days)	Minimum Fine (labour days)	Maximum Fine (labour days)
Criminal Disputes ²						3.64
1	30					
Panel B						
Type of Dispute	Total	Number of Cases Fine < Le 1000 (%)	Number of Cases 1000 < Fine < 10,000 (%)	Number of cases 10,000 < Fine < 100,000 (%)	Number of cases 100,000 < Fine < 500,000 (%)	Number of Cases > 500,000 (%)
Civil Disputes	1829	23 (1.25%)	337 (18.42%)	1186 (64.84%)	255 (13.95%)	28 (1.54%)
Criminal Disputes	1767	54 (3.05%)	754 (42.68%)	902 (51.05%)	54 (3.05%)	3 (0.17%)

For civil disputes, a categorical variable indicates that a fine in labour was involved, although the amount in days is not available. The exchange rate at the time of the survey is Le 3500/\$ 1.00 (Mokuwa et al. (2011)).

Table 5
Descriptive statistics of the variable fines per dispute.

	Definition	Obs	Mean	S.D.	Min	Max
Dependent variables (per capita)						
Total Fines	Overall amount of fines collected in the village.	160	66925	48997	0	275000
Civil Fines	Amount of fines collected from civil disputes.	169	60289	47506	0	275000
Criminal Fines	Amount of fines collected from criminal disputes.	162	4697	13287	0	100000

Table 6
Probit Regression: Chief being killed dummy

	Chief being Killed
Population in 1990	0.268 (0.182)
War Victims	0.579 (0.400)
NGO activities before the War	-0.252 (0.189)
Consumption Expenditure in 2010	0.379 (0.233)
Distance to the Gola Forest	-0.089 (0.105)
Permanent migrants	-0.124 (0.108)
Recruited Combatants	-0.199 (0.260)
Distance to the police 1990	-0.034 (0.093)
Constant	-6.97** (2.813)
Obs	140
R ²	0.11

Standard errors are in parentheses. *p < 0.10, **p < 0.05, ***p < 0.01.

All standard errors are clustered at village level.

Dependent variables, distance to the court, population in 1990, war victims and consumption expenditure are in logs.

Distance in travel time and converted to minutes. Dependent variables are always in per capita terms.

Table 7
Propensity Score Matching Regressions on the Number of Courts (#Courts): the impact of going from two to one court.

	Total	Civil	Criminal
<i>Matching with Seven Observables</i>			
Disputes per capita			
#Courts	-0.344*** (0.127)	-0.263** (0.128)	-0.537*** (0.155)
Obs	151	151	151
Fines per dispute			
#Courts	0.441*** (0.168)	0.630*** (0.242)	-0.512 (0.950)
Obs	139	148	140
<i>Matching with Nine Observables</i>			
Disputes per capita			
#Courts	-0.127 (0.162)	-0.049 (0.160)	-0.324* (0.192)
Obs	145	145	145
Fines per dispute			
#Courts	0.239** (0.104)	0.482** (0.209)	-1.83*** (0.647)
Obs	133	142	134

Robust standard errors are in parentheses. *p < 0.10, **p < 0.05, ***p < 0.001.

Table 8
Propensity Score Matching Regressions on the Number of Courts (#Courts): Average Treatment Effect.

	Total	Civil	Criminal
<i>Seven Observables plus 'distance to the forest'</i>			
Disputes per capita			
#Courts	-0.217 (0.172)	-0.104 (0.128)	-0.460*** (0.176)
Obs	145	145	145
Fines per dispute			
#Courts	-0.348 (0.246)	0.447** (0.178)	-1.528** (0.678)
Obs	133	142	134
<i>Seven Observables plus 'number of recruited combatants'</i>			
Disputes per capita			
#Courts	-0.333*** (0.126)	-0.245** (0.119)	-0.555*** (0.151)
Obs	151	151	151
Fines per dispute			
#Courts	0.395*** (0.140)	0.488** (0.192)	-1.133 (0.729)
Obs	139	148	140

Robust standard errors are in parentheses. *p < 0.10, **p < 0.05, ***p < 0.001.

Table 9
Amount of Selection on Unobservables Relative to Selection on Observables Required to Attribute the Entire Effect of #Courts to Selection Bias

Outcome	$\frac{\widehat{E}(X\hat{\gamma} \#Courts = 1) - \widehat{E}(X\hat{\gamma} \#Courts = 0)}{V(\widehat{X}\hat{\gamma})}$	$V(\hat{\epsilon})$	$V(\#Courts)/V(\#Courts)$	$\hat{\alpha}$	Ratio
Disputes (civil)	-0.081	0.378	7.38	-0.266 (0.145)	1.18
Disputes (crim)	0.045	0.447	7.38	-0.380 (0.165)	2.54
Fines (civil)	0.803	2.72	7.38	0.501 (0.208)	0.03

Clustered standard errors are in parentheses.

These results were calculated following Altonji et al. (2005). See section IV. The two regressions used here are: (i) $\#Courts = X\beta + u$ and (ii) $Y = \alpha\#Courts + X\gamma + \epsilon$ (our main regression). Y is our outcome variable (dispute per capita and fines per dispute) and g is the vector of controls.

$\frac{\widehat{E}(X\hat{\gamma}|\#Courts = 1) - \widehat{E}(X\hat{\gamma}|\#Courts = 0)}{V(\widehat{X}\hat{\gamma})}$ is the difference between estimated conditional expected values divided by the variance of the coefficients of our main regressions.

$V(\hat{\epsilon})$ is the estimated value of the variance of the residuals of our main regressions.

$\widehat{\#Courts}$ is the predicted value of regressions of #Courts on our seven controls $X' \gamma$

$\hat{\alpha}$ is the estimated effect of #Courts on the outcomes.

Table 10

Insensitivity to Covariate Selection: Number of Disputes per Person on Number of Courts (#Courts)

	Civil	Crim	Civil	Crim	Civil	Crim	Civil	Crim
#Courts	-0.320 (0.205)	-0.340* (0.203)	-0.050 (0.151)	-0.108 (0.166)	-0.297 (0.211)	-0.313 (0.209)	-0.468** (0.203)	-0.567*** (0.189)
Controls for Population	No	No	Yes	Yes	No	No	No	No
War Victims	No	No	No	No	Yes	Yes	No	No
Chieftdom Dummies	No	No	No	No	No	No	Yes	Yes
Other Controls	No	No	No	No	No	No	No	No
Obs	170	170	168	168	170	170	170	170
R ²	0.02	0.02	0.46	0.43	0.02	0.02	0.21	0.28

Standard errors are in parentheses. *p < 0.10, **p < 0.05, ***p < 0.01. All standard errors are clustered at village level.

Dependent variables, distance to the court, population in 1990, war victims and consumption expenditure are in logs.

Distance is in travel time and converted to minutes. Dependent variables are always in per capita terms.

Table 11

Insensitivity to Covariate Selection: Amount of Fines per Dispute on Number of Courts (#Courts)

	Civil	Crim	Civil	Crim	Civil	Crim	Civil	Crim
#Courts	0.669*** (0.191)	0.127 (0.807)	0.521*** (0.166)	-0.010 (0.840)	0.569*** (0.170)	-0.083 (0.827)	0.588*** (0.217)	0.270 (0.815)
Controls for Population	No	No	Yes	Yes	No	No	No	No
War Victims	No	No	No	No	Yes	Yes	No	No
Chieftdom Dummies	No	No	No	No	No	No	Yes	Yes
Other Controls	No	No	No	No	No	No	No	No
Obs	169	162	164	157	169	162	169	162
R ²	0.03	0.01	0.07	0.02	0.08	0.04	0.05	0.04

Standard errors are in parentheses. *p < 0.10, **p < 0.05, ***p < 0.01. All standard errors are clustered at village level.

Dependent variables, distance to the court, population in 1990, war victims and consumption expenditure are in logs.

Distance is in travel time and converted to minutes. Dependent variables are always in per capita terms.

Table 12

Number of Disputes per Person on Number of Courts (#Courts) with Two Additional Controls

	Total	Civil	Criminal
#Courts	-0.339* (0.147)	-0.308** (0.150)	-0.446*** (0.160)
Dist Court	0.027 (0.032)	0.022 (0.031)	0.017 (0.038)
Pop 1990	-0.867*** (0.085)	-0.904*** (0.088)	-0.842*** (0.088)
Pop Growth	0.237*** (0.034)	0.223*** (0.037)	0.253*** (0.034)
War Victims	0.695*** (0.123)	0.623*** (0.118)	0.595*** (0.134)
NGO	0.015 (0.050)	0.000 (0.052)	0.038 (0.050)
Consumption	-0.068 (0.110)	-0.082 (0.098)	-0.046 (0.105)
Dist Forest	0.050 (0.053)	0.052 (0.055)	0.011 (0.053)
Recruited	0.323** (0.124)	0.321** (0.126)	0.262** (0.129)
Chieftdom	Yes	Yes	Yes
Obs	145	145	145
R ²	0.72	0.72	0.72

Standard errors are in parentheses. *p < 0.10, **p < 0.05, ***p < 0.01.

All standard errors are clustered at village level.

Dependent variables, distance to the court, population in 1990, war victims and consumption expenditure are in logs.

Distance is in travel time and converted to minutes. Dependent variables are always in per capita terms.

Table 13
Amount of Fines per Dispute on Number of Courts (#Courts) with Two Additional Controls

	Total	Civil	Criminal
#Courts	0.368* (0.196)	0.498** (0.215)	-0.588 (0.906)
Dist Court	0.023 (0.110)	0.086 (0.119)	-0.155 (0.256)
Pop 1990	0.161 (0.140)	0.298* (0.154)	-0.079 (0.466)
Pop Growth	0.011 (0.048)	-0.046 (0.059)	0.012 (0.174)
War Victims	1.23** (0.583)	0.786 (0.493)	1.47* (0.859)
NGO	-0.066 (0.086)	0.013 (0.093)	-0.482 (0.368)
Consumption	0.109 (0.170)	-0.028 (0.168)	0.515 (0.714)
Dist Forest	0.109 (0.080)	0.087 (0.119)	0.936*** (0.323)
Recruited	-0.047 (0.272)	0.025 (0.345)	0.504 (0.801)
Chiefdom	Yes	Yes	Yes
Obs	133	142	134
R ²	0.18	0.14	0.14

Standard errors are in parentheses. *p < 0.10, **p < 0.05, ***p < 0.01.

All standard errors are clustered at village level.

Dependent variables, distance to the court, population in 1990, war victims and consumption expenditure are in logs.

Distance is in travel time and converted to minutes. Dependent variables are always in per capita terms.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ejpoleco.2019.101819>.

References

- Acemoglu, D., 2005. Politics and economics in weak and strong states. *J. Monet. Econ.* 52 (7), 1199–1226.
- Acemoglu, D., Chaves, I.N., Osafo-Kwaako, P., Robinson, J.A., 2014a. Indirect Rule and State Weakness in Africa: Sierra Leone in Comparative Perspective. Technical report. National Bureau of Economic Research.
- Acemoglu, D., Reed, T., Robinson, J.A., 2014b. Chiefs: economic development and elite control of civil society in Sierra Leone. *J. Political Econ.* 122 (2), 319–368.
- Acemoglu, D., Vindigni, A., Ticchi, D., 2010. Persistence of civil wars. *J. Eur. Econ. Assoc.* 8 (2–3), 664–676.
- Acharya, A., Harding, R., Harris, J.A., 2017. Security in the absence of a state: traditional authority, live-stock trading, and maritime piracy in northern Somalia. <http://web.stanford.edu/avidit/somalia.pdf>.
- Albrecht, P., 2017. The hybrid authority of Sierra Leone's chiefs. *Afr. Stud. Rev.* 60 (3), 159–180.
- Aldashev, G., Chaara, I., Platteau, J.-P., Wahhaj, Z., 2012a. Formal law as a magnet to reform custom. *Econ. Dev. Cult. Change* 60 (4), 795–828.
- Aldashev, G., Chaara, I., Platteau, J.-P., Wahhaj, Z., 2012b. Using the law to change the custom. *J. Dev. Econ.* 97 (2), 182–200.
- Altonji, J.G., Elder, T.E., Taber, C.R., 2005. Selection on observed and unobserved variables: assessing the effectiveness of catholic schools. *J. Political Econ.* 113 (1), 151–184.
- Angrist, J.D., Pischke, J.-S., Pischke, J.-S., 2013. Mostly Harmless Econometrics: an Empiricists Companion. Cram101 Publishing.
- Archibald, S., Richards, P., 2002. Converts to human rights? Popular debate about war and justice in rural central Sierra Leone. *AFRICA-LONDON-INTERNATIONAL AFRICAN INSTITUTE-72* (3), 339–367.
- Atkinson, S.E., Marco, A.C., Turner, J.L., 2009. The economics of a centralized judiciary: uniformity, forum shopping, and the federal circuit. *J. Law Econ.* 52 (3), 411–443.
- Azam, J.-P., 2001. The redistributive state and conflicts in Africa. *J. Peace Res.* 38 (4), 429–444.
- Baker, B., 2005. Who do people turn to for policing in Sierra Leone? *J. Contemp. Afr. Stud.* 23 (3), 371–390.
- Baldwin, K. (2013). Why vote with the chief? Political connections and public goods provision in Zambia. *Am. J. Pol. Sci.*, 57(4):794–809.
- Baldwin, K., 2014. When politicians cede control of resources: land, chiefs, and coalition-building in Africa. *Comp. Pol.* 46 (3), 253–271.
- Becker, S.O., Ichino, A., et al., 2002. Estimation of average treatment effects based on propensity scores. *STATA J.* 2 (4), 358–377.
- Bellows, J., Miguel, E., 2006. War and institutions: new evidence from Sierra Leone. *Am. Econ. Rev.* 96 (2), 394–399.
- Bellows, J., Miguel, E., 2009. War and local collective action in Sierra Leone. *J. Public Econ.* 93 (11), 1144–1157.
- Besley, T., 2011. Pathologies of the state. *J. Econ. Behav. Organ.* 80 (2), 339–350.
- Besley, T., Persson, T., 2009. The origins of state capacity: property rights, taxation, and politics. *Am. Econ. Rev.* 99 (4), 1218–1244.
- Besley, T., Persson, T., 2010. State capacity, conflict, and development. *Econometrica* 78 (1), 1–34.
- Caliendo, M., Kopeinig, S., 2008. Some practical guidance for the implementation of propensity score matching. *J. Econ. Surv.* 22 (1), 31–72.
- Castillejo, C., 2009. Building accountable justice in Sierra Leone. *Documentos de Trabajo FRIDE* (76), 1.

- Cecchi, F., Melesse, M.B., 2016. Formal law and customary change: a lab-in-field experiment in Ethiopia. *J. Econ. Behav. Organ.* 125, 67–85.
- Cederman, L.-E., Gleditsch, K.S., Buhaug, H., 2013. *Inequality, Grievances, and Civil War*. Cambridge University Press.
- Fanthorpe, R., 2006. On the limits of liberal peace: chiefs and democratic decentralization in post-war Sierra Leone. *Afr. Aff.* 105 (418), 27–49.
- Ferguson, L., 2013. The political economy of rural property rights and the persistence of the dual economy. *J. Dev. Econ.* 103, 167–181.
- Friedman, D., 1984. Efficient institutions for the private enforcement of law. *J. Leg. Stud.* 13 (2), 379–397.
- Gennaioli, N., Rainer, I., 2007. The modern impact of precolonial centralization in Africa. *J. Econ. Growth* 12 (3), 185–234.
- Glennerster, R., Miguel, E., Rothenberg, A.D., 2013. Collective action in diverse Sierra Leone communities. *Econ. J.* 123 (568), 285–316.
- Goldstein, M., Udry, C., 2008. The profits of power: land rights and agricultural investment in Ghana. *J. Political Econ.* 116 (6), 981–1022.
- Hotelling, H., 1990. *Stability in competition*. In: *The Collected Economics Articles of Harold Hotelling*. Springer, pp. 50–63.
- Jackson, P., 2005. Chiefs, money and politicians: rebuilding local government in post-war Sierra Leone. *Public Adm. Dev.* 25 (1), 49–58.
- Jackson, P., 2007. Reshuffling an old deck of cards? the politics of local government reform in Sierra Leone. *Afr. Aff.* 106 (422), 95–111.
- Jackson, P., 2011. Decentralised power and traditional authorities: how power determines access to justice in Sierra Leone. *J. Leg. Pluralism Unoff. Law* 43 (63), 207–230.
- Kaplow, L., Shavell, S., 2007. Moral rules, the moral sentiments, and behavior: toward a theory of an optimal moral system. *J. Political Econ.* 115 (3), 494–514.
- Kasara, K., 2007. Tax me if you can: ethnic geography, democracy, and the taxation of agriculture in Africa. *Am. Pol. Sci. Rev.* 101 (01), 159–172.
- Kelsall, T., 2006. *Law and Legal Institutions in an Upcountry Sierra Leonean Town* (Technical report, unpublished report prepared for Timap for Justice and the National Forum for Human Rights, Sierra Leone).
- Kurrild-Klitgaard, P., Svendsen, G.T., 2003. Rational bandits: plunder, public goods, and the Vikings. *Public Choice* 117 (3–4), 255–272.
- Larcom, S., Swanson, T., 2015. Documenting legal dissonance: legal pluralism in Papua New Guinea. *Rev. Law Econ.* 11 (1), 25–50.
- Lerner, J., Tirole, J., 2006. A model of forum shopping. *Am. Econ. Rev.* 96 (4), 1091–1113.
- Logan, C., 2013. The roots of resilience: exploring popular support for African traditional authorities. *Afr. Aff.* 112 (448), 353–376.
- Manning, R.E., 2009. *The Landscape of Local Authority in Sierra Leone* (The World Bank Justice and Development Working Paper Series).
- Maru, V., 2006. Between law and society: paralegals and the provision of justice services in Sierra Leone and worldwide. *Yale J. Int'l L.* 31, 427.
- McGuire, M.C., Olson, M., 1996. The economics of autocracy and majority rule: the invisible hand and the use of force. *J. Econ. Lit.* 34 (1), 72–96.
- Michalopoulos, S., Papaioannou, E., 2013. Pre-colonial ethnic institutions and contemporary african development. *Econometrica* 81 (1), 113–152.
- Mizuno, N., 2016. Political structure as a legacy of indirect colonial rule: bargaining between national governments and rural elites in Africa. *J. Comp. Econ.* 44 (4), 1023–1039.
- Mokuwa, E., Voors, M., Bulte, E., Richards, P., 2011. Peasant grievance and insurgency in Sierra Leone: judicial serfdom as a driver of conflict. *Afr. Aff.* 110 (440), 339–366.
- Olson, M., 2000. *Power and Prosperity: Outgrowing Communist and Capitalist Dictatorships*. Basic books.
- Parisi, F., Dari-Mattiacci, G., 2004. The rise and fall of communal liability in ancient law. *Int. Rev. Law Econ.* 24 (4), 489–505.
- Peters, K., Richards, P., 1998. 'Why we fight': voices of youth combatants in Sierra Leone. *Africa* 68 (2), 183–210.
- Platteau, J.-P., 2009. Institutional obstacles to African economic development: state, ethnicity, and custom. *J. Econ. Behav. Organ.* 71 (3), 669–689.
- Reed, T., Robinson, J., 2013. *The chiefdoms of Sierra Leone*. Unpublished Manuscript. <http://people.fas.harvard.edu/~treed/history.pdf>.
- Richards, P., 2003. *The Political Economy of Internal Conflict in Sierra Leone*. Working Paper Series, vol. 21.
- Shavell, S., 1993. The optimal structure of law enforcement. *J. Law Econ.* 36 (1, Part 2), 255–287.
- van Besouw, B., Ansink, E., van Bavel, B., 2016. The economics of violence in natural states. *J. Econ. Behav. Organ.* 132, 139–156.
- Zasu, Y., 2007. Sanctions by Social Norms and the Law: Substitutes or Complements?.