Handling and Manhandling Civilians in Civil War: Determinants of the Strategies of Warring Factions

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Abstract

The toll of civil conflict is largely borne by civilian populations, as warring factions target non-combatants through campaigns of violence. But significant variation exists in the extent to which warring groups abuse the civilian population: across conflicts, across groups, and within countries geographically and over time. Using a new dataset on fighting groups in Sierra Leone, this paper analyzes the determinants of the tactics, strategies, and behaviors that warring factions employ in their relationships with non-combatants. We first describe a simple logic of extraction which we use to generate hypotheses about variation in levels of abuse across fighting units. We then show that the most important determinants of civilian abuse are internal to the structure of the faction. High levels of abuse are exhibited by warring factions that are unable to police the behavior of their members because they are more ethnically fragmented, rely upon material incentives to recruit participants, have weak social capital, and lack mechanisms for punishing indiscipline. Alternative explanations that emphasize the importance of local community ties and contestation do not find strong support in the data.

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I Introduction

Civil wars are commonly associated with significant human suffering, particularly for non-combatant populations. A scourge of civil wars since 1945—roughly 127 in 73 different countries—has caused the deaths of more than 16.2 million people (Fearon and Laitin 2003). It is estimated that the indirect costs of internal conflict, through war-induced famine, disease, and economic disruption, are far greater (Ghobarah, Huth, and Russett 2003). Yet the extent of civilian suffering varies across conflicts, over time within a conflict, and across geographic regions in countries that experience violence. Six years of fighting in the jungles of eastern Congo killed nearly 100,000 people, while forty years of violence in Colombia has resulted in less than 20,000 deaths (Lacina and Gleditsch 2005). While 2001 brought the deaths of 643 civilians in the Nepalese civil war, 4,647 perished in the following year (INSEC 2005). Violence in Peru's Ayacucho province alone accounted for nearly 40% of the killings and disappearances reported to the Truth and Reconciliation Commission, while other parts of the country went largely unscathed (CVR 2003).

Warring factions exhibit markedly different patterns of behavior in their interaction with non-combatant populations (Chesterman 2001). Parties fighting on behalf of government forces in Yugoslavia, Rwanda, and Sudan launched campaigns of ethnic cleansing in which individuals were forcibly displaced or exterminated (Mueller 2004; Prunier 1997; Prunier 2005). Insurgent groups in northern Uganda, Burma, and Colombia have forcibly abducted children to fill their fighting ranks (CSUCH 2005). Strategies employing amputation and rape have become all too characteristic of rebels and paramilitary forces in West Africa, Central Africa, and beyond (Human Rights Watch 2001; Human Rights Watch 2003). At the same time, insurgent groups such as the National Resistance Army (Uganda) and the Guerrilla Army of the Poor (Guatemala) perpetrated very low levels of violence and exhibited restraint in their relationships with non-combatants (Weinstein 2005; Ball et. al. 1999). Armies in Colombia, Sri Lanka, and beyond have set in place formal structures of command and control and accountability mechanisms that limit abuses committed against civilians. Other groups, such as the Touareg insurgents in Mali, have engaged primarily with military targets during some periods and with civilian targets in others (Humphreys and Ag Mohammed 2005).

Explaining variation in patterns of abuse across warring factions thus involves an examination of more than civilian deaths: it requires a careful analysis of a diverse set of strategies factions employ in their interactions with non-combatants. Tactics that rely on coercion are potentially costly, as they undermine the civilian base of support for warring parties (Valentino, Huth, and Balch-Lindsay 2004). Insurgent groups often depend on civilian populations for the labor and resources needed to wage civil war, while counterinsurgent forces risk enabling the opposition when they utilize violent tactics that alienate civilians caught in the middle of fighting. Why, then, do some warring factions abuse non-combatants while others do not?

To answer this question, we begin with a simple model of combatant-civilian relations that captures the incentives facing fighting units that seek to extract resources from non-combatant populations. The

likelihood of abuse, we argue, depends on three factors. First, it depends on whether sufficient incentives exist for armed groups to exercise restraint in the short-run in anticipation of future rewards. Even if such incentives exist, two further factors—weak territorial control and poor internal cohesion—may inhibit groups from acting on these incentives. Competition for territorial control may affect the ability of groups to internalize the benefits of disciplined behavior. Within-group collective action problems can undermine the capacity of groups to negotiate and implement cooperative relationships with non-combatants.

A priori, it is reasonable to expect that any of these factors might account for variation in abuse levels in a given conflict. Drawing on data from a systematic survey of perpetrators representing the five warring factions in Sierra Leone, this paper demonstrates that abusiveness is best predicted by the third factor, the internal characteristics of a fighting unit. Units composed of members with private goals, which organize into ethnically heterogeneous groupings, have few preexisting ties connecting members, and lack internal mechanisms to discipline behavior exhibit relationships with non-combatants characterized by coercion and abuse. Units whose members share common goals, and that build upon existing social networks, organize into homogenous units, and set in place disciplinary structures are far less abusive toward civilians and are more likely to establish constructive relationships. These internal characteristics of distinct fighting units emerge as important predictors of abusiveness *even after* introducing controls for the national-level faction with which combatants were aligned.

We find no support for the idea that social ties between communities and fighting groups are a primary determinant of variation in abusiveness after controlling for confounding factors. While shared ethnic, religious, or regional backgrounds may make it possible for combatant groups to activate norms of reciprocity that render abusiveness unnecessary (Taylor 1988), rival logics that we identify in the case of Sierra Leone reveal community ties to be less important than theory would suggest. We also find little support for the idea that abusiveness is a function of the degree of control and contestation in a particular geographic zone. After controlling for other characteristics of warring groups, we find weak empirical evidence that groups condition their behavior on their relative strength in a region.

Although its key contribution is in providing empirical evidence in support of a new explanation for the abuse of civilians in internal conflict, this paper also demonstrates the utility of survey methods for understanding the local-level dynamics of civil conflict. By asking about the determinants of combatant behavior within conflict, it shifts attention from the macro to the micro, complementing and building upon recent research on conflict onset and duration (Fearon and Laitin 2003; Collier and Hoeffler 2004; Fearon 2004, Collier and Sambanis 2005). Moreover, it highlights the potential for systematic research on violence itself, something which motivates academic and policy interest in civil war but is poorly captured by the dummy variables used to represent conflict at the country-level (Kalyvas 2006).

II Theories of Civilian Abuse

Across civil wars, armed groups face a strategic challenge: in building, maintaining, and deploying their fighting units, they must solicit material resources and logistical support from non-combatants. To explain why some groups abuse non-combatants while others display restraint, one needs to understand the conditions that favor cooperation between combatants and civilians in this process of extraction. We offer an informal model that describes the situation facing combatants as they seek to obtain the resources they need to finance the conflict (a formal version appears in appendix A). The model provides a unified framework that can capture many of the stories that have been offered as explanations of civilian abuse and generates predictions consistent with three strands of the literature on political violence.

When fighters engage civilians, they can employ coercive tactics to obtain resources and support directly. Coercion can include the forced extraction of food and labor, the theft of property, rape, and sometimes the killing and maiming of civilians. These tactics are often effective in securing resources for an organization. They may also have direct or indirect military benefits, by signaling the resolve of groups or undermining the support base of opposition groups. But they come at a cost. In the long-term, a group's abusiveness may destroy the human and physical base of the local economy upon which armed groups often depend. If violence can be used to extract benefits from civilian populations, the optimal levels of extraction may obtain when the wielders of violence desist from extracting too much and thereby killing the goose that lays the golden egg (Bates, Greif, and Singh 2003). Too much violence might lead civilians to flee, undermining a group's ability to obtain the support it needs to survive.

Another strategy, then, is to exercise restraint in the use of violence against civilian populations—or even to act positively to provide local public goods (Lichbach 1995; Wickham-Crowley 1992)—in exchange for some level of community support, even if this support is essentially non-voluntary. But arriving at a cooperative arrangement in which civilians offer support to fighting units and soldiers desist from abuse is sometimes difficult. Much scholarly attention has focused on the collective action problems inherent in the decision to participate as an insurgent (Olson 1965; Popkin 1978; Lichbach 1995) or to provide support to a rebellion (Skocpol 1982; Goodwin and Skocpol 1989; Kuran 1989). These collective action problems may impede a group's ability to solicit voluntary contributions. Although they have received less attention in the literature, other collective action problems that obtain *between* fighting groups, when units fail to internalize the returns to their actions with respect to civilian populations (Keen 1998), and *within* fighting groups, when actions that benefit individual fighters conflict with a group's overall objectives (Wilson 1985), also undermine the potential for cooperation between combatants and the local population.

To further examine the logic, consider a situation in which one or more armed groups have partial control over a territory in which civilians engage in production. We assume that civilians living in the territory can produce resources through the use of their labor. When individual combatants encounter civilians, they can choose to extract any share of the income held by non-combatants. Coercive tactics are always

opprobrious, however in the context of our model, extraction is termed *abusive* if it is so extreme that it removes a civilian's ability to survive. In practice, abuse might occur through starvation or killing, the destruction of capital, or forced displacement. More broadly, abusive behavior can be thought of as actions—including transfers of material goods but also maiming, sexual assault and other degrading and damaging practices—that render civilians unable to produce or incite them to flee an area. We consider now three factors that can determine when and where groups are more likely to engage in such behavior.

II.1 Incentives for Restraint

A situation of repeated interaction can facilitate collective action if the future discounted returns to cooperation sufficiently outweigh the gains that can be achieved from defection in a given period. For civilians living in subsistence economies with low growth rates, local differences in productivity can determine whether a cooperative arrangement that maintains peasant production along with a regular transfer of surplus is sufficiently attractive to an armed group that it will refrain from abusive behavior. The condition for restraint is that there exists a surplus of income, over and above civilian subsistence requirements, that makes refraining from total extraction, in anticipation of future gains from extraction, worthwhile. Such conditions are more easily met in wealthy areas as compared to unproductive areas. This logic gives rise to our first hypothesis:

H_1: Abuse levels are likely to be higher in poorer areas.

Although this hypothesis follows from the logic of extraction, it is not uncontested. It is plausible that wealthier communities may be better organized to resist the advance of military actors, making the solicitation of support a more difficult task. Alternatively, wealthier regions, particularly those with diamonds and other natural resources, may be sites of increased contestation between rival armed groups with attendant spillover effects on civilian populations (Ross 2004). Such contestation, by breaking the monopoly of armed groups, may also threaten the viability of cooperative arrangements, a point we turn to below.

The logic is somewhat altered when there are non-pecuniary costs (or benefits) to abusive behavior. In environments where coercive behavior is costly, cooperative relations may be maintained even if the discounted future returns to restraint do not outweigh the immediate material returns that can be achieved through abuse. This intuition is consistent with a rich literature in political science that emphasizes how dense community ties ease the resolution of collective action problems and allow for the sanctioning of misbehavior. Classical studies of revolution identified the autonomy of peasant communities and the strength of horizontal networks as necessary conditions for mobilization (Moore 1966; Skocpol 1979). A more recent variant identifies three key aspects of community as essential for helping groups to overcome collective action

problems (Taylor 1988). Individuals embedded in dense social networks experience (and expect to experience in the future) repeated interaction with one another; these environments ease monitoring of the behavior of others (Ghosh and Ray 1996; Fafchamps and Minten 2002); and strong communities provide an array of powerful positive and negative sanctions that can be employed to police contributions. Taken together, community ties create a situation in which conditional cooperation is possible and generalized reciprocity emerges as a norm. Factions thus may face higher costs if they elect to employ abusive tactics in their own communities. This logic has been extended to the study of mobilization and cooperation in ethnic groups (Fearon and Laitin 1996). Ethnic identities often link individuals to a host of informal institutions and networks which may facilitate trust by promoting the flow of information about reputations, enabling sanctioning, and generating expectations that cooperative overtures will be reciprocated (Ostrom and Ahn 2002). Consistent with our model and the literature, we offer two additional hypotheses:

> **H_2**: Lower levels of abusiveness should be apparent in geographic zones in which the warring factions are fighting in their home communities.
>
> **H_3**: Lower levels of abusiveness should be apparent in geographic zones in which the warring factions are predominantly of the same ethnic group as members of the local community.[2]

Again, we note that these hypotheses are not uncontested. Azam (2005), for example, argues that warlords have particular incentives to wreak havoc in their own communities. By making it costly for civilians to produce, it becomes more attractive for them to join the warlord's armed group as combatants. The abuse of one's own community depresses the wages that have to be paid to fighters. Other logics link violence to even more micro-level processes: violence by armed groups may be oriented largely toward settling private scores (Kalyvas 2003), a dynamic that may be more likely to occur within communities or within ethnic groups, rather than across them.

II.2 Contestation

Whether or not the benefits to restraint are sufficient to translate into less abusive behavior depends on a set of between-group strategic considerations which arise whenever authority over territory is fragmented into zones of insurgent control, government control, and areas where control is contested (Tilly 1978). The

[2] It is worth noting that a theory of abuse rooted in ethnic "antipathy" would generate identical predictions about geographic variation in combatant behavior (Horowitz 1985; Posen 1993). Conflicts organized along ethnic lines are seen as particularly conducive to high levels of violence (Brown 1993). Because we interpret abusiveness as reflective of a broad range of coercive tactics groups employ, we prefer a framing of that draws on the logic of collective action rather than ethnic hatred.

existence of competing factions can undermine the incentives for a group to refrain from abusive behavior in two different ways.

Consider first a situation in which groups of different sizes encounter citizens in the same zone probabilistically. In such cases, larger groups wish to ensure that they and not others will be more likely to benefit in future periods from the restraint they exercise today. Groups that control a particular territory can be more confident that they will benefit from their discipline, even in situations where smaller groups elect to engage in abusive actions in the same area. Greater levels of control then are associated with lower levels of abuse. This argument, we note, is consistent with a number of theories in the literature. Kalyvas (2006) suggests that by protecting individuals from other warring parties, by giving rise to a socialization process and gradual acceptance, by rendering threats of punishment credible, and by facilitating monitoring and the collection of information, uncontested sovereignty reduces the need to resort to coercion and abuse. Hultman (2005) offers a slightly different argument that is also consistent with ours: where and when they are weak, abusive tactics, she suggests, are used by rebel groups to send signals of their resolve, thereby improving their position at the negotiating table.

A similar logic applies if in any given period a citizen may encounter multiple groups. In such cases, a cooperative arrangement depends upon the ability of groups to engage in implicit collusion. For collusion to be compatible with the incentives of fighters from different groups, however, there must be a sufficiently large margin between the quantity of extractable resources and the subsistence requirements of civilians such that each group, after taking some share for themselves, can still leave enough on the table that future groups do not have an incentive to engage in abusive behavior. Sustaining cooperative relationships with civilians under such conditions becomes more difficult as the number of groups increases. This feature of competition and collusion in coercive environment is somewhat surprising if compared with standard economic logics of competition. Whereas in market contexts, more competition among potential consumers for access to a producer's output leads to greater returns for producers, the logic is reversed in coercive environments. When armed groups can apply violence in turn, competition among them limits rather than enhances the scope for cooperative agreements with civilians. As developed above, the logic implies a form of tacit coordination across rival groups, a phenomenon reported often in accounts of "new wars" (Kaldor 1999). These arguments suggest a clear relationship between the degree of control a given group exercises over territory and its propensity to engage in abusive behavior and give rise to our fourth hypothesis:

H_4: Greater levels of contestation will be associated with higher levels of abuse.

But as before, our hypothesis is contested. Other arguments that emerge from models that allow greater agency to civilians than does ours, suggest that levels of violence may be particularly *low* in

environments of contestation. Gates (2002), for example, argues that rebel groups do not attempt to recruit soldiers from contested zones; because such recruits can more easily defect to the other side, they become too expensive, from the organization's perspective, to maintain. In a study of drug gang behavior, Levitt and Venkatesh (2000) find that gangs treat civilian populations better in period of high contestation (by pricing drugs below cost) in a bid to bind consumers to their side. The logic, supported by theory in industrial organization (Klemperer 1995), depends on the freedom of civilians to choose which side they want to benefit. Finally, Kalyvas (2006) develops finer predictions about the allocation of selective violence across zones of control by focusing on the process of denunciation: a game played between civilians who provide the information groups need to punish defection. In a logic similar to that underpinning mutually assured destruction during the Cold War, he argues that lower levels of selective violence are observed in the most hotly contested zones because civilians, fearing retribution, do not provide information to fighting groups that can be used as a basis for selective violence.

II.3 Internal Structures of the Factions

Within-group collective action failures may also contribute to abusiveness. From this perspective, variation in the membership and internal structure of the warring factions are a crucial determinant of faction behavior. Group tactics, strategies, and behaviors may be shaped by who groups recruit, how they do it, and what sorts of rules they set in place to discipline behavior. The starting point for this argument is the collective action problem that is internal to the group. To maximize a faction's aggregate returns without resorting to high levels of abuse, a group must be able to police its own boundaries, ensuring that individual members do not over-employ violence for their individual gain.

The logic of the argument is similar to that underpinning our claim about the advantages of monopoly power, but sheds light on the benefits of within-group cohesion. Tacit collusion across groups can result in cooperative arrangements, but only if the number of groups is not too large. By the same logic, internally divided groups in which individual fighters extract benefits for themselves, can collectively achieve cooperative relationships with civilians, but only if their numbers are sufficiently small relative to the level of wealth of non-combatants. Cohesion, which we define as a group's ability to allocate and implement actions that maximize the sum of its members' utilities, allows for a greater range of cooperative outcomes. If groups are cohesive, they can internalize the benefits of the actions of individual members and act as if they are individual agents. Cohesion thus allows groups to act in a non-abusive manner in situations in which non-cohesive groups cannot achieve tacit collusion.

In practice, a range of factors may affect the ability of a group to coordinate and police the actions of its membership. A diversity of group characteristics and formal structures have been linked to greater compliance and less defection; examples include common goals, preexisting social networks, ethnic ties, and formal codes of discipline (Gates 2002; Sambanis 2001). Miller (1992) identifies the importance of common

goals—whose achievement depends on the success of collective action rather than the pursuit of private material gains—in explaining the success of some private organizations as compared to others. Other arguments employ the logic of community ties described earlier (Taylor 1988) in linking the success of insurgent groups to their effective internal systems: built on the foundation of strong social networks or powerful ethnic ties which facilitate monitoring and punishment (Wood 2004; Weinstein, forthcoming). Theorists of collective action have also identified formal, internal mechanisms that promote compliance and control as essential for ensuring group solidarity including clear rules, procedures, and avenues for punishing indiscipline (Hechter 1987). Case studies of effective military organizations where ideology is paramount often identity these internal group characteristics as essential for motivating and sustaining participation (for example, Elliot 2002). Although these characteristics and structures do not rule out violence or abuse entirely, the alignment of the preferences of a group's members and the group's capacity to sanction individual acts of defection makes indiscipline unlikely and lead to the following four hypotheses.

H_5: Warring factions that recruit combatants using offers of material benefits are more likely to exhibit high levels of civilian abuse.

H_6: Warring factions with more dense social structures have lower levels of abuse.

H_7: More ethnically homogenous factions should exhibit lower levels of civilian abuse.

H_8: Factions with tight disciplinary structures are likely to be less abusive of civilian populations.

The literature on genocide and mass killing offers the most compelling alternative view on how a faction's characteristics and structures contribute to violence. Valentino (2004) argues that mass killing, which is an extreme example of civilian abuse, is an intentional, strategic tactic employed by political and military leaders in pursuit of their strategic objectives. Whether the objective involves defeating an insurgency, cleansing a country of a rival ethnic group, or imposing a national ideology, mechanisms of discipline and group solidarity enable, rather than restrain, the abuse of non-combatant populations. From this perspective, an organization that functions effectively in pursuit of its overall objectives can thus serve to increase abusiveness if its leaders are motivated by a desire to kill or destroy particular groups of civilians.

III Explaining Patterns of Violence against Civilians

Testing these hypotheses requires accurate and credible micro-level data on the behavior of combatants during wartime. Such data is difficult to obtain: victims are often reluctant to speak, perpetrators may have incentives to misrepresent their experiences, and data-gathering mechanisms operative in times of peace tend to break down during war. But because macro-level data on casualties in war is so poor, gathering high-quality micro-level data offers the best hope for uncovering the determinants of abusive strategies during war. We

test these hypotheses using a new micro-level dataset on the structures, tactics, and strategies of the five warring factions in Sierra Leone's civil war.

III.1 A Brief History of the War in Sierra Leone

The war in Sierra Leone began on March 23, 1991 with a cross-border invasion by the Revolutionary United Front (RUF) from Liberia into the border districts of Kailahun and Pujehun. The group, formed originally by student radicals opposed to the one party regime of the All People's Congress (APC), had received training in Libya and subsequently, material support from the Liberian warlord and later president, Charles Taylor.

The advance of the rebels in the countryside was as much a product of the government's failings as it was of RUF capacity. Atrocities committed by government forces were reportedly widespread. The APC government was deposed by a military coup in 1992, and replaced by the National Provisional Ruling Council (NPRC). The NPRC sought to achieve an outright victory over the RUF by hiring a South African security firm with close ties to diamond mining interests, Executive Outcomes, to help it prosecute the war in the mid-1990s. Following democratic rallies and a palace coup, the NPRC returned the country to civilian rule with elections in 1996. The new civilian government, in an effort to put an end to the war, coordinated its actions with local civil defense militias, consolidating an offensive paramilitary force, the Civil Defense Force (CDF), to fight what remained of the insurgency in forward bases all over the country.

In 1997, the democratically-elected government of President Kabbah was driven into exile following a military revolt. The coup brought a fourth group into the conflict, the military junta, or, Armed Forces Revolutionary Council (AFRC), alongside the regular army (SLA), the RUF and the CDF. The AFRC, forged an unlikely alliance with the RUF, inviting the insurgents to join a power-sharing arrangement. Following a Nigerian-led intervention in 1998, the democratic government was restored and the AFRC/RUF alliance was removed from the capital, Freetown. A fifth faction, containing elements of the AFRC, SLA, and RUF also formed, calling itself the West Side Boys, and operated under a different command structure from either the RUF or the AFRC.

The AFRC/RUF regrouped in the bush, rebuilding its military strength with resources garnered from international businessmen and arms suppliers that were willing to provide resources up-front in exchange for mineral and diamond concessions. The combined forces launched a successful and devastating attack on the capital, Freetown, on January 6, 1999, although they were later repulsed by West African peacekeeping forces. Under tremendous pressure to consolidate control of its territory, Kabbah's government signed a peace agreement with the RUF in Lomé in July 1999 and an interim government was formed with RUF representation.

In early 2000 a United Nations force (UNAMSIL) deployed to take the reigns from the Nigerians, but it was weak and poorly organized. Distrust was high, and the RUF reacted, taking large numbers of UN troops as hostages. The British government intervened with a sizable force, at the same time that Guinean

troops pushed back on the RUF forces operating near its border. These interventions substantially weakened the RUF. The government took the opportunity to arrest large numbers of RUF leaders in Freetown, and with a more effective UN force in place, the warring factions were largely broken down and demobilized. President Kabbah, securely back in power, declared the war at an end in February 2002.

III.2 Violence in Sierra Leone

The conflict in Sierra Leone was known around the world for the vicious treatment of its civilian population by combatant factions during the war (Keen 2005). Human Rights Watch, the American-based watchdog, issued a series of reports describing these atrocities: sexual violence against women, the forcible recruitment of child soldiers, and campaigns of killing, amputation, and pillaging perpetrated by the different groups (Human Rights Watch 1998, 2000, 2001). Although estimates range widely, Human Rights Watch asserts that the war left over 50,000 civilians dead and more than 50% of the population displaced from their homes. The horrors of the war have been widely reported in international media, and the massacres, amputation, and pillaging broadcast around the world contributed to the calls for international intervention that led to a British-led UN mission. The widespread violence also led to the organization of a hybrid tribunal to prosecute war crimes in the aftermath of the conflict.

But despite the uniform image of abuse described in journalistic accounts, there was significant variation in how civilians were treated in different parts of the country. Rates of death and displacement varied dramatically, with displacement rates close to zero in some chiefdoms and rising to 80% in others. Even before the massive displacements of the late 1990s, there was significant variation in how civilians experienced the conflict, both across factions and within the warring groups in different geographic zones. The most evident differences in violence are across the five factions. The RUF, the military junta (AFRC), and the smaller West Side Boys (WSB) group, have been associated with the highest levels of abuse. The SLA is believed to be responsible for lower levels of abuse, although in many areas their behavior was considered indistinguishable from that of the rebels they were fighting against. The CDF, a group significantly larger in number than the RUF, was also responsible for some violations throughout the country, but is commonly associated with significantly less abusive behavior.

But it is unsatisfactory to account for variation in the abuse of civilians simply by saying that the CDF acted one way while the RUF acted another. At best, this is description not explanation. As an account of the war, it is particularly unsatisfactory because the demographics of the membership of the RUF and CDF in particular, including age, ethnicity, regional origin, languages spoken, livelihood, and so on, are not all that different (Humphreys and Weinstein 2004). In our analysis, we look inside the factions—to the level of the fighting units—to uncover the determinants of abusive behavior.

III.3 The Data

Analyses of violence in civil war typically draw on a collection of anecdotes. For the purposes of this project, we sought to collect more systematic information about the structures, tactics, and strategies of the warring factions using a nationally representative sample of ex-combatants. The survey was conducted between June and August 2003, slightly more than a year after the war came to an end. The study targeted a sample of 1000 ex-combatants; a total of 1043 surveys of ex-combatants were completed. The main method for gathering information was through the administration of a closed-ended questionnaire by an enumerator in the respondent's local language. Interviews were conducted at training program sites and in community centers around the country.[3]

To ensure as unbiased a sample as possible, the survey employed a number of levels of randomization. First, teams enumerated surveys in geographic locations and chiefdoms that were randomly selected. Estimates of the population of ex-combatants presently residing in the chiefdoms were made based on data from the National Commission on Demobilization, Disarmament, and Reintegration (NCDDR) and the National Statistics Office. The estimates of the population distribution were used to generate weights that were used to draw 63 clusters of 17 subjects throughout the country. These clusters fell within forty-five chiefdoms or urban localities and these forty-five localities formed the basic enumeration unit.

Within each enumeration unit, sites were also randomly selected, with both urban and rural areas represented. For each enumeration unit, specific numerical targets were set for the major factions, based on the randomization and the estimated national distribution of faction members. Broad goals were also provided to guide survey teams in meeting gender and age targets based on the estimated national share of women and children in the groups: enumerators were instructed that on average one in twelve individuals interviewed should be a woman, and one in nine should have been under the age of 16 at the end of the conflict. Enumerators were instructed to compare actual numbers of children and faction members to target goals each day.

Within each enumeration unit, enumerators worked through both official (UN and government) contacts and local community leaders to develop lists of ex-combatants. Teams identified pools of candidates from more than one source: some from the town or village Chief, some from the village youth coordinator, some from various DDR and NCDDR skills training centers, and so on. In every case, the teams aimed to

[3] An obvious concern with survey work on issues of violence is truth telling. Respondents may have strong incentives to misrepresent the facts. With the Special Court operative in Sierra Leone during the administration of the survey, some respondents might have been concerned that their answers could be used as evidence for the prosecution. In the training, a script was developed for enumerators to help allay these concerns. It was also important that survey teams administered the survey in private, in an effort to protect people's privacy. In addition, the survey explicitly avoided asking questions whose answers could be incriminating for the individual.

identify two to three times the targeted number of potential respondents and then to randomly select respondents using a variety of methods. In most instances, Chiefs and DDR staff asked a number of ex-combatants to meet at a public location and teams selected candidates randomly from that pool (by choosing every third person or selecting numbers from a hat). While this method worked well in most parts of the country, in some areas less than twice the target population was identified. This challenge tended to arise in remote rural areas, enumeration units with small ex-combatant populations, and regions where communities remain highly polarized.

III.4 Capturing Variation in the Course of the Conflict

Sierra Leone's conflict lasted for over a decade and involved five primary factions, numerous sub-factions and various external actors. Over the course of the conflict, the government changed hands four times (twice by coup) and two peace accords were negotiated and failed. At times, the fighting engulfed the entire country, displacing large portions of its population. Some ex-combatants were involved in the conflict for short periods of time, while others entered early in the conflict and stayed to the end. Some changed sub-factions or primary factions during the conflict and almost all moved locations.

The survey asked detailed questions about what acts were punished within units, how commanders were selected, how resources were gathered and distributed, and how civilians were treated. These aspects undoubtedly varied between time periods, across factions, and in different locations. Asking questions about these aspects without making explicit reference to time periods would yield a set of "average" answers that would mask the temporal and geographic variation in the conflict. To ensure that the survey collected information from various time periods and that respondents were answering questions about one specific time period with one faction, we developed randomization protocols within the survey.

Respondents were asked to map their involvement in the conflict by giving their location and faction membership for seven designated time periods, marked by major events in the history of the conflict. For each respondent, the survey recorded the number of periods in which the respondent was active. The enumerator selected one of these periods of activity using a randomization protocol on the cover sheet of each questionnaire. The randomization cover sheets were weighted toward the respondents' first experience in the faction to gather more information on earlier time periods in the conflict, given an expectation that most respondents would have joined at later stages of the war. Enumerators were trained to remind the respondent throughout the survey that they were to answer questions about the specific time period selected by the randomization protocol.

III.5 The Unit of Analysis

A critical issue in evaluating various theories of violence is determining the appropriate unit of analysis. We are interested in the behaviors exhibited by different factions and not the actions of individual combatants, on

which information would be particularly difficult to gather. As a result, the survey instrument does not record individual acts of violence; rather, it collects information about how the fighters in a respondent's unit behaved on a day-to-day basis. But the actual units in which individuals fought were fluid, changing in membership, location, and level of activity over time. To assess the behavior of individual units within the fighting factions, we use detailed information gathered about the location of fighters at different points in time, as well as their factional and sub-factional affiliations, to construct what we call "quasi-units."[4]

Two types of quasi-units were constructed. In type FCH quasi-units, we group subjects from the same faction (F) and the same chiefdom (CH) at a given point in time. Type SFD quasi-units are based on more finely grained factional information but more general geographic information—grouping together individuals from the same sub-faction (SF) operating in the same district (D). Typically, both methods result in groupings of between five and fifteen respondents in a given quasi-faction at a given point in time. While we do not expect there to be independence across Type FCH or Type SFD quasi units (we assume in particular dependencies across geographic and factional units), the existence of two distinct definitions of units allows us to check for the dependence of our results on any particular characterization of a unit.

With quasi-units as our statistical unit of analysis, we generated variables to describe the characteristics of each quasi-unit based either on demographic information of the full set of members of the quasi-unit, or on statements made by individuals describing their own unit's behavior for the time period, faction, and region used to define membership in the quasi-unit.

III.6 Measuring the Extent of Civilian Abuse

The dependent variable is an index of everyday policies and practices employed by groups that reflect the extent to which groups engaged in abusive or cooperative relations with civilian populations. Recall that in the context of our model, the decision to abuse is analogous to a choice between engaging with civilians in a way that does not adversely affect their productive capacity, or, predating upon them to the extent that they flee or their ability to produce is otherwise destroyed. In bringing the theory to data, we interpret the behaviors that correspond to these choices broadly, identifying features that capture restraint in relations with civilian populations both by the absence of permissive norms—such as the arbitrary use of sexual as well as non-sexual violence—and the presence of policies that may be considered minimally supportive of communities. This broad interpretation, while consistent with our model, treats different forms of abuse as if

[4] As part of the temporal randomization protocol, we also asked respondents to describe the characteristics of the "smallest fighting unit" in which they participated—as they defined it. Interpretations of what constituted a unit varied in some cases, but about 70% of the sample answered in terms of groups less than 100 members. With thousands of possible units, difficult to distinguish from one another on the basis of respondent's own definitions, we opted to construct artificial units based on where people served, at what point in time, and with which faction.

they follow similar logics. We recognize that this approach may be contested, and therefore dissagregate our dependent variable in a subsequent section.

The index is created using factor analysis of respondents' answers to eight related questions in which they are asked to describe patterns of interaction with non-combatants. The weights derived from the factor analysis were then used to create a single measure, the *extent of civilian abuse*, which ranges from 0 to 1. The measures used to construct the index include three distinct types of questions. First, we include questions about the ways in which food was collected, including whether food was taken forcibly from civilians, whether it could be collected peacefully on demand, and whether a system was in place whereby food would be delivered regularly in fixed amounts. Second, we add responses to questions that assess the likelihood that an individual in a fighting unit would be punished for stealing, amputating, and raping a civilian.[5] These questions record the extent to which individual combatants had license to engage in abusive activity. Finally, to capture minimally constructive relations with civilians, the index includes the respondent's evaluation of whether groups provided educational and ideological training or whether such activities were limited to the provision of security.

Besides our theoretical rationale for thinking about abusiveness as a broader set of soldier-civilian interactions, we elected not to ask direct questions about violence since a war crimes tribunal and truth and reconciliation commission were just beginning their work. Although the tribunal promised to hold accountable only those who bore the greatest responsibility for atrocities, many former soldiers worried about the prospect of punitive action for their past behavior. Asking questions about an individual's personal actions or the extent to which commanders ordered certain behaviors would have put our survey teams in a difficult position: respondents would have been reluctant to participate, incentives to lie would have been higher, and communities might have confused our work with investigative activities of the tribunal. Nonetheless, we believe that our index of abusive behavior is likely correlated with levels of violence, although new data will be needed to assess the strength of the relationship. Unlike event data, however, our measure is not intended to capture the magnitude or frequency of abuse—these depend on both the numbers of fighters and the number of civilians present in any location as well as the efficiency of organizations—but

[5] We emphasize that this element of our proxy does not record actual violence committed by fighters during the war. Instead, it captures the strategies and behaviors of the warring factions as reported by the perpetrators—something likely to be correlated with actual levels of abuse. The responses capture levels of abuse or indiscipline *not* ordered by superiors. While one can imagine a warring group in which all violence against non-combatants is expressly ordered by the commanding officers, but no other violence is permitted, or a situation in which abuse is permitted but does not in fact occur, evidence in the Sierra Leone case suggests that groups in which soldiers have license to commit abuses are also likely to be more abusive overall. Our survey instrument allows us to relate measures of a license to abuse to the type of military target selected by armed groups (ie. a base of another armed group, a village, and so on). In doing so, we find that units that provide license to the soldiers to abuse civilians are considerably more likely to target villages rather than the bases of other armed groups.

rather the manner in which individual units interact with civilians, conditional upon such interactions taking place.

The dependent variable displays substantial variation, both over time and across geographic zones. Average levels of abuse exhibit a gradual decline over the course of the conflict, with a slight rise following the AFRC/RUF attack on Freetown in 1998. However, there are sharp differences in temporal patterns of abuse across factions. The CDF employed less abusive strategies than the RUF overall, but its abusiveness remained fairly consistent over time even as its relative size increased. The RUF, on the other hand, after an initial spike at the start of the war and subsequent fall, exhibited a gradual increase in abusiveness as the war progressed after 1992.

(Figure 1)

Figure 1 displays the geographical variation of the index for each of the two major factions in the conflict (the RUF and the CDF). The figure on the left, which displays patterns of abusive behavior by the RUF, shows relatively low levels of abuse in the southwest of the country—where the conflict began—and in the diamond areas around Kono, and very high levels of abuse in the regions north of Freetown, from where the attacks on the capital were launched by the joint AFRC/RUF force. By contrast, the figure on the right, representing the behavior of the CDF, shows lower levels of abuse overall, with levels at their peak in the capital, Freetown, and in highly contested regions south of the capital.

IV Empirical Analysis

Our central hypotheses concern the importance of combatant-community ties, contestation, and group structure for understanding patterns of abusiveness in civil war. Several types of statistical analysis prove useful in exploring the evidence for or against each of the hypotheses described earlier. For each variable, we examine a simple bivariate relationship, the bivariate relationship after controlling for faction fixed effects, and the relationship after controlling for both fixed effects and other explanatory variables.

We begin with bivariate results because it is these relationships that are actually observed by analysts and scholars of conflict who employ qualitative methods (Table 1). For example, those who have tracked the war in Sierra Leone readily identify a relationship between local community ties and the behavior of factions (Muana 1996, Keen 2005), whether or not that relationship can be accounted for by other factors. By reporting simple, bivariate relationships first, we put specialists of the conflict in a position to evaluate the validity of our survey data as compared with perspectives on the conflict generated using other approaches, even if it turns out that these bivariate relationships do not survive in more complex models.

(Table 1)

For each measure, we also examine the bivariate relationship after controlling for faction-level fixed effects (Table 1). Fixed effects enable us to account for important differences (on average) across the factions in patterns of abusiveness and in the groups' strategies and organizational approaches. If factions differ from one another, but we fail to account for these group characteristics in our models, the results we identify at the level of the quasi-unit may reflect global features of the factions rather than anything specific about the characteristics of the unit, its strategic situation, or the extent of its ties to civilians. To increase our confidence that the relationships we observe reflect micro-level dynamics of abuse rather than general characteristics of the major factions, we control for faction fixed effects; if we find that the relationships that obtain across factions also are present across quasi-units within the factions, the evidence in support or against a hypotheses is more compelling. We illustrate the substantive importance of exploring bivariate relationships with and without fixed effects in the discussion of one of our proxies for local community ties in the following section.

(Table 2)

A third approach evaluates the effects of each of the explanatory variables using standard multivariate regression methods to account for potentially confounding factors (Table 2). A number of the variables collected correlate not only with faction membership but also with each other. To test the competing theories, we aim to identify the measures which exhibit *independent* effects on the level of abuse. In each of the multivariate models, we employ specifications with and without fixed effects, for both SFD and FCH quasi-units, and we allow for the possibility of correlation across units operating in a single area. We also utilize Weighted Least Squares (WLS), introducing weights that are inversely proportional to the variance of an observation. In practice, since our data represent average responses by members of quasi-units, the weights we use are given by the number of individuals in the dataset whose responses are used to construct the measure for each quasi-unit. In addition to entering each our measures independently, we include controls for two additional aspects of groups that could in principle have confounding effects: the average *Age* of soldiers and the share of *Abductees* in a unit.[6] Because one of our measures—the degree of ethnic fragmentation inside units—contains many missing observations (for units for which only one or two members were sampled), we report, in columns 1 to 4, the results excluding this variable, and in columns 5-8, the results including it. The multivariate models are relatively parsimonious, yet they explain about three-quarters of the variance in our measure of abuse. A comparison of the OLS and fixed effects models reveals a striking similarity between the R^2 measures, which attests to the strong correlation between the explanatory

[6] Both the average age of the unit and the share of abductees are measures that, though correlated with group structure, may be a result rather than a cause of abusive behavior.

variables as a group and the attributes of the major factions and provides a clear indication that our core variables account for much of the variation in abusiveness across groups.

IV.1 Incentives for Restraint

We first examine the hypothesis that poorer regions will suffer higher levels of abuse. To test this hypothesis, we employ district-level data on poverty levels in Sierra Leone that were collected by the Sierra Leone Central Statistics Office/Department of National Development and Economic Planning. Extracted from the 1989 Household Survey, completed before the war, our measure of *Poverty* represents the share of the population in each district living below a nationally defined poverty line. In the bivariate analysis, we find the expected positive correlation between poverty and abuse, but for neither type of quasi-unit is the relationship statistically significant. No discernible relationship exists either when fixed effects are introduced or when we control for other variables. We examine some possible reasons for these non-findings in the concluding section.

The second hypothesis suggests that a group's abusiveness is negatively related to the strength of the preexisting ties that link combatants to community members. These ties, we argued, could facilitate voluntary exchange and make abusive behavior more costly. The survey instrument recorded the respondents' chiefdoms of origin as well as areas of operation; we calculated a variable *Home*, for each quasi-unit, indicating the proportion of combatants who originated from the region in which the group was operating. The left hand panel of Figure 2 reveals a statistically significant negative correlation between the *Home* effect and levels of abuse. The size of the circles in the graph indicates the number of members of each quasi-unit and serves as a weight that reflects our confidence in the estimates of the values calculated for each variable at the level of the quasi-unit.

(Figure 2)

Although the bivariate relationship is a strong one, the relationship between *Home* and levels of abuse is driven (in part) by systematic differences between the two main factions, the RUF and CDF. As the right hand panel of figure 2 illustrates, CDF fighters were more likely (on average) to operate from a home base and also were less likely (on average) to commit acts of abuse against civilian populations. If the overall relationship is driven by this major division between the CDF and the RUF then, perhaps, being at home is irrelevant for understanding patterns of abuse. Other features of the CDF, such as differences in command structure, ideology, or leadership, could be responsible for the differences in combatant behavior. If this is the case, then the relationship between *Home* and abuse that appears so strong in bivariate analysis and in qualitative accounts is potentially spurious. However, as the second panel demonstrates, the negative

relationship persists across the quasi-units within a given faction, although it is substantively weaker.[7] By identifying the within group effect, we gain greater confidence that a strong bivariate relationship is not spurious.

Table 1 presents coefficients from the weighted least squares analysis without and then with faction-level fixed effects. These estimates reflect the patterns visible in the figures. Abuse levels of quasi-units composed of people entirely from the region of combat are on average 0.21 points lower than those composed only of people from outside the area. Importantly, this effect is not driven entirely by features of the faction. There is a discernible, although substantively weaker, home effect once we take account of the major factional affiliations of the respondents. This *Home* effect is much stronger in type FCH quasi-units—at the level of the chiefdom—than at the more anonymous level of the district reflected in type SFD quasi-units. Further, although the estimated marginal effect is larger among RUF units, the effect is statistically significant in *both* RUF and CDF factions. But the significance of the *Home* effect does not persist when potentially confounding factors are included. Table 2 provides coefficients from the fully specified weighted least squares models. In the multivariate analysis, the *Home* effect is not associated with systematically higher rates of civilian abuse in any of the models. There appears to be weak empirical support for the causal significance of local community ties for understanding patterns of abusive behavior.

The third hypothesis focuses on shared ethnic identities as a constraint on abusive behavior, or alternatively, as a mechanism for generating collaboration without coercion. In the survey instrument, respondents were asked to report the principal ethnic group of their faction (if any) and the principal ethnicity of the civilians living near their base. To test this hypothesis, we created a dummy variable, *Co-ethnicity*, taking a value of 1 if these two groups are the same and a 0 otherwise. The bivariate analysis reveals a strong relationship between co-ethnicity and levels of abuse. Co-ethnicity with local civilians reduces aggregate abuse levels by approximately 0.14 points, or over one-half a standard deviation. However, this characteristic of solider-civilian interaction is much more common in CDF units than in the RUF. As a result, when we try to discern an effect of co-ethnicity independent of faction fixed effects, we find no evidence for this hypothesis. In the multivariate analysis, we again fail to reject the null of no effect when we control for the other explanatory variables. Thus support for the influence of local community ties, whether regional or ethnic, is weak. For neither type of quasi unit does *Home* or *Co-ethnicity* emerge as a significant variable. Although both relationships have face validity, once we account for other characteristics of factions, local community ties offer no additional explanatory power.

[7] The figure shows separately estimated slopes for each faction; in the analyses that follow, however, we constrain slopes to be constant across groups but allow for group specific intercepts.

IV.2 Contestation

Hypothesis 4 suggests that abusiveness is negatively related to the extent of control. Where one faction is clearly dominant, lower levels of abuse should be apparent. One challenge in testing this relationship involves defining "dominance," since control is likely to depend on many unobservable features of the quasi-units as well as the prize they are fighting for. We adopt a simple and transparent way of assessing strength; we measure the relative number of troops in a given locality. By tracking the movements of a representative sample of fighters, we have good estimates of troop levels in the chiefdoms throughout the war. We develop a measure for each quasi-unit of the extent to which their group is dominant in a given geographic zone. The measure of *Dominance* records the estimated size of the quasi-unit relative to the estimated total number of troops in the zone.

The bivariate relationship between dominance and the measure of abuse is strong. With the exception of two outliers, it is generally the case that the greater the dominance of a given unit the less abusive of civilians it is. Dominant groups tend not to be abusive whereas non-dominant groups display a wide range of behavior. Further, this relationship persists even after we take account of fixed effects, although, for both FCH and SFD quasi-units, the estimated magnitude of the coefficient is approximately cut in half. But as with the measures of community ties, we find that the results are fragile in a multivariate context. The coefficient on *Dominance* is significant in only two of the eight models presented in table 2. It turns out that many of the cases of dominance and low levels of abuse occur in CDF factions, and their behavior can be accounted for by other characteristics shared by CDF units. Within the group of CDF factions, there is no strong relationship between dominance and abuse. Furthermore, once CDF units are removed from the sample, there is no strong relationship between dominance and abuse among the remaining units.

IV.3 Internal Structures of the Factions

A final perspective focuses on the mechanisms factions employ to punish defection within the group. It suggests that abuse is more likely when leaders lack the tools they need to prevent individual combatants from misbehaving. The fifth hypothesis relates to recruitment practices: warring factions that recruit combatants with the promise of private, material benefits are more likely to exhibit high levels of civilian abuse. To test this theory, we collected data on the incentives used to induce people to take part in a faction. While many combatants, particularly within the RUF, were abducted and kept in through the use of force, material enticements were also used. About 17% of the respondents in our sample were abducted into factions; 17% were told that they would receive money for participating and; 5% were promised diamonds. Using these reports of the promises made by different units of money and diamonds, we constructed a measure, using factor loaded weighting, of the propensity of each quasi-unit to be staffed with combatants that were recruited via *Material Incentives*.

The bivariate relationship is large and significant. A one standard deviation shift in our measure of material incentives is associated with an increase in abusiveness of about 0.1 points, or almost half a standard deviation. This effect is, in part, the result of differences *across* factions: the CDF were less likely to make offers of material gains to potential recruits. But the results with fixed effects demonstrate that this relationship also obtains within factions, a result driven particularly by variation across units within the RUF. In the multivariate analysis, the coefficient on material incentives is statistically significant across all eight models.

A second aspect of the internal structure of groups is the *Density of Social Ties* within the unit. Hypothesis six suggests that groups with strong internal networks will be less likely to commit abuses against civilians because those social ties can be employed to prevent defection. To create a measure of social ties within the factions, we created an average, weighted by factor loadings, of three measures of social connectivity in the unit: the share of individuals in each quasi-unit that had friends in the unit at the time of entering, had family in the unit, or knew fellow community members who were participating. Factions that recruited by using force or by offering selective incentives are less likely to integrate or make use of pre-existing network structures. As a result, they are also less likely to benefit from these networks as they attempt to resolve various collective action problems. We find a strong, negative relationship between the density of social ties within quasi-units and the level of abusiveness. However, this is explained mainly by the fact that recruits to the CDF were more likely to join factions in which they already had friends, family, or community members participating. In the multivariate analysis, we find mixed support for the impact of social ties. The coefficient on the density of social ties is statistically significant only for SFD quasi-units (a more precise measure of individual's factional affiliations), but not for FCH quasi-units which are more geographically precise. Moreover, once the measure of ethnic heterogeneity is included, the coefficient on social ties becomes insignificant even in the sample of SFD quasi-units.

Ethnic ties, within the unit, represent another measure of the cohesiveness of a fighting group. The seventh hypothesis posits that ethnically heterogeneous units should exhibit lower levels of civilian abuse. To measure the heterogeneity of units, we created a standard measure of *Ethnolinguistic Fragmentation*. For every quasi-unit that had at least three members, we estimated the relative size of each ethnic group within the quasi-unit and then took the sum of squares of these shares. This provides a concentration index. The difference between this index and 1 is the index of fragmentation. The index takes a value of 0 if all members are from the same ethnic group, a value close to 1 if all members are from different ethnic groups, and values between 0 and 1 for less extreme structures. The distribution of the fragmentation index for each of the two major factions is striking. Although the CDF as a whole is no less heterogeneous than the RUF, its quasi-

units were significantly more homogeneous.[8] CDF fighting units appear to have formed along ethnic and regional lines; RUF units reflect the heterogeneity of the overall faction. The bivariate relationship between our measure of fragmentation and the abuse index is strong and positive, both without and with faction fixed effects. The result is also robust to the inclusion of additional explanatory variables in the multivariate analysis. There is also an effect on the variance of outcomes—less diverse units exhibit a predictably low level of abuse, with very few exceptions among the highly homogenous groupings. If we disaggregate across factions, we find that, although much of the effect of ethnic fragmentation is accounted for by differences between the ways in which the CDF and the RUF organized their units, there is a strong, statistically significant effect within the RUF grouping alone. A one standard deviation shift in RUF fragmentation levels increases the abuse rate by about .08 points, and this accounts for more than 15% of the variation between RUF units.

The final hypothesis proposes a positive relationship between a group's structures to maintain internal discipline and the degree to which it abuses civilians. To create a measure of *Internal Discipline*, we weighted a series of responses to questions about reported norms of behavior within the factions. We used information about the extent to which individuals would face disciplinary action, if, without the consent of a commander, they were drunk at the base, killed someone from their own group during combat, were drunk while in combat, killed someone from their own group at the base, stole from someone in their own unit, amputated someone in their own unit, and raped someone in their own unit. None of these measures of disciplinary action within units involve any information that relates directly to interaction with civilians. So, in theory, the measure is analytically (although not necessarily empirically) independent of our measure of civilian abuse.[9] Most of the actions probed are ones that could reasonably be expected to lead to a weakening of units or of their fighting capacity. Note that we did not ask subjects if they committed these actions, but rather whether they would expect there to be punishment within their unit if any member committed one of these acts. Individuals could respond by indicating high, medium, or low likelihoods of punishment.

The bivariate relationship between the index of internal discipline and our measure of abuse is strong and exists across both major factions. It indicates that the higher the level of indiscipline permitted inside the faction, the greater the abuses that were allowed outside of the faction. The relationship survives the inclusion of faction fixed effects, and emerges as a robust, significant predictor of abusiveness in all models presented in the multivariate analysis. These results suggest that internal factional attributes including the characteristics

[8] This finding might come as a surprise to watchers of the conflict in Sierra Leone civil war who have at times slipped into the language of ethnic conflict, seeing the groups as divided along Mende and Temne tribal lines (Muana 1995).

[9] It may be that our respondents were unable to see the distinction between internal and external discipline. Both get at an underlying issue of the tactical control of commanders. However, our enumerators were well-trained to help respondents understand the specific issues probed in the distinct questions.

of a group's membership, how they were recruited, and how they relate to one another are key factors that help to explain variation in levels of abuse in the Sierra Leone conflict.

IV.4 Robustness Tests

In this section, we explore the robustness of our findings by examining the extent to which our results depend on how the dependent variable is operationalized. In particular, we address three distinct concerns relating to the construction of our measure of abuse. The results of our investigation are presented in Table 3.

(Table 3)

The first concern relates to the fact that the measure of abuse combines assessments of the presence of abusive behavior with assessments of the absence of constructive relations with non-combatants. Column II in Table 3 replicates the full model with a version of the dependent variable that excludes all measures of positive, non-abusive behavior.[10] Our core findings are essentially unchanged, although there is some increase in the magnitude of some of the coefficients. A second concern is that different forms of abuse may follow very distinct logics. In response, we run the full model on two disaggregated measures: one which captures whether combatants were punished for raping civilians without permission, and a second which assesses whether units extracted food from civilians by force. Again, the estimated effects of our variables remain essentially unchanged with only one exception. The coefficient on the propensity to make offers of material gains falls marginally below conventional levels for tests of statistical significance in one of the two models examining the likelihood that combatant groups use force to extract food.

A third concern is that one key independent variable—the measure of a unit's internal discipline—may be too closely related in the minds of our respondents to a component of the dependent variable, the use of disciplinary measures in response to abusive behavior towards civilians. In column V, we exclude all disciplinary measures from the index of abuse. Consistent with the results in columns II, III and IV, our core findings related to in-group discipline and the role of material incentives are essentially unchanged. One difference arises however in this final model: in the equation employing FCH quasi-units, the coefficient on dominance enters significantly, and in the predicted direction; the effect, however, is substantively small.

[10] Because inclusion of our measure of ethnolinguistic fragmentation substantially decreases our sample size, we exclude it in the model presented in Table 3.

V Discussion and Conclusion

The evidence suggests that it is possible to account for a large share of variation in the abusiveness of fighting groups both across factions and over time. Patterns of abuse in Sierra Leone, we find, are largely explained by characteristics of the fighting units themselves, rather than by the types of linkages that exist between combatants and communities or the degree of contestation between warring factions. We conclude by offering some interpretations of our findings in light of the accumulating qualitative accounts of the violence in Sierra Leone and by discussing the generalizability of our model and results.

Once we control for faction fixed effects and other confounding factors, we find no strong relationship between the extent of combatant-community ties and patterns of abuse. This finding may strike some as inconsistent with an up-close reading of the violence; the CDF, responsible for much lower levels of abuse (on average), was tightly linked to preexisting community structures (Muana 1997), while the RUF, which recruited mainly through abduction, was seen by many as an alien force, lacking the local ties required to mobilize civilian populations (Abdullah 1998). Importantly, the tests to which we subject these explanations are difficult ones—we look for evidence that these features account for variation independent of factors that are common to all fighting units in a given faction. It is plausible that local community ties matter but are highly correlated with other characteristics of fighting factions; either way, we cannot reject the null that they do not matter at all. Yet, other descriptions of the war help us to make sense of this non-finding. Some scholars argue that armed groups reacted *especially* violently against their own communities or ethnic groups in response to a perceived lack of support for their actions (Keen 2005, Richards 1996). Others describe how abuses committed against one's own community were employed as a strategy to ensure the commitment of members to the organization, by breaking combatants' ties to their communities (Shepler 2004). These diverse stories about the role of community ties in reducing (or increasing) levels of abuse suggest a more complicated relationship than the one that emerges from the model. They also point to the need to understand the origins of the various fighting units, some of which employed community ties to solicit collaboration, and others that elected or were forced to use coercive tactics against their own communities.

The fact that wealth is not associated with abuse may also be surprising to students of the war in Sierra Leone. The simplest explanation from the point of view of our model is that there is insufficient variation in wealth across regions of Sierra Leone for this feature to explain significant variation in forms of violence. As with community ties, this indeterminate finding may also result from a variety of different logics operating simultaneously. Although our model predicts lower levels of abuse in wealthier areas, other accounts of the violence predict precisely the opposite result. Some commentators emphasize the significant underdevelopment of rural Sierra Leone and the tremendous inequalities that existed across regions before the war, suggesting a high likelihood of retributive violence against holders of wealth and beneficiaries of corruption (Keen 2005). Analysts concerned with the role of illicit natural resources in financing the war draw

attention to high levels of contestation in diamond producing areas and suggest that civilians suffered when warring factions competed for the wealthiest regions (Smilie 2000). Indeed, much of the heaviest fighting took place around diamond-mining areas and both the government and private firms hired private security firms to protect the kimberlite diamond fields in Kono. Yet, measures of diamond wealth exhibit no relationship with levels of abuse when incorporated into the models described above. The most difficult challenge one faces in identifying a relationship between wealth and abuse relates to data availability, and that may also explain the non-finding. Our wealth measure captures poverty rates at the district level, reducing substantially the precision with which we can capture relationships between a community's resources and combatant behavior.

We find only weak evidence for a positive relationship between contestation and abuse. As we noted earlier, other theories which provide more agency to non-combatant populations, suggest a non-monotonic relationship, with especially low levels of abuse in highly contested areas (in contrast to our monotonic prediction). For example, Kalyvas (2006) emphasizes a distinction between *selective* and *indiscriminate* violence. Violence is selective if some individuals rather than others are targeted based on some criterion—for example based on information provided about their activities; otherwise it is indiscriminate. The power of selective violence is that it alters the calculations of citizens. Kalyvas links the use of selective violence to the dynamics of territorial control, arguing that when there is rough parity, the risks are too great to make denunciations worthwhile and so factions have weak information to use as a basis for selective violence. We should then observe low levels of selective violence in highly contested zones.

Although our data do not distinguish between selective and indiscriminate violence, there are reasons to believe that the dynamics described above, if important, might be discernible. In practice and in theory, the distinction between indiscriminate and selective violence is blurred. When information is imperfect, although armed groups cannot selectively target individuals perfectly, they can target imperfectly by exacting violence on villages or whole districts. If civilians expect groups to behave in such a manner, their incentives to defect will be altered. The logic suggests then that individual acts of defection may produce violence that, although it appears indiscriminate at the local level since there is no information that can be used to distinguish among potential victims, is in fact selective at a more macro-level. In the case of Sierra Leone, violence was often used selectively in this manner and sometimes reflected battlefield strength—some accounts note, for example, that as factions lost control of areas, fighting groups inferred that civilians had informed the other side and exacted retributions (Keen 2005). Given the plausibility of this and other arguments which emphasize ways in which competition among factions may constrain abuse, we checked for non-monotonicities in the relationship between contestation and abuse, entering multiple fractional polynomials of dominance into our model. In the full model—with fixed effects and controlling for other independent variables—we continue to find no support for an impact of control. In some cases a non-monotonicity can be discerned, resulting from an apparently sharp fall in abuse levels in areas of exceptionally weak control.

But this non-monotonicity, driven by a small number of data points, does not suggest a fall in abuse corresponding to high levels of contestation. While logics of contestation may explain some individual incidents of abuse, especially under conditions of changing relations of control, there appears to be no evidence from Sierra Leone that such dynamics can explain the day-to-day levels of abusive behavior in contested areas.

Our evidence tells a strong and compelling story that the internal characteristics of fighting units are central to explaining patterns of abuse. As we mentioned at the outset, this argument could be tantamount to description rather than explanation: the RUF was abusive and the CDF was not is a common refrain among scholars of Sierra Leone. However, by employing faction fixed effects, we demonstrate that variation in the membership and structure of units *within the factions* can help to explain differences in combatant behavior *within* the five factions. Fighting units composed of individuals motivated by private goals, with high levels of ethnic diversity, few preexisting social ties among members, and weak mechanisms to maintain internal discipline commit the highest levels of abuse. These findings are consistent with an explanation of abusiveness which emphasizes its origins in chaotic organizational structures, rather than highly disciplined ones. This represents a challenge to the view that high levels of abuse and violence are observed where leaders retain tight control over an efficient killing machine that can be directed at will. Decisions may be made at the top and carried out below, but our approach, by investigating the behavior of quasi-units, succeeds in explaining a large share of variation without reference to such strategies. And top-down explanations of violence would be consistent with our findings only if those units that were most abusive of civilians were also the units that were least tolerant of unsanctioned abuse.

We offer one explanation for why disorganization increases abuse levels: the inability of groups to manage their members reduces their ability to engage cooperatively with communities. This explanation, though supported in the data, is not the only mechanism that may underlie the relationship we observe. Other arguments generate similar predictions, while some suggest that the relationship may be in part endogenous. One rival explanation draws on the fact that groups with weak internal structures and high volatility in membership may lack common knowledge about the characteristics of their members. In such contexts, uncertainty over the relative status of different members within the organization may result in individuals performing—and organizations requiring them to perform—violent acts in order to establish their position within the organization. This logic has been observed in the context of behavior among prison inmates (Gambetta, forthcoming; Kaminski 2003) and is consistent with qualitative accounts of violence in Sierra Leone (Richards 1996). Two other arguments suggest that the relationships we observe may be in part endogenous or due to third factors. One, developed in Weinstein (forthcoming), suggests that groups that emerge in environments rich in the material resources needed to finance insurgency, face competitive pressures to emerge quickly. As a result, they tend to recruit on the basis of material appeals rather than time-consuming ethnic and ideological mobilization, yielding a sorting of types across groups and conflicts:

opportunistic joiners participate with private motivations, while activist recruits join organizations that develop non-material appeals. Factions composed of these opportunistic types tend to lack the common purpose, homogeneity, or preexisting social ties needed to prevent individual defection; activist insurgencies, on the other hand, formalize norms of behavior rooted in the common goals they share and the tightly linked communities from which they emerge. According to this argument, characteristics of individual members may have implications for the form of organization that can be sustained *and* for the form of violence that is used. A second approach, that we have not seen in the literature but that appears *a priori* plausible, emphasizes the strategic incentives of leaders. In cases in which rebellion originates in the private desires of leaders, rather than in grievances articulated by communities, it may be difficult to mobilize individuals to participate voluntarily in a rebellion. Instead, leaders rely on coercive tactics of recruitment. Violence in such cases may be oriented towards predatory rather than communal goals. But this may in turn have implications for organization of fighting groups. In the absence of internal support from the membership, leaders may face a slightly different collective action problem to that emphasized by the recruitment literature: they need to *prevent* collective action among the individuals they force to participate. In such environments, the decision to construct fighting units where individuals are not connected by ethnicity or other shared ties may be a strategic choice, as it minimizes the risk of defection.

This discussion suggests that the linkages between organization and abuse that we observe so markedly in Sierra Leone are strong, but possibly multifaceted. Looking beyond Sierra Leone, it is natural to ask to what extent the dynamics we discover depend on particular features of this conflict. The question is pertinent because, in some accounts, the form that violence takes depends on the "type" of conflict; for example, whether war is fought by conventional or irregular means (Kalyvas 2005). However, such typologies, while useful as heuristic devices, depend on structural relationships to generate explanatory power. For example, these approaches classify conflicts in terms of the number of sides, the relative strength or cohesion of groups, the technologies of violence available to each, and perhaps the motivations of fighters. Rather than conditioning our model on the type of conflict, we have sought to generate and test hypotheses that originate from a unified logic of extraction but depend upon variation in these underlying explanatory variables. While individual conflicts may take different values on any of these variables on average (thus allowing for some form of categorization), within-case variation (which makes taxonomies difficult to employ[11]) provides the possibility of testing for the link between structural features of conflict and variation in forms of violence. For this reason, the model we provide can be generalized to a wider class of cases. However, whether or not

[11] Classifying the Sierra Leone case within a simple taxonomy is difficult. The number of actors varied considerably over the course of the conflict. In some periods and places, guerrilla warfare was the norm, while at other times more conventional attacks, including attacks to take the capital city, were mounted. In some areas, there were clear front lines; in others, regions of control were less clearly demarcated. In some periods and places, canons and RPGs provided the basic technology; in others, machetes and traditional weapons provided the means of violence.

other cases will reveal the primary importance of organizational structures will depend on the range of values observed on the independent variables in those cases.

Looking across cases, the logic of abuse that we propose and the empirical evidence we provide, suggest a need for caution in rapidly embracing a model of top-down command and control. In Sierra Leone, our findings have important implications for the arguments likely to be advanced by the prosecutors trying faction leaders in front of the Special Court in Sierra Leone. Rather than being orchestrated by well-oiled machines capable of committing systematic acts of violence, our results suggest that the abuse of civilians was undertaken by organizations with chaotic, disorganized internal structures that permitted misbehavior both within and outside units. If this is correct, then the application of the doctrine of command responsibility will depend less on the identification of instances in which commanders planned, instigated, ordered, or committed abuses—or failed to prevent actions or punish perpetrators when this was within their capacity—and more on an analysis of how this disorganization came about. It may be that this organizational design was chosen—and sustained—as part of a strategy by the leadership of the organizations. It is plausible, as well, that organizations were built that spun out of control, giving way to abuse that was disorganized, disconnected from the movements' goals, and driven by individual-level and local considerations. Distinguishing among these possible stories matters not simply for academic analysts of conflict, but also for those who wish to punish perpetrators and prevent such abuses from being committed in the future.

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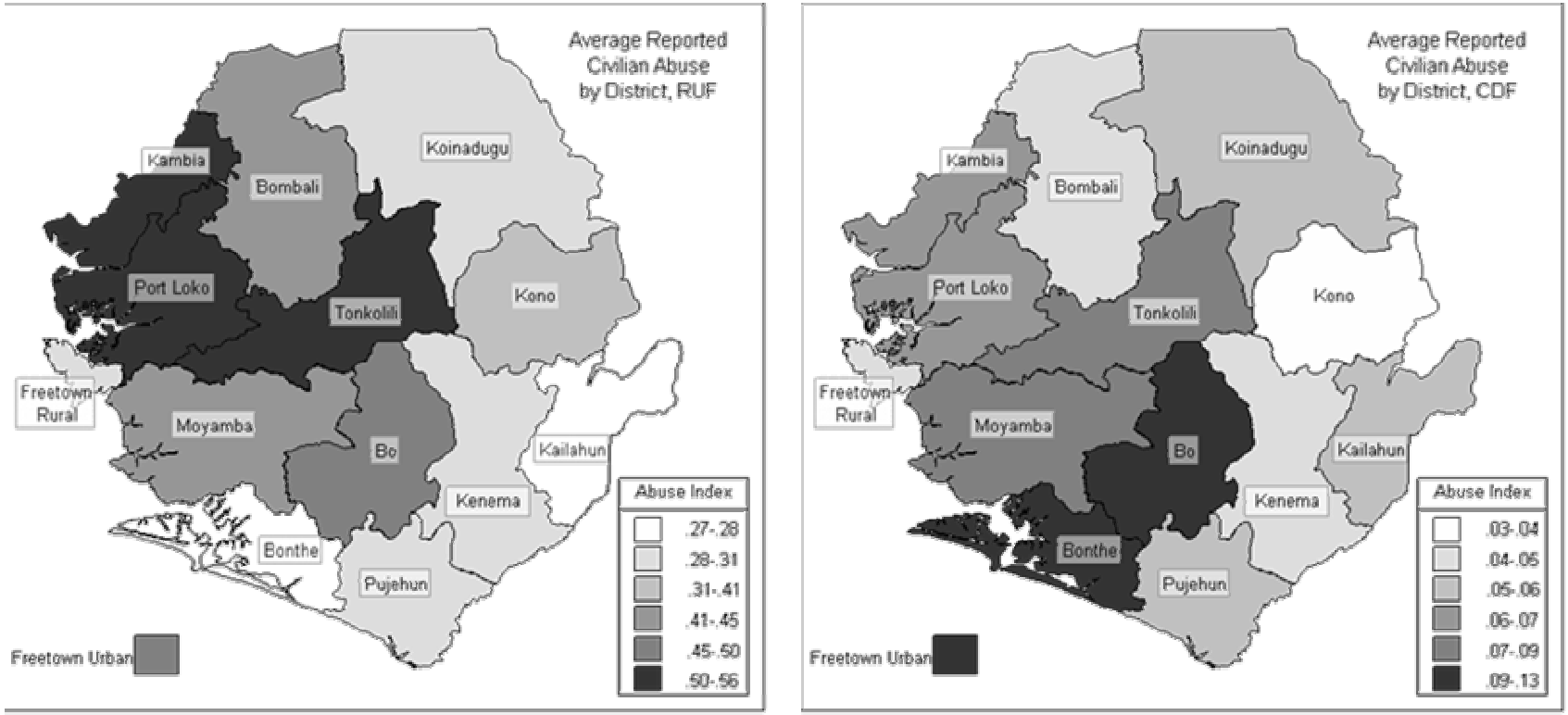
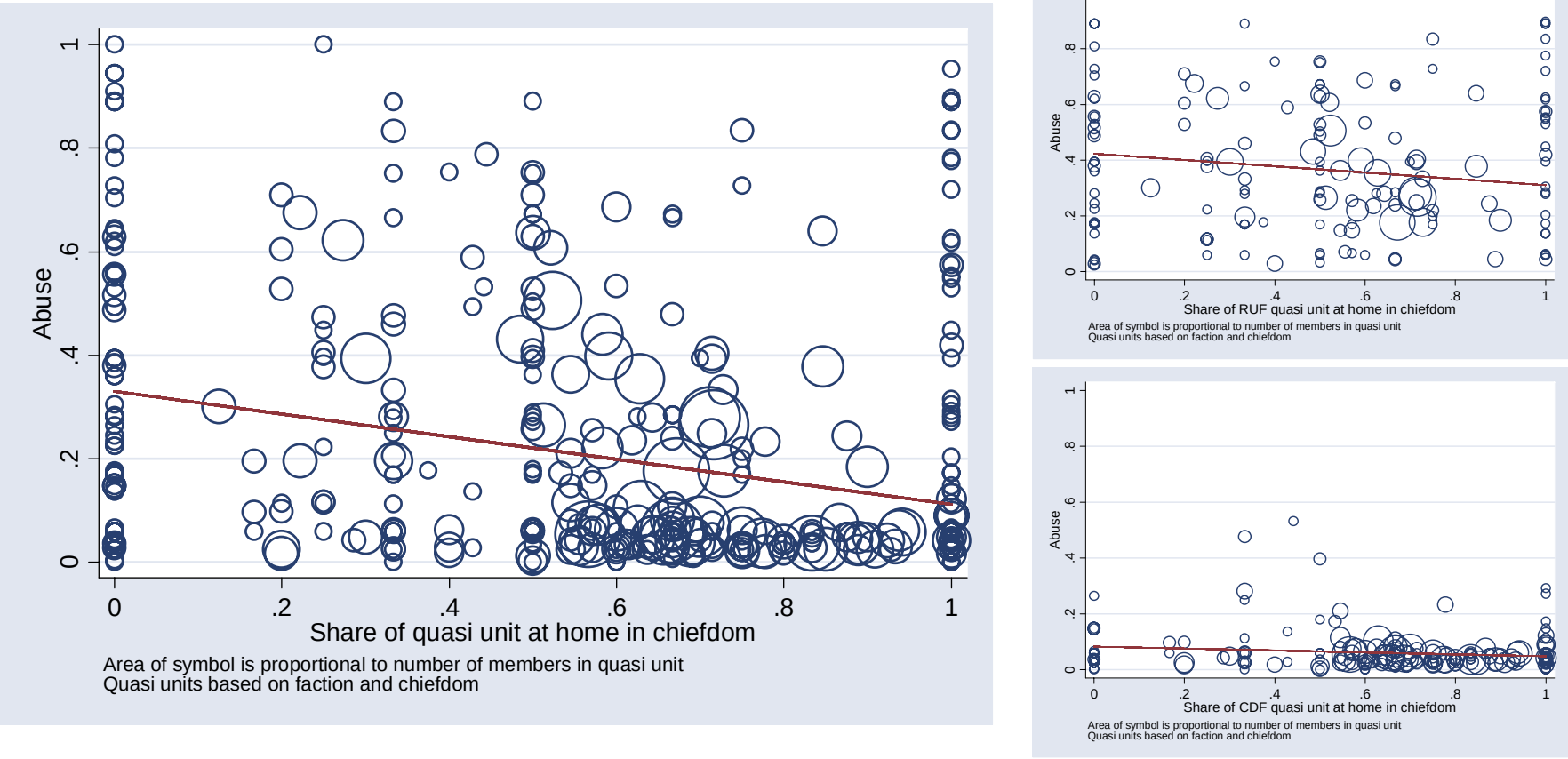
Figure 1: Spatial Variation in Civilian Abuse



Note: These maps show the average level of reported abuse by District for the RUF (left panel) and the CDF (right panel). Each panel has an independent legend, and in particular, it should be noted that the average levels of abuse are significantly lower in the right hand panel. Freetown Urban, too small to represent on the map, is marked in the lower left of each panel.

Figure 2: Levels of Abuse When Units Fight in Their Own Neighborhood



Note: The left panel shows the relationship (with fitted values) for the whole sample; the right hand panels shows the relationship for each of the CDF and RUF factions

Table 1: Correlates of Abuse: Bivariate Relationships With and Without Fixed Effects

Combatant-Community Ties

H1 Poverty

Coefficient	t-statistic	N	R^2	Unit	Model
0.204	[1.20]	386	0.01	FCH	OLS
0.16	[1.10]	325	0	SFD	OLS
-0.023	[0.26]	386	0.49	FCH	FE
-0.03	[0.42]	325	0.54	SFD	FE

H2 Home

Coefficient	t-statistic	N	R^2	Unit	Model
-0.225	[5.12]***	386	0.08	FCH	OLS
-0.246	[3.19]***	328	0.09	SFD	OLS
-0.082	[2.52]**	386	0.5	FCH	FE
-0.055	[1.23]	328	0.54	SFD	FE

H3 Co-ethnicity

Coefficient	t-statistic	N	R^2	Unit	Model
-0.234	[8.20]***	386	0.15	FCH	OLS
-0.257	[6.37]***	328	0.19	SFD	OLS
-0.024	[0.89]	386	0.49	FCH	FE
-0.03	[1.29]	328	0.54	SFD	FE

Contestation

H4 Dominance

Coefficient	t-statistic	N	R^2	Unit	Model
-0.192	[3.48]***	385	0.07	FCH	OLS
-0.133	[0.91]	324	0.02	SFD	OLS
-0.067	[1.53]	385	0.5	FCH	FE
-0.097	[2.07]*	324	0.55	SFD	FE

Group Structure

H5 Material Incentives

Coefficient	t-statistic	N	R^2	Unit	Model
0.586	[6.70]***	386	0.11	FCH	OLS
0.628	[5.20]***	328	0.13	SFD	OLS
0.298	[3.38]***	386	0.52	FCH	FE
0.333	[3.53]***	328	0.57	SFD	FE

H6 Density of Social Ties

Coefficient	t-statistic	N	R^2	Unit	Model
-0.365	[11.50]***	386	0.34	FCH	OLS
-0.396	[7.60]***	328	0.41	SFD	OLS
-0.031	[0.57]	386	0.49	FCH	FE
-0.06	[1.03]	328	0.54	SFD	FE

H7 Ethnolinguistic Fragmentation of Unit

Coefficient	t-statistic	N	R^2	Unit	Model
0.38	[6.58]***	230	0.23	FCH	OLS
0.301	[3.89]***	216	0.16	SFD	OLS
0.184	[3.82]***	230	0.58	FCH	FE
0.106	[2.69]**	216	0.64	SFD	FE

H8 Internal Discipline

Coefficient	t-statistic	N	R^2	Unit	Model
-1.046	[27.97]***	369	0.61	FCH	OLS
-0.996	[23.39]***	312	0.61	SFD	OLS
-0.774	[18.38]***	369	0.72	FCH	FE
-0.703	[11.14]***	312	0.74	SFD	FE

Notes: Each row in this table presents the results of a bivariate regression. All regressions allow errors to be clustered geographically and weight observations by the number of individuals in the dataset reporting for each quasi-unit. For each independent variable, we report results for both OLS and fixed effects models and for each type of quasi-unit (FCH and SFD).

Table 2: Multivariate Results with Clustering by Region

Model:	1	2	3	4	5	6	7	8
Type of quasi unit::	FCH	FCH	SFD	SFD	FCH	FCH	SFD	SFD
Method of Estimation:	OLS	FE	OLS	FE	OLS	FE	OLS	FE
Poverty	0.032	0.035	0.041	0.035	0.055	0.059	0.027	0.019
	[0.48]	[0.55]	[0.87]	[0.72]	[0.82]	[0.85]	[0.69]	[0.45]
Home	-0.042	-0.03	-0.021	-0.01	-0.038	-0.037	-0.039	-0.042
	[1.75]*	[1.21]	[1.18]	[0.39]	[1.05]	[0.99]	[1.19]	[1.09]
Co-ethnicity	-0.026	-0.008	-0.012	0.009	-0.025	-0.012	-0.011	0
	[1.42]	[0.41]	[0.54]	[0.40]	[1.04]	[0.52]	[0.39]	[0.00]
Dominance	-0.02	-0.01	-0.011	-0.015	-0.024	-0.024	-0.008	-0.005
	[0.64]	[0.30]	[0.47]	[0.55]	[0.56]	[0.52]	[0.30]	[0.19]
Material incentives	0.269	0.234	0.303	0.252	0.26	0.243	0.283	0.257
	[4.11]***	[3.53]***	[5.69]***	[4.53]***	[2.91]***	[2.72]***	[4.29]***	[3.14]***
Density of social ties	-0.017	0.013	-0.1	-0.066	0.02	0.025	-0.082	-0.081
	[0.43]	[0.35]	[2.03]*	[1.50]	[0.36]	[0.39]	[1.30]	[1.02]
Ethnolinguistic Fragmentation					0.086	0.069	0.066	0.058
					[3.18]***	[2.17]**	[2.40]**	[2.35]**
Internal discipline	-0.766	-0.741	-0.705	-0.677	-0.735	-0.722	-0.592	-0.561
	[16.61]***	[16.54]***	[12.21]***	[12.10]***	[13.06]***	[12.40]***	[6.70]***	[6.89]***
Average age in unit	-0.002	-0.002	-0.002	-0.001	-0.003	-0.002	-0.002	0
	[1.76]*	[1.38]	[1.38]	[0.97]	[2.19]**	[1.67]	[1.32]	[0.44]
Share of sample in unit that were abducted	0.126	0.072	0.078	-0.001	0.13	0.011	0.096	-0.033
	[3.87]***	[1.85]*	[1.53]	[0.01]	[2.88]***	[0.15]	[1.63]	[0.39]
Constant	0.883	0.799	0.847	0.784	0.818	0.753	0.718	0.639
	[10.87]***	[10.34]***	[10.11]***	[9.56]***	[6.71]***	[5.95]***	[7.48]***	[6.18]***
Observations	368	368	307	307	222	222	207	207
R-squared	0.72	0.74	0.75	0.76	0.78	0.79	0.79	0.8

Notes: Robust t statistics in brackets, Significant at 10%; ** significant at 5%; *** significant at 1%. Constant(s) not reported for FE models. All models weight observations by the number of individuals reporting for each quasi-unit and allow for clustering of standard errors by locality.

Table 3: Robustness Checks on the Dependent Variable

	I		II		III		IV		V	
	FCH	SFD	FCH	SFD	FCH	SFD	FCH	SFD	FCH	SFD
Poverty	0.035	0.035	0.043	0.039	0.17	0.105	0.016	0.005	0	0.004
	[0.55]	[0.72]	[0.58]	[0.63]	[1.09]	[0.75]	[0.13]	[0.04]	[0.01]	[0.05]
Home	-0.03	-0.01	-0.032	-0.006	-0.026	0.069	-0.074	-0.093	-0.006	-0.021
	[1.21]	[0.39]	[1.06]	[0.17]	[0.38]	[0.94]	[1.49]	[1.98]*	[0.28]	[0.77]
Co-ethnicity	-0.008	0.009	-0.005	0.008	0.034	0.053	-0.016	0.055	-0.006	0.036
	[0.41]	[0.40]	[0.20]	[0.35]	[0.56]	[0.84]	[0.35]	[1.34]	[0.24]	[1.21]
Dominance	-0.01	-0.015	0.002	-0.024	0.08	-0.057	-0.075	-0.012	-0.055	0.004
	[0.30]	[0.55]	[0.04]	[0.72]	[0.83]	[0.70]	[1.42]	[0.32]	[2.33]**	[0.15]
Material incentives	0.234	0.252	0.247	0.252	0.451	0.512	0.238	0.326	0.138	0.193
	[3.53]***	[4.53]***	[3.18]***	[3.56]***	[2.08]**	[3.19]***	[1.59]	[2.42]**	[1.70]*	[2.44]**
Density of social ties	0.013	-0.066	0.009	-0.085	-0.007	-0.076	-0.074	-0.268	-0.019	-0.068
	[0.35]	[1.50]	[0.20]	[1.94]*	[0.06]	[0.67]	[0.81]	[2.52]**	[0.43]	[1.19]
Internal discipline	-0.741	-0.677	-0.876	-0.821	-1.881	-1.798	-0.441	-0.343	-0.278	-0.201
	[16.54]***	[12.10]***	[16.89]***	[14.45]***	[11.47]***	[17.04]***	[5.09]***	[4.89]***	[5.76]***	[4.05]***
Average age in unit	-0.002	-0.001	-0.002	-0.002	-0.009	-0.008	0.002	0	0.001	0
	[1.38]	[0.97]	[1.75]*	[1.33]	[2.72]***	[2.18]**	[0.82]	[0.00]	[1.40]	[0.19]
Share of sample in unit that were abducted	0.072	-0.001	0.07	-0.025	0.139	-0.029	0.045	-0.154	0.078	0.046
	[1.85]*	[0.01]	[1.60]	[0.30]	[1.33]	[0.15]	[0.44]	[1.09]	[1.78]*	[0.80]
Observations	368	307	372	310	372	310	373	310	370	307
R-squared	0.74	0.76	0.71	0.73	0.58	0.62	0.55	0.61	0.64	0.65

Notes: Dependent Variables are as follows:
I: Standard ABUSE measure
II: ABUSE measure, excluding all "positive" measures
III: Whether combatants were punished for raping civilians without permission
IV: Whether unit extracted food from civilians by force
V: ABUSE measure, excluding disciplinary measures

Robust t statistics in brackets, Significant at 10%; ** significant at 5%; *** significant at 1%. All models include fixed effects for factions. Constant(s) not reported. All models weight observations by the number of individuals reporting for each quasi-unit and allow for clustering of standard errors by locality.

Appendix A: Derivation of Hypotheses

Consider a situation in which a set of m combatant groups is active in a given region. In each period, civilian i generates per period income y, using one unit of labor. What he produces can be consumed or transferred, but not saved or invested. Further, we assume that production for each civilian takes place subject to some base consumption requirement in the previous period $\underline{c} \leq y$. We assume also that at each point in time control over an area is under the command of one group, and that the probability that any given group is in control is proportionate to its relative size in the region.[12]

The strategy sets available to combatants are simple. If any combatant, j, encounters a civilian holding income y', she may choose to forcefully extract any amount y_j in the range $[0, y']$. We describe an action by a combatant, j, as *abusive* if $y_j > y' - \underline{c}$.

Per period utility to a combatant group j, is given by the amount of resources extracted by the combatant plus a bonus, $k_{i,j}$ (possibly negative), that occurs in the event that j's behavior toward the civilian is abusive. Hence: $v_j(y_j) = \{ y_j \text{ if } y - y_j \geq \underline{c}, y_j + k_{i,j} \text{ otherwise}\}$. We assume that $k_{i,j} > -\underline{c}$: as such, we focus on cases where abuse is tempting in the sense that the short-run benefits to a group of taking all of a civilian's assets, given by $(y + k_{i,j})$, outweigh the short-run benefits of extracting a non abusive amount $(y - \underline{c})$. Both combatants and civilians have additive discounted utility with a common time-invariant discount factor, δ, and infinite horizons.

In this case the conditions under which j will refrain from abuse (and extract exactly $y - \underline{c}$) in an equilibrium in which the total share of groups desisting from abuse is given by z is:

$$(y - \underline{c}) + \delta p_j(y - \underline{c}) + \delta^2 z p_j(y - \underline{c}) + \delta^3 z^2 p_j(y - \underline{c}) + \ldots \geq y + k_{i,j}$$

The first term on the left hand sides represents the maximum return in the present period from desisting; the second represents the discounted maximum expected return in the second period, which obtains conditional upon non-abusive behavior in the first period and the likelihood that the group encounters the civilian again in the second period; the third term is the twice discounted reward from non abusive behavior which obtains only if no abusive group encountered the civilian in the previous period (z) and group j encounters the group in the third period. This condition can be more compactly written as:

$$y \geq \underline{c} + (\underline{c} + k_{i,j})(1 - \delta z) / \delta p_j \qquad (*)$$

Condition (*) can be used to provide foundations for each of our hypotheses. A given group is more likely to desist from abuse the larger is y [**Hypothesis 1**] and the smaller (or more negative) is k [**Hypotheses 2 and 3**]. More trivially, groups are also more likely to desist if they value the future highly and if the requirements for subsistence are low.

The relationship between p_j and condition (*) is more complex. Ceteris paribus, groups are also more likely to desist when *other* groups desist (when z is large), but this in turn depends on similar conditions being satisfied for other desisting groups; compounding the effects of y and $k_{i,j}$. Although z is not independent of p_j (z depends on the relative size of other groups and the strategies they employ), two implications on relative size follow immediately from condition (*). First, we can derive a necessary condition for an equilibrium to obtain in which a given group j desists from abuse. Group j will desist, in an equilibrium *in which all other groups also desist* (that is, if $z=1$) iff $p_j \geq (\underline{c} + k_{i,j})(1-\delta) / \delta(y - \underline{c})$. For $p_j < (\underline{c} + k_{i,j})(1-\delta) / \delta(y - \underline{c})$, no stationary equilibrium obtains in which j desists from abuse in each period. Second, we can derive a sufficient condition for non-abusive equilibrium behavior by j: in particular, group j will refrain from abuse *even if all other groups act in an abusive manner* (that is, if $z=p_j$) iff: $p_j \geq (\underline{c} + k_{i,j}) / \delta(y + k_{i,j})$. If $p_j \geq (\underline{c} + k_{i,j}) / \delta(y + k_{i,j})$, then condition (*) is satisfied independent of the actions of the other players. This argument then provides our foundation for

[12] The results we obtain are consistent with a number of other matching protocols. One alternative matching protocol lets each civilians encounter all groups in each period, but in a given order; for example, if groups hold fixed positions on routes used by traders or producers. Another possibility is that each group encounters civilians in each period but in a random order. A third is that in each period each group has a given probability of encountering civilians, with civilians possibly encountering multiple groups in each period.

Hypothesis 4. With higher values of p_j, the necessary condition for non-abusive behavior and the sufficient condition for non-abusive behavior are more easily fulfilled. We emphasize, however, that within the range [($\underline{c}$ + $k_{i,j}$)(1–δ)/ δ(y - $\underline{c}$), ($\underline{c}$ + $k_{i,j}$)/ δ (y + $k_{i,j}$)] whether or not a player acts abusively depends on the actions of other players and for some parameter values both abusive and non-abusive equilibria may obtain. In some circumstances within this range, a *fall* in p_j for one group, j, if coupled with a rise in p_h for another group, h, may result in a shift from an equilibrium in which j acts abusively to one in which it acts non-abusively.[13] Insofar as the within-group collective action problem can be represented as a collective action problem between multiple individuals or sub-factions within a group, we see that **Hypotheses 5-8** follow from the same logic as that underpinning Hypothesis 4. Consider any partitioning of group j, with size p_j, into subgroups of size q_1 and q_2, with $q_1 + q_2 = p_j$ and for whom $k_{i,1} = k_{i,2} = k_{i,j}$. A non-cohesive group of size p_j that is formed of subgroups of size q_1 and q_2 can always act non-abusively if $y \geq \underline{c} + (\underline{c} + k_{i,j})(1-\delta z)/\delta \min(q_1, q_2)$; a cohesive group, however, can act non-abusively if $y \geq \underline{c} + (\underline{c} + k_{i,j})(1-\delta z)/\delta p_j$. Since $\underline{c} + (\underline{c} + k_{i,j})(1-\delta z)/\delta p_j \leq \underline{c} + (\underline{c} + k_{i,j})(1-\delta z)/\delta \min(q_1, q_2)$ we have that the conditions for non-abusive behavior by fragmented groups are more severe than the conditions for cohesive groups. More generally, if Condition (*) is satisfied for all subgroups then it is also satisfied for the aggregate group j; the converse is not true however. Condition (*) may be satisfied for group j but not for each subgroup.

[13] As an example, consider a case with only two combatant groups, j and h in which $k_{i,j} = k_{i,h} = 0$, $\delta = .8$, $\underline{c} = 1$ and $y = 2$. If $p_j = p_h = .5$, an equilibrium obtains in which neither group abstains from abuse (another exists in which both abstain). With a decline in p_j to .25 however (and a corresponding rise in p_h to .75), h always desists from abuse in equilibrium and j's best response is also to desist.

Appendix B: Variables and Survey Questions

Variable	Component Survey Questions
Index of Abuse	* *Where did your unit normally get the food that you needed to eat*? (Choose at most 2) Civilians gave it to us whenever we asked / Civilians gave us a fixed amount regularly / We forced civilians to give it to us / We bought it from other soldiers / We bought it from traders / We took it after we got control of an area / We grew it ourselves / Our commander got it from other units / other.
	* I will read to you a list of things that soldiers sometimes did during the conflict. For each one I would like you to tell me whether a combatant at your level in the unit would get in trouble for doing these things without the permission of his commander? *Stealing from Someone*? (Almost Always / Sometimes / Almost Never) *Raping Someone*? (Almost Always / Sometimes / Almost Never) *Amputating Someone*? (Almost Always / Sometimes / Almost Never)
	* *What did you try to do for civilians in your area?* *Protected them from other groups* (Almost always / Sometimes / Almost Never) *Provided Education* (Almost always / Sometimes / Almost Never) *Offered them ideological training* (Almost always / Sometimes / Almost Never)
Material Incentives	* *What did the group tell you that you would gain for participating?* Money; diamonds / Women (or men) / Food / a job / Land / A way to improve the situation in Sierra Leone / That my family would be protected / A way to get revenge / Other
Density of Social Networks	* *Who did you know in the group before you became involved?* Family members / Friends / Someone from my community / No one / Other
Internal Discipline	* I will read you a list of things that soldiers sometimes did during the conflict *within their units.* For each one, I would like you to tell me whether a combatant at your level in the unit would get in trouble for doing these things without the permission of the commander? *Drunk at the base?* (Almost always / Sometimes / Almost Never) *Drunk in combat?* (Almost always / Sometimes / Almost Never) *Killed someone from the faction* (*during combat*)? (Almost always / Sometimes / Almost Never) *Killed someone from the faction* (*at the base*)? (Almost always / Sometimes / Almost Never) *Stealing from someone from the faction*? (Almost always / Sometimes / Almost Never) *Raping someone from the faction*? (Almost always / Sometimes / Almost Never) *Amputating someone from the faction*? (Almost always / Sometimes / Almost Never)