

Under the Roof of Rebels: Civilian Targeting After Territorial Takeover in Sierra Leone*

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November 12, 2019

Abstract

Do rebels target civilians as part of the process of establishing control in their territories? This research note shows that transition periods after rebels gain territorial control are remarkably violent for civilians. Speaking to the civilian victimization and rebel governance literature, we investigate the immediate time period after rebels successfully capture and hold territory. We argue that rebels use violence to gain compliance in newly captured territories until they are able to build up local capacities and institutions for peaceful governance. To test this argument, we draw on methodological advances in integrating event data and combine multiple datasets to study patterns of violence perpetrated by the Revolutionary United Front in Sierra Leone from 1997-2001. The findings of our spatiotemporal analysis show that civilian targeting increases in the period after rebels capture territory from the government compared to areas without territorial takeover, suggesting that life under the roof of rebels is initially more dangerous for civilians.

Word Count: 7,916

1 Introduction

Successful insurgents in civil wars frequently capture far-reaching territory from the government. In the Sierra Leone civil war, the Revolutionary United Front (RUF) controlled

*We thank Karsten Donnay, Sebastian Schutte, Amelia Hoover Green, Elias Dinas, Thomas Chadeaux, Nils Metternich, and the participants of the Bremen International Graduate School of Social Sciences 2018 Summer School in Computational Social Science, the UNC International Relations Brown Bag workshop, the International Relations Working Group at the European University Institute, the Swiss Political Science Association Annual Conference and the Conflict Research Society Annual Conference 2019 for their helpful comments and feedback. This research was supported by funding from the Volkswagen Foundation, grant no. 92145. CO, MS, SW, and RW all contributed equally to this manuscript.

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over half of the country in 1998 and could even advance into the capital of Freetown (HRW 1999). While conflict studies increasingly investigate how rebels govern during conflict (Arjona 2017, Arjona 2016b, Mampilly 2012), our understanding of their interaction with the civilian population in newly captured territory remains limited. What does territorial takeover mean for civilians living under newly established rebel control?

We examine this research question by statistically analyzing the dynamics of violence against civilians in territory that has recently been captured by rebel groups. We argue that rebels use violence against non-combatants as a tool to establish ruling institutions when they initially lack the resources and knowledge to reign nonviolently. Consequently, transition periods between territorial capture and *de facto* rebel rule are particularly violent for civilians.

Our research on rebel groups' interactions with civilians after they gain new territory sheds light on the initial period of rebel governance. We contribute to the civilian victimization literature by assessing the impact of territorial takeover on civilian targeting over time. In particular, we respond to Kalyvas' (2006) logic of violence which states that civilian targeting is a strategy of armed actors to deter civilian defection and enforce compliance. We add nuance to this theory by arguing that local governance capacities matter to explain variation in civilian targeting in rebel-held territory. Violence is not simply a function of information but of whether civilians can be co-opted or are able to resist rebel rule (Arjona 2015, Kaplan 2017).

We empirically test the dynamics of violence towards civilians with a novel combination of the Armed Conflict Location & Event Data (ACLED) and the UCDP Geo-referenced Event Dataset (GED) in the Sierra Leone Civil War. By statistically matching battle-prone territory with territory that the RUF violently captured, we control for the fact that battles without territorial transfer also affect the probability of violence against civilians. This allows us to draw inferences on the impact of territorial takeover by rebels on violence against civilians. We do this for multiple spatiotemporal windows (Schutte & Donnay 2014), which robustly shows that violence against civilians locally increases in the short term after territorial seizure by rebels. This extension of Kalyvas' theory with a rebel governance perspective can only be identified thanks to a temporally and spatially disaggregated methodology.

2 Research on Civilian Targeting by Rebel Governors

Various studies have investigated when and why civilians are targeted in civil wars. The most influential theoretical contribution was made by Kalyvas in *The Logic of Violence in Civil War* (2006). Kalyvas (2006) argues that armed actors use indiscriminate and discriminate

violence in order to strategically enforce civilian collaboration and deter defection. Other studies have investigated why both governments (Valentino, Huth & Balch-Lindsay 2004, Schwartz & Straus 2018) and rebels (Weinstein 2006, Fjelde & Hultman 2014) use indiscriminate violence against civilians. Particularly relevant to our argument is the role of rebel resources and institutions in limiting civilian targeting (Humphreys & Weinstein 2006, Hoover Green 2016).

Recent research on rebel governance reveals more details on the question of how rebels interact with civilian populations. First, territorial control matters for peaceful interactions with civilians insofar as rebels cannot establish a system of governance without control (Arjona, Kasfir & Mampilly 2015). The more control a group has over a territory, the easier it is to establish order, to engage with civilians nonviolently, and to deter other armed groups (Arjona, Kasfir & Mampilly 2015, Kalyvas 2006). Second, the time horizon of their operations is important. In order to establish long-term control over territory, rebels need the cooperation of civilians living in that area to maintain their legitimacy (Arjona 2016*b*). Third, the objectives of the movement are important. If rebels follow an ideological agenda or strive for independence, they will be more concerned about support from the population. Conversely, if they are solely interested in looting valuable resources, they are less dependent on the active support of civilians (Mampilly 2012, Huang 2016, Stewart 2018). Lastly, others argue that the way rebels govern and interact with civilians is determined by their military means and relative strength compared to government forces (Kalyvas & Balcells 2010, Staniland 2012, Wood 2010), and whether the rebels receive external funding (Huang 2016) or military support (Wood, Kathman & Gent 2012).

Others question the deterministic nature of rebel governance and call for a more nuanced view that looks beyond the dualistic nexus of state/insurgent actors (Staniland 2012, Wood 2003, Gates 2017, Chojnacki & Branovic 2011, Risse 2011). Instead of viewing control as a zero-sum realm, in which competing actors fight for a fixed amount of power, these authors highlight the role of other states, and local and international institutions to understand rebel behavior.

Studies on rebel governance have identified different factors that explain when and why rebels dedicate efforts towards governing peacefully and those that explain civilian cooperation with non-state armed groups. However, they fall short in explaining why changes in violence against civilians occur over time in rebel-held territory if group objectives and outside factors remain constant. In response, we investigate how rebel rule evolves over time, focusing on the period immediately after territorial takeover.

3 Scrutinizing the Logic of Violence after Conquests

To understand the dynamics between rebel rulers and civilians in newly captured territory, we build upon Kalyvas' argument that armed actors use indiscriminate violence against civilians in contested territory due to uncertainty about civilian allegiances. Gaining control over a specific territory allows armed groups to gradually move from indiscriminate to more selective forms of violence against the population. Civilians are unlikely to comply with an overly violent ruler, so the use of indiscriminate violence against civilians is counterproductive (Kalyvas 2006, 169). This suggests that "violence is largely a function of control" (Kalyvas & Kocher 2009, 339) and that rebel rulers that gain territorial control will increasingly spare civilian lives.

However, some empirical examples of rebel groups waging campaigns of violence after capturing territory seem to fit less well into Kalyvas' theoretical framework and need further explanation. The RUF in Sierra Leone's civil war was unchallenged in the chiefdoms of Kailahun District in 1992 but continued to engage in widespread civilian victimization (NPWJ 2004, 16). Levels of violence against civilians did not decline despite Kalyvas' prediction that increased control leads to decreased civilian targeting.

Hence, we refine Kalyvas' theory of control-driven civilian victimization with a rebel governance perspective. We argue that the initial steps towards rebel governance during civil wars are a violent process that runs counter to the incentives of rebels to use less violence in areas of established control. This initially leads to more violence against civilians after territorial takeover, and Kalyvas' control-based mechanism only sets in after rebels have violently established a minimum level of civilian compliance. After rebels gain control over a territory in a battle, they need to establish *de facto* control over the population. Adopting a minimalist definition, *de facto* control over civilians or *rebel governance* here refers to the establishment of behavioral guidelines for civilians that ensure compliance with rebel rulers in exchange for the provision of security.¹ We argue that the capacity to manage civilian affairs nonviolently is often lacking immediately after territorial takeover.

First, rebel groups' initial capacities are concentrated on fighting the government. During battles, resources are directed towards conquering territory from an asymmetrically stronger government. After territorial victories, rebels remain occupied with securing the borders of this territory. This reduces available capacities to plan governance structures, to police the local population peacefully, to provide dispute resolution mechanisms to regulate civilian

¹In contrast to more expansive definitions, we maintain that rebels do not necessarily need to set up sophisticated taxation systems or institutions to govern. They simply require a minimal level of civilian compliance to operate safely in the territory without actively fighting other armed actors at the same time. Arjona (2016b) uses the term *aliocracy* to describe this reduced form of rebel governance.

conflicts, and to ensure public goods provision beyond security (Mampilly 2012, 17). Until fighting units transform into rulers that can effectively generate revenue through taxation or similar institutions, they cannot provide infrastructure like local administrations or conflict-resolving institutions for civilians to gain their support. When rebel groups cannot offer incentives for cooperation, they are more likely to engage in violence against civilians (Wood 2010, Wood, Kathman & Gent 2012). Violence against civilians remains prevalent until their capacities are less constrained by military objectives.

Second, rebels face an identification problem (Kalyvas 2006): who is a friend and who is an enemy? They cannot instantly identify local supporters or potential dissidents in the population (Arjona 2016a). Insurgents need to identify which local institutions - often embedded in customary structures - they are able to co-opt and which ones they need to dismantle and replace. While hospitals and schools may run unaffected by territorial takeovers, rebels may oust political leaders on the local level to secure their new rule. The information asymmetry regarding loyalties in the local population and in local institutions drives armed groups to use violence against civilians. Rebels may oppress the whole population by means of violence until sufficient knowledge is built up to identify opponents and establish effective local institutions for peaceful governance.

Third, rebels may be faced with active civilian resistance against their rule. If civilians push back against the establishment of new institutions in rebel territory (Gutiérrez-Sanín & Wood 2014, Arjona 2015), insurgents may use violence at the beginning of their rule to thwart resistance and signal firm control until the local population accepts the new rulers as expected by Kalyvas.

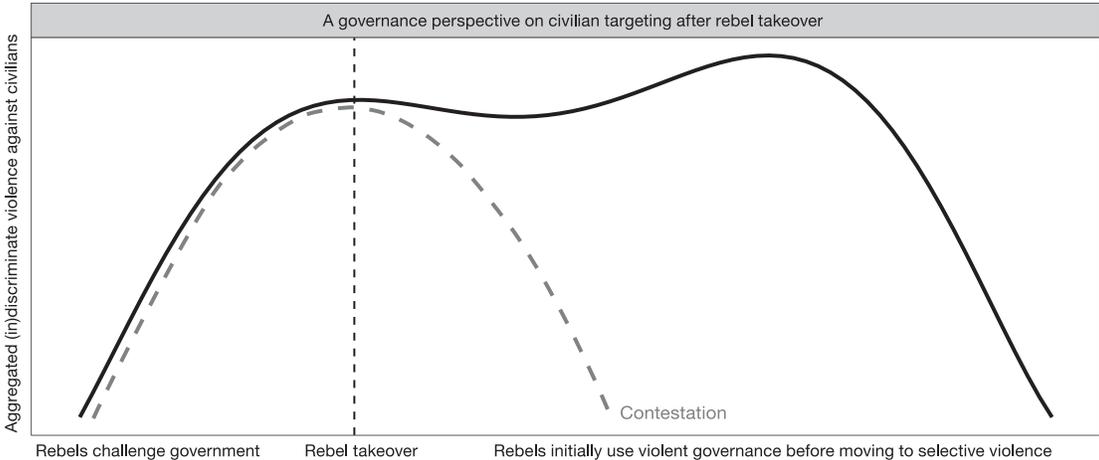


Figure 1: Theoretical expectations of violence against civilians after rebels capture territory from a governance perspective.

Overall, we expect violent interactions with civilian populations until the process of

establishing rebel institutions and governance is complete. Hence, the transition window between capturing territory and full rebel governance is likely to see an increase in violence against civilians. Figure 1 displays our theoretical expectation of violence against civilians from a rebel governance perspective. Despite the fact that contestation with other conflict actors decreases when rebels start to establish their rule, we expect civilian targeting to peak *after* territorial takeover in the vicinity of areas that were newly captured.

We do not argue that rebels will rely on indiscriminate violence throughout their rule and in all rebel-held territory. In the long term, rebel groups benefit from peaceful interactions with civilians due to increased willingness to provide food, shelter, and information. However, we argue that the decision to use violence against civilians is temporally and spatially dependent on the level of *de facto* control a group exercises over a territory. Rebels that do not have institutions to regulate civilians might require violence in newly conquered territory until they are able to establish stable governance. This leads us to our hypothesis:

Hypothesis: Violence against civilians initially increases after territorial takeover in the vicinity of the area that rebel groups violently seize.

4 The RUF as Extreme Case of Rebel Violence

Our empirical analysis examines the targeting of civilians by the RUF in Sierra Leone from 1997 to 2001.² With over 50,000 dead civilians in the 11 years of conflict (HRW 1999), we understand Sierra Leone as a crucial and extreme case of civilian victimization. In this section, we provide background information on the civil war and justify our case selection.

Sierra Leone's civil war began in 1991 when the RUF entered Sierra Leone from Liberia and recruited the country's aggrieved youth to overthrow the government. At the time, Sierra Leone was one of the poorest countries worldwide despite its richness in natural resources. Today the Sierra Leone civil war is primarily known as a grim fight over resources, particularly diamonds (Smillie, Gberie & Hazleton 2000). The dominant view is that the RUF's access to diamonds explains the group's strength, territorial successes, and their resilience in the conflict (Keen 2005). Reliance on diamonds also explains the RUF's violent behavior towards civilians (Voors, Windt, Papaioannou & Bulte 2017). While gaining territorial control, the rebel organization engaged in widespread and indiscriminate killings, abductions, and rape against all ethnic groups throughout the country (Humphreys & Weinstein 2006, Bel-lows & Miguel 2009, Cohen 2013). As a result, the RUF falls in the .96 quantile of the

²The timeframe is driven by data availability, as ACLED begins recording in 1997, but covers events before and after the 1999 ceasefire.

distribution of total civilian fatalities caused by all conflict actors between 1989 and 2017 (Eck & Hultman 2007). In addition, the Kamajors, a grassroots militia force, emerged as civilians aimed to protect themselves against the violent attacks by combatants. However, the Kamajors also became deeply involved in civilian targeting. The RUF twice entered the capital during the conflict, in May 1997 and January 1999. In 1997, the RUF joined the Sierra Leone Army in a military coup against the Kabbah government, forming the Armed Forces Revolutionary Council (AFRC) junta that was then driven out of the capital by the Nigerian-led Economic Community of West African States Monitoring Group (ECOMOG) forces in March 1998.³ After intense fighting, a peace agreement in 1999 and the deployment of UN peacekeeping troops, the civil war eventually ended in January 2002 (Bangura 2000).

Two reasons justify the selection of the RUF as case study to investigate initial violence against civilians after territorial takeover. First, the RUF was a highly violent rebel organization that gained large amounts of territory during the conflict which provides sufficient data to quantitatively examine how rebel governance unfolds after territorial seizure.⁴ As indicated above, this large amount of civilian victimization makes the RUF an *extreme case* on the dependent variable. Following Seawright & Gerring (2008, 302), an extreme case selection serves as an open-ended entry into a subject.

Secondly, selecting the RUF follows a *least likely crucial case* design (Levy 2008). The RUF is known for extensive and cruel violence against civilians, but evidence for attempts to govern local populations is limited beyond their interest in firmly controlling civilians in diamond-rich areas in order to exploit their labor to extract resources. The group attempted to develop a system of governance that regulated social life in areas under their control following the motto “arms to the people, power to the people, and wealth to the people” (Bangura 2000, Mkandawire 2002). Occasionally, this even included a system of alternative schooling in rebel territory (Richards 1998). In the areas around Koidu and Rutile, looted goods were distributed to civilians, hospitals were set-up for RUF fighters, and in the countryside the RUF replaced local chiefs with their own men (Keen 2005). Nonetheless, the group did not establish sophisticated administrative institutions or widely provide public goods. In contrast to extensive rebel rulers, the RUF’s interaction with civilians was min-

³The AFRC junta was opposed by the broader civil society, the UN and the Organization of African Unity. Given that these actors demanded the return of the Kabbah government, the AFRC did not achieve an official status as a government, and the RUF retained their structure as rebel group as they continued to fight.

⁴We exclude other rebel groups from the analysis as they held significantly less territory for extended periods of time. We are concerned that these rebel groups did not control territory long enough to establish governance and hence exclude them from our empirical test of how rebel governance unfolds after territorial takeover. We similarly exclude defence units (e.g. the Kamajors and various militias) as they are nominally fighting in support of existing political institutions. See the Supplemental Information for tests of civilian victimization by all rebel groups.

imal and concentrated on imposing basic compliance. Therefore, we expect that it is less likely to find strong evidence for a peak of violence after territorial takeover in the case of Sierra Leone’s RUF. It is more likely to find that high levels of violence prevailed in territories before and after territorial capture by the RUF. Finding evidence for an increase in violence after territorial takeover would suggest that even the RUF as limited rebel rulers used increased violence as a means to alter the political behavior of the population.

5 Data and Methods

Our analysis of the RUF in Sierra Leone relies on a combination of ACLED (Raleigh, Linke, Hegre & Karlsen 2010, de Bruijne 2014) and UCDP GED data (Sundberg & Melander 2013). Both datasets independently record events of deliberate targeting of civilians that we count as *dependent events* for our analysis. Combining these datasets is a critical step for our quantitative analysis of targeting dynamics in the Sierra Leone civil war as we aim to go beyond the qualitative evidence that has been studied previously. However, naïvely combining the two datasets would result in double-counting events from both datasets (Eck 2012, Hendrix & Salehyan 2015); we hence integrate the datasets with the `meltt` package (Donnay, Dunford, McGrath, Backer & Cunningham 2018) in R (R Core Team 2018). The package is based on a novel methodology that automatically integrates different event datasets while ensuring transparency and adaptability (Donnay et al. 2018, 3). Using `meltt`, we check whether an event of civilian targeting in one dataset is also recorded in the corresponding dataset within 10 days and 10 kilometers of one another.⁵ If so, these events likely represent the same actual event reported imperfectly in the sources used by ACLED and GED, so they are combined to avoid overcounting. ACLED contains 674 instances of civilian targeting by the RUF in Sierra Leone from 1997-2001 and GED contains 143 events in the same period. The merged data contain 814 events of RUF violence in Sierra Leone.⁶

The disparity in event counts between datasets can partly be explained by the different actor typologies they employ. GED only recognizes the RUF, AFRC, and Kamajors as rebel groups during this time period, so only events attributable to one of them are included. This means that subgroups such as the Superman Faction of the RUF are included, but smaller groups such as the West Side Boys Militia or Gbethis Militia are excluded from GED. In

⁵This 10 day and 10 kilometer rule is somewhat arbitrary, so we present results from more and less restrictive coding rules in the Supplemental Information. These results match our main analysis.

⁶In total, ACLED contains 1,004 instances of civilian targeting by the main rebel groups and defence units in Sierra Leone from 1997-2001. GED contains 318 events in the same period, while 18 events are duplicates in the two event datasets, yielding unique 1,304 instances of civilian victimization. We analyze only the RUF-perpetrated events.

contrast, ACLED records 16 different non-state actors during our sample period.

The two datasets have individual limitations and have slightly different foci in their data collection efforts that are important for our analysis. GED only contains events that can be linked to a known conflict according to the UCDP definition of 25 battle-related deaths per year. For an event to be included the actors have to be named, such as a government, an organized armed group, or communal groups. ACLED, on the other hand, does not have either of those restrictions. Previous research has shown that for Africa between 1997 and 2010 as much as 20% of violent events are not attributable to specific named groups in ACLED data. While GED may potentially exclude important events due to these criteria, ACLED in theory includes these events but cannot link them to specific conflicts (Eck 2012, 135).

Furthermore, GED only includes violent events. ACLED on the other hand includes both violent and nonviolent events such as protests and strategic developments. GED only includes violence against civilians that results in at least one fatality, while ACLED also includes violence against civilians that does not result in fatalities (Eck 2012, 127). This explains why ACLED has more observations than GED for our period under study and why the number of duplicate events is comparatively small.

By integrating ACLED and GED we treat violence against civilians that results in fatalities as conceptually, theoretically, and empirically equal to violence that does not result in fatalities. This decision ensures that the pattern of civilian victimization by the RUF is captured more fully. Only focusing on lethal violence against civilians may be misleading as this excludes crucial incidents of non-lethal civilian victimization (Gutiérrez-Sanín & Wood 2017). Given that the RUF engaged in widespread non-lethal forms of violence, such as abductions and rape, it is important to include these acts in our analyses to cover the full pattern. While fatal and nonfatal violence are different, they can both serve to cow civilians into acquiescing to rebel demands. Further, civilian-rebel interactions are prone to unexpected outcomes. Planned nonfatal shows of force can escalate to massacres after unexpected resistance or an intended slaughter is averted by miscommunication within rebel ranks, so separating them could assign intentionality where none existed.

Datasets based on news reports are inevitably prone to reporting and media bias. Reporting often differs by media outlet (Davenport 2009), may fail to accurately distinguish between military and civilian casualties (Dulic 2010), becomes less accurate as geographic remoteness increases (Weidmann 2015), and may disproportionately capture events in more connected areas (Weidmann 2016). These bias and accuracy issues are likely applicable to both ACLED and GED and should be kept in mind when interpreting our findings.

We seek to measure whether the frequency of *dependent events* of civilian targeting

increases in recently captured territory, but to do so we require some baseline for comparison. Our solution is to use areas where battles with no transfer of territory took place to establish a ‘baseline’ level of civilian targeting that occurs in conflicts. ACLED classifies battles along this distinction, which allows us to assign areas to *treatment* (seizure of territory from the government) and *control* (no transfer of territory). GED does not categorize battles accordingly so GED reported battles are not used to identify treatment and control events. Figure 2 presents the distribution of each event type in our sample.⁷

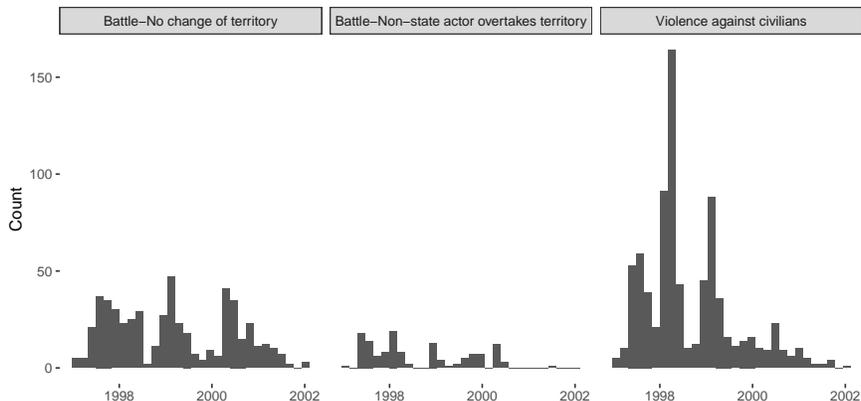


Figure 2: Distribution of control, treatment, and dependent events for the study period.

To compare levels of civilian targeting in *treatment* and *control* areas, our research design requires the aggregation of point data to areal units. However, inference based on fine-grained spatiotemporal data is subject to the modifiable areal unit problem (MAUP), which reflects the fact that counts of civilian victimization will depend on the choice of spatial window used to aggregate events (Cressie 1996). Accordingly, we cannot be sure that our conclusions are not an artifact of the specific spatiotemporal aggregation rule we have chosen.

To deal with this concern, we use matched wake analysis (MWA), a methodology specifically designed for robust inference in spatiotemporal event data (Schutte & Donnay 2014). MWA generates a balanced sample of treatment and control events by matching events along local geographic covariates. A circle around each event is then chosen to count the previous and subsequent attacks against civilians in this location during a selected time window (in days). A difference-in-differences design estimates the average treatment effect β_2 , that is the effect of territorial takeover on the post-treatment count of attacks against civilians η_{post} .

The OLS regression is specified as:

$$\eta_{post} = \beta_0 + \beta_1\eta_{pre} + \beta_2\text{treatment} + \epsilon \quad (1)$$

⁷Nonviolent transfer of control, remote violence, and collateral damage were removed from the data.

where η represents the count of *dependent events*. To address the MAUP, MWA repeats these steps for various spatial and temporal windows, using circles of different sizes and time periods of different length. The ability to compare results from several different spatiotemporal windows alleviates concerns that our results are driven by aggregation of events to one set of arbitrary areal units. We match on population density (Raleigh & Hegre 2009), nighttime light emissions (Koren & Sarbahi 2017), distance to the capital (Buhaug, Gates & Lujala 2009, Tollefsen & Buhaug 2015), distance to the nearest major road (Zhukov 2012, Hammond 2017), and distance to the nearest diamond mine (Ross 2013).⁸ Figure 3 depicts the geographic locations of events, major roads, and diamond mines within Sierra Leone.

6 Results

Our analysis identifies a positive treatment effect of territorial capture on civilian targeting within spatiotemporal windows that are up to 30 to 35 days and two to four kilometers after a battle. The treatment effect ranges from a 0.55 to 0.90 increase in the number of civilian targeting events for the various spatiotemporal window combinations where a statistically significant effect is observed at the $\alpha = .05$ level. Table 1 presents these effects and their p-values, as well as the size of the spatiotemporal window used to generate them.

Time[days]	Space[km]	Effect Size	p-value	Adj. R ²
30.00	2.00	0.66	0.02	0.45
30.00	4.00	0.72	0.01	0.44
30.00	8.00	0.55	0.01	0.48
35.00	2.00	0.88	0.01	0.40
35.00	4.00	0.90	0.01	0.39
40.00	8.00	0.79	0.05	0.27

Table 1: Effect of RUF territorial capture on subsequent civilian targeting. Only space-time windows with statistically significant ($p \leq .05$) effects are presented.

To better assess the overall relationship between territorial takeover and civilian targeting, we plot the estimates for each spatiotemporal window in Figure 4. The intensity of the shading represents the point estimate of the treatment effect, with insignificant effects covered by a diagonal overlay. The significant increase is observable at two and four kilometers, with two more windows at eight kilometers. The grouping of four different significant

⁸See the Supplemental Information for a complete list of covariate sources, the distribution of the matching covariates, and pre- and post-matching balance statistics.

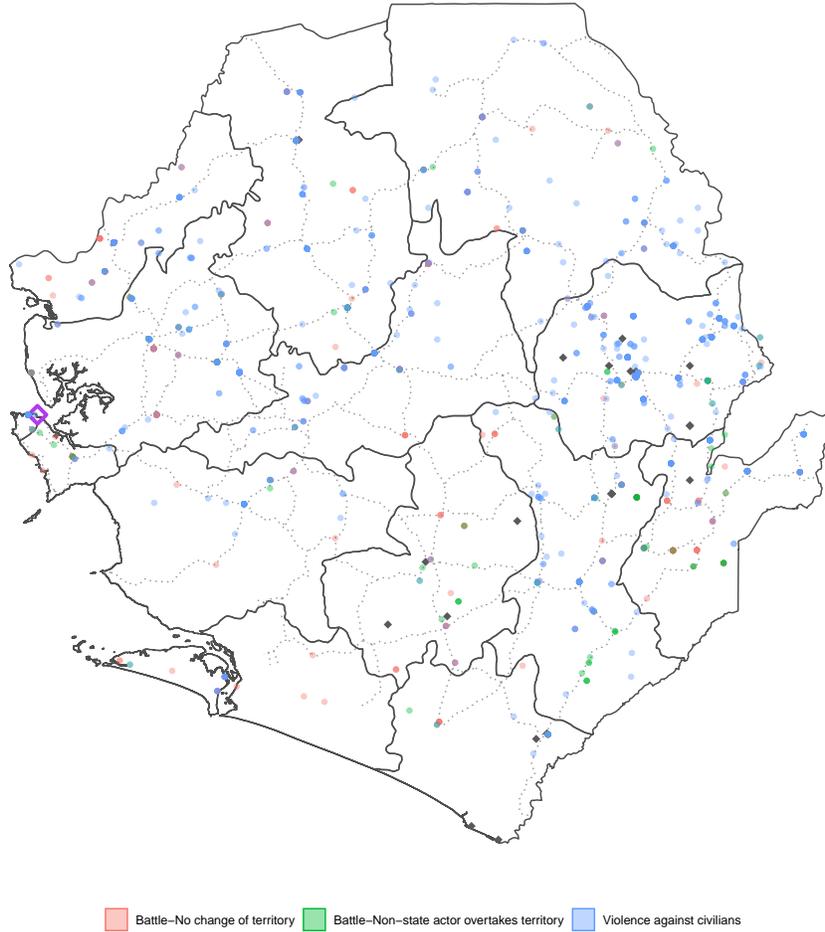


Figure 3: RUF events in Sierra Leone, 1997-2001. The black lines represent first order administrative divisions, while the dashed grey ones represent major roads. The hollow diamond denotes the capital of Freetown, and the solid diamonds represent diamond mines.

spatiotemporal windows in the left of the figure suggests that this positive relationship is present in the data generating process and is not an artifact of our specification.⁹

The four-kilometer and 30-day window in Figure 4 represents an aggregation procedure that includes all civilian targeting events *up to* four kilometers from a battle and *up to* 30 days after the battle. It does not mean that violence only occurs four kilometers away and 30 days after a takeover. Each larger aggregation rule contains all events included by smaller ones, so that the four-kilometer and 35-day spatiotemporal window includes all civilian targeting events that are in the four-kilometer and 30-day window. The fact that there is not a significant difference between *treatment* and *control* areas without counting events up to 30

⁹This pattern holds for both finer and more coarsened spatiotemporal windows. See the Supplemental Information for these results.

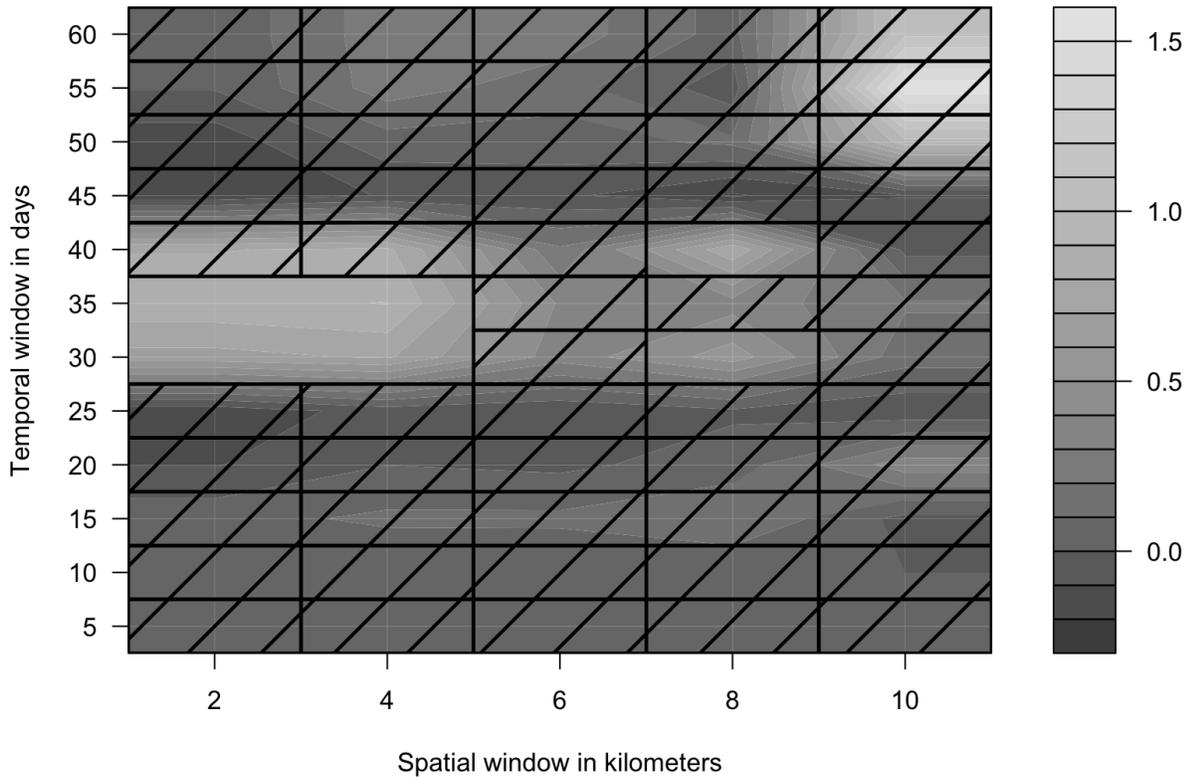


Figure 4: Point estimates and uncertainty of the effect of territorial takeover on civilian targeting. Statistically significant ($p \leq .05$) combinations are shown without any overlay.

days after a battle is fought is consistent with the idea that effects diverge between treatment and control areas as soon as rebels deliberately try to control the civilian population and govern violently. Further temporal aggregations beyond the violent transition period then do not yield significant differences between treatment and control events anymore.

The fact that the four-kilometer and 25-day window is not significant means that the extra events that occur during the subsequent five days are necessary to observe a statistically significant difference between treatment and control areas. This aligns with our theoretical prediction that violence will continue to gradually increase in treatment areas for a short period of time after the capture of territory. Similarly, the additional events included in the four-kilometer and 40-day window are sufficiently inconsistent with the pattern of increased violence near captured territory in the four kilometer and 35 day window that there is no longer a statistically significant difference between *treatment* and *control* areas.

In small temporal aggregations, such as the four-kilometer and 25-day window, treatment

and control areas are both likely to see some increase in civilian casualties due to residual violence from the initial conquest or battle. Even if the RUF only fought a battle and could not gain territory, we are likely to observe some rise in civilian targeting in the immediate days after the fight in control areas. This increase in targeting might be due to the fact that civilians die as collateral damage during the time that RUF fighting units retreat from the territory in question, which could explain the lack of significant differences in civilian targeting in shorter temporal windows.

Significantly more civilian victimization only occurs in the direct vicinity of the battle where rebels seized territory from the government. This fits our theoretical expectation: at locations where violent territorial transfer occurs, the interaction between rebels and civilians becomes even more violent. If rebels capture a village, they require more violence as a governance tool in this village but not necessarily in the surrounding area where fewer people reside or where they already had outposts before this specific territorial gain. Extending the spatial window beyond 10 kilometers does not yield any further significant results as conflict dynamics overlap and cancel out effects if space is aggregated to larger units.

The space and time combinations where we do not observe statistically significant difference between territorial conquest and regular battles are not necessarily peaceful. Due to the statistically insignificant relationship between territorial capture and the number of targeting events in these windows, we cannot be confident about whether there is a positive, negative, or null relationship.

The matching procedure substantially improves covariate balance for the two and four-kilometer and 30 and 35-day windows where we observe significant effects. Common support for these spatiotemporal windows is approximately 10 pre-matching, and around 60 post-matching, which means that treatment and control events are more similar in their values of our five matching covariates than they were pre-matching. This yields much better estimates of the treatment effect and increases our confidence in the findings.

Violations of the stable unit treatment value assumption (SUTVA) are a threat to inference in any study involving matching (Cox 1958). In our case, we are concerned with multiple treatment events overlapping and biasing the treatment effect upward, or with treatment and control events overlapping and canceling out the treatment effect (Schutte & Donnay 2014, 4). Overlaps between treatment and control events are minimal in our sample, but the more inclusive spatiotemporal windows (e.g. 10 kilometers and 60 days) have same-type overlaps as high as 75%. To account for this potential bias, we match on the number of previous treatment and control events that overlap each event's spatiotemporal window. We also weight our difference-in-differences regression to account for the fact that

control events outnumber treatment events in our sample.¹⁰

In the following, we also present a selection of subset analyses to support our violent governance hypothesis. These analyses allow us to test whether rebels behave differently after capturing territory in different regions of the country.

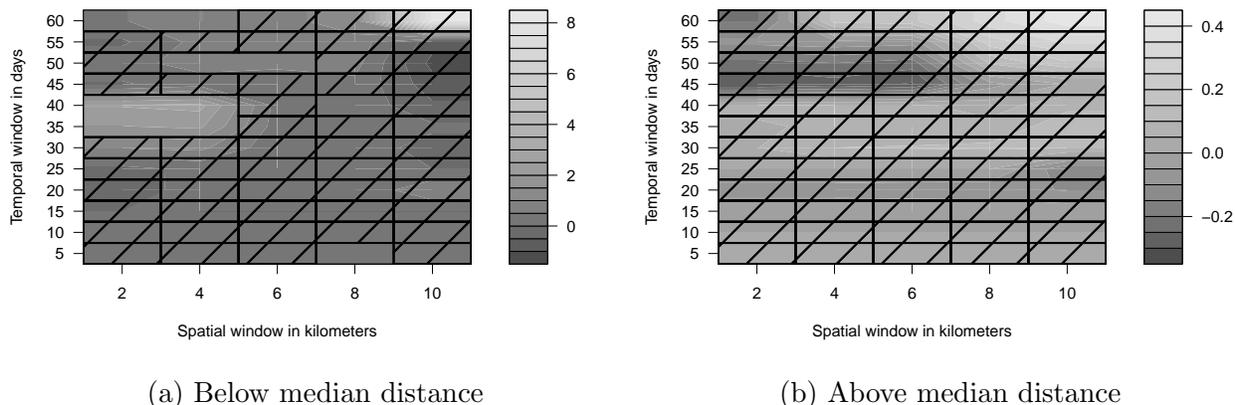


Figure 5: Results obtained by splitting the sample into above and below median distance to nearest diamond mine.

Figure 5 replicates our main analysis, but splits the sample in half by dividing it into events above and below the median distance to the nearest diamond mine. We observe a similar pattern to our main analysis in the subset of events below the median distance to the nearest diamond mine in Figure 5a, finding a statistically significant and positive effect of territorial capture on civilian targeting despite the reduction in the number of RUF civilian targeting events from 814 to 446. Conversely, the sample above the median in Figure 5b has no statistically significant relationship between territorial capture and civilian targeting. Given the well-known reliance of the RUF on alluvial diamond mining for funding, this pattern suggests that the RUF used violence to establish control in areas where civilians could be used as labor to mine diamonds. In contrast, when the RUF captured territory far from diamond mines, it appears that they did not increase their levels of civilian targeting afterwards, indicating that the RUF's interest in establishing governance in these territories was lower.

Figure 6 presents a similar subset analysis, this time dividing observations by whether they are above or below the median distance to the capital of Freetown. Territory seized close to the capital is unlikely to be held for long, as its proximity to the centers of state power makes it easier for the military to recapture, thus preventing the establishment of

¹⁰Models that do not address this violation of SUTVA yield significant estimates for more spatiotemporal windows and are presented in the Supplemental Information.

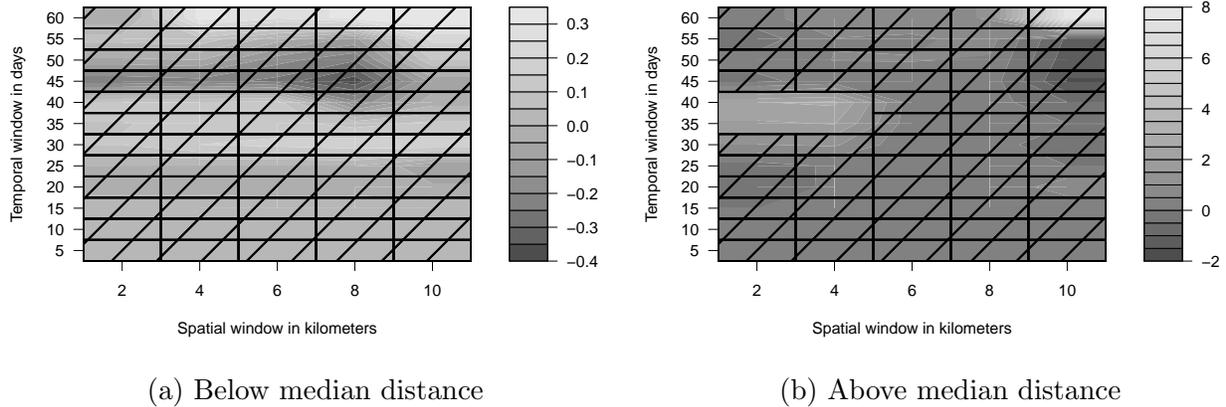


Figure 6: Results obtained by splitting the sample into above and below median distance to the capital of Freetown.

rebel governance structures. Further away from the capital, it is more likely that rebels are able to establish order and we should see more violence in these areas. The results support this argument; Figure 6a shows no statistically significant increase in civilian targeting after territorial takeover in areas closer to the capital, while Figure 6b displays a relationship between territorial capture and civilian targeting similar to our main analysis in Figure 4 despite the reduction in RUF civilian targeting events from 814 to 467.

These relationships suggest that rebels are more likely to perpetrate violence against civilians after capturing territory when that territory is amenable to governance. If the territory offers rents that rebel groups can extract, then they will be more likely to try and establish governance institutions. Similarly, it is difficult to create local institutions in a territory if the state or other international actors — like ECOMOG in the Sierra Leone case — can easily oust the rebels from it.

7 Discussion and Conclusion

This analysis contributes to the literature on rebel governance and civilian targeting in civil conflict. We identify temporally more violent dynamics in rebel conquered territory compared to contested areas that may be indicative of rebel efforts to violently establish governance in their territory. This result is in line with qualitative reports of the RUF committing indiscriminate violence against civilians in areas they controlled, such as reports that “[w]hile there was some targeting of particular groups, . . . the vast majority of atrocities were committed by rebels who chose their victims apparently at random. The arbitrary

nature of these attacks served to create an atmosphere of complete terror” (HRW 1999).

The results also fit Johnston’s comparative case study of rebel groups’ organizational structure, which shows that the RUF’s rapid territorial expansion required them to delegate responsibilities to local rebel sub-units that operated relatively independently (2008). These sub-units did not necessarily have the organizational capacity to build up peaceful institutions to regulate civilian behavior. We show that civilians in territory that was recently captured, and thus may have been transferred to rebel units inexperienced in governing, experienced an increase in violence. In contrast to the finding that weak rebels are more likely to target civilians (Humphreys & Weinstein 2006, Wood 2010), we show that a group that is strong overall, such as the RUF during 1997 to 2001, can simultaneously be a temporally weak and violent ruler at the local level if the local branch of this rebel group is not accustomed to its role as ruler over civilians.

Given our extreme case selection, follow-up research should examine if other civil wars show the same violent transition period after territorial takeover. Diamond deposits reduced the importance of civilian support as a resource for rebels in Sierra Leone.¹¹ Other civil wars where rebel groups rely more heavily on local support for recruitment or revenue might reveal other transitional patterns. In these cases, Kalyvas’ (2006) argument that violence generates civilian backlashes and is counterproductive for rebels might be more immediately applicable. This research agenda would improve our understanding of initial rebel governance and its immediate impact on civilian lives.

Furthermore, our analysis of event data does not let us systematically identify *why* the RUF attacked civilians. We postulate that the local population comes into conflict with the institutions rebel groups are attempting to set up in conquered territory. Rebel groups then respond with violence to enforce their new social order because they lack the knowledge or capabilities required to govern peacefully. Hence, transition periods are particularly violent for civilians. However, this causal claim needs further in-depth research on the actual motives of rebels to target civilians in newly-acquired territory.

Lastly, our findings are only possible due to recent methodological advances in integrating event data. The combination of ACLED and GED events with `meltt` is key to the findings of our analysis. A separate analysis using only civilian targeting events from ACLED fails to find any significant effects.¹² With only 1.38% of events overlapping between the two datasets according to our 10-day and 10-kilometer rule, our analysis highlights the need to integrate different datasets for more comprehensive analysis of micro-level conflict dynamics. ACLED

¹¹See also Raleigh & de Bruijne (2017) for a discussion of how location mattered for RUF violence in Sierra Leone.

¹²See the Supplemental Information for a full presentation of these results.

has 674 instances of RUF civilian targeting, while GED has 143, so the 817 combined RUF targeting events between the two datasets represents a 21% increase in data compared to ACLED alone. This substantial increase in data may explain why an analysis of ACLED alone yields a null result. Conflict event datasets may have different foci in their efforts to collect data, as discussed earlier, so integration is crucial when variables of interest are present in several datasets. In this case, integration also shows that looking only at certain patterns of civilian victimization rather than the full range of acts of civilian targeting may present misleading results which is why combining both fatal and nonfatal forms of civilian victimization is crucial for this analysis.

This research note examines patterns of violence against civilians following territorial conquest by rebel groups. Kalyvas assertively claims that “gaining control over an area brings collaboration” (2006, 119). We provide a temporal extension to Kalyvas’ argument by focusing on the transition from gaining control to governing territory. By combining event datasets and using matched wake analysis, we show that the RUF in Sierra Leone resorted to more violence against civilians in recently captured territory compared to areas without territorial takeover. This approach reveals that the establishment of rebel governance might be a violent process despite rebels’ long term dependence on civilian support. When and under what circumstances this violent transition period turns into stable and nonviolent governance and the provision of public goods requires further research. We encourage researchers to make use of recent advancements in the collection and statistical modeling of event data to introduce more nuance into our theories of violence.

References

- Arjona, Ana. 2015. Resistance Against Rebel Governance. In *Rebel Governance in Civil War*, ed. Ana Arjona, Nelson Kasfir & Zachariah Mampilly. Cambridge: Cambridge University Press pp. 180–202.
- Arjona, Ana. 2016a. “Institutions, Civilian Resistance, and Wartime Social Order: A Process-Driven Natural Experiment in the Colombian Civil War.” *Latin American Politics and Society* 58(3):99–122.
- Arjona, Ana. 2016b. *Rebelocracy*. Cambridge University Press.
- Arjona, Ana. 2017. “Civilian Cooperation and Non-Cooperation with Non-State Armed Groups: The Centrality of Obedience and Resistance.” *Small Wars & Insurgencies* 28(4-5):755–778.
- Arjona, Ana, Nelson Kasfir & Zachariah Mampilly. 2015. *Rebel Governance in Civil War*. Cambridge University Press.
- Bangura, Yusuf. 2000. “Strategic policy failure and governance in Sierra Leone.” *The Journal of Modern African Studies* 38(4):551–577.
- Bellows, John & Edward Miguel. 2009. “War and local collective action in Sierra Leone.” *Journal of public Economics* 93(11-12):1144–1157.
- Buhaug, Halvard, Scott Gates & Päivi Lujala. 2009. “Geography, Rebel Capability, and the Duration of Civil Conflict.” *Journal of Conflict Resolution* 53(4):544–569.
- Chojnacki, Sven & Zeljko Branovic. 2011. New Modes of Security: The Violent Making and Unmaking of Governance in War-Torn Areas of Limited Statehood. In *Governance Without a State?: Policies and Politics in Areas of Limited Statehood*, ed. Thomas Risse. Columbia University Press.
- Cohen, Dara Kay. 2013. “Explaining rape during civil war: Cross-national evidence (1980–2009).” *American Political Science Review* 107(3):461–477.
- Cox, David R. 1958. “Two Further Applications of a Model for Binary Regression.” *Biometrika* 45(3-4):562–565.
- Cressie, Noel. 1996. “Change of Support and the Modifiable Areal Unit Problem.” *Geographical Systems* 3(2-3):159–180.
- Davenport, Christian. 2009. *Media bias, perspective, and state repression: The Black Panther Party*. Cambridge University Press.
- de Bruijne, Kars. 2014. Introducing the Sierra Leone Local Source - Location Event Dataset (SL-LED). Technical report Armed Conflict Location Event Dataset.
- Donnay, Karsten, Eric T. Dunford, Erin C. McGrath, David Backer & David E. Cunningham. 2018. “Integrating Conflict Event Data.” *Journal of Conflict Resolution* .

- Dulic, Tomislav. 2010. Geocoding Bosnian Violence: A note on methodological possibilities and constraints in the production and analysis of geocoded event data. In *International Studies Association Annual Convention, New Orleans, LA*.
- Eck, Kristine. 2012. "In Data We Trust? A Comparison of UCDP GED and ACLED Conflict Events Datasets." *Cooperation and Conflict* 47(1):124–141.
- Eck, Kristine & Lisa Hultman. 2007. "One-Sided Violence Against Civilians in War Insights from New Fatality Data." *Journal of Peace Research* 44(2):233–246.
- Fjelde, Hanne & Lisa Hultman. 2014. "Weakening the Enemy: A Disaggregated Study of Violence against Civilians in Africa." *Journal of Conflict Resolution* 58(7):1230–1257.
- Gates, Scott. 2017. "Membership Matters: Coerced Recruits and Rebel Allegiance." 54(5):674–686.
- Gutiérrez-Sanín, Francisco & Elisabeth Jean Wood. 2014. "Ideology in civil war: Instrumental adoption and beyond." *Journal of Peace Research* 51(2):213–226.
- Gutiérrez-Sanín, Francisco & Elisabeth Jean Wood. 2017. "What should we mean by pattern of political violence? Repertoire, targeting, frequency, and technique." *Perspectives on Politics* 15(1):20–41.
- Hammond, Jesse. 2017. "Maps of Mayhem: Strategic Location and Deadly Violence in Civil War." *Journal of Peace Research* 55(1):3246.
- Hendrix, Cullen S. & Idean Salehyan. 2015. "No News Is Good News: Mark and Recapture for Event Data When Reporting Probabilities Are Less Than One." *International Interactions* 41(2):392–406.
- Hoover Green, Amelia. 2016. "The commander's dilemma: Creating and controlling armed group violence." *Journal of Peace Research* 53(5):619–632.
- HRW. 1999. *Sierra Leone: Getting away with murder, mutilation, rape*. Human Rights Watch. Accessed: 2018-08-02.
URL: <https://www.hrw.org/reports/1999/sierra/>
- Huang, Reyko. 2016. *The Wartime Origins of Democratization: Civil War, Rebel Governance, and Political Regimes*. Cambridge University Press.
- Humphreys, Macartan & Jeremy M. Weinstein. 2006. "Handling and manhandling civilians in civil war." *American Political Science Review* 100(3):429–447.
- Johnston, Patrick. 2008. "The geography of insurgent organization and its consequences for civil wars: evidence from Liberia and Sierra Leone." *Security Studies* 17(1):107–137.
- Kalyvas, Stathis. 2006. *The Logic of Violence in Civil War*. Cambridge; New York: Cambridge University Press.

- Kalyvas, Stathis & Laia Balcells. 2010. "International System and Technologies of Rebellion: How the End of the Cold War Shaped Internal Conflict." 104(3):415–429.
- Kalyvas, Stathis & Matthew Adam Kocher. 2009. "The dynamics of violence in Vietnam: An analysis of the hamlet evaluation system (HES)." *Journal of Peace Research* 46(3):335–355.
- Kaplan, Oliver Ross. 2017. *Resisting War: How Communities Protect Themselves*. Cambridge, United Kingdom ; New York, NY : Cambridge University Press, 2017.
- Keen, David. 2005. *Conflict and collusion in Sierra Leone*. James Currey (Boydell & Brewer Ltd.).
- Koren, Ore & Anoop K. Sarbahi. 2017. "State Capacity, Insurgency, and Civil War: A Disaggregated Analysis." *International Studies Quarterly* 62(2):274–288.
- Levy, Jack S. 2008. "Case Studies: Types, Designs, and Logics of Inference." *Conflict Management and Peace Science* 25(1):1–18.
- Mampilly, Zachariah Cherian. 2012. *Rebel rulers: Insurgent governance and civilian life during war*. Cornell University Press.
- Mkandawire, Thandika. 2002. "The terrible toll of post-colonial rebel movements in Africa: towards an explanation of the violence against the peasantry." *The Journal of Modern African Studies* 40(2):181–215.
- NPWJ. 2004. *General Overview of the Conflict in Sierra Leone from 1991 to 2002*. No Peace without Justice. Accessed: 2018-08-02.
URL: <https://bit.ly/2n4rXsp>
- R Core Team. 2018. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing.
URL: <https://www.R-project.org>
- Raleigh, Clionadh, Andrew Linke, Håvard Hegre & Joakim Karlsen. 2010. "Introducing ACLED: an armed conflict location and event dataset: special data feature." *Journal of Peace Research* (5):651–660.
- Raleigh, Clionadh & Håvard Hegre. 2009. "Population Size, Concentration, and Civil War. A Geographically Disaggregated Analysis." *Political Geography* 28(4):224–238.
- Raleigh, Clionadh & Kars de Bruijne. 2017. "Where Rebels Dare to Tread: A Study of Conflict Geography and Co-option of Local Power in Sierra Leone." *Journal of Conflict Resolution* 61(6):1230–1260.
- Richards, Paul. 1998. *Fighting for the rain forest: war, youth & resources in Sierra Leone*. Number Reprinted Ed. James Currey Ltd.
- Risse, Thomas, ed. 2011. *Governance Without a State?: Policies and Politics in Areas of Limited Statehood*. Columbia University Press.

- Ross, Michael. 2013. "A Closer Look at Oil, Diamonds, and Civil War." *Domestic Political Violence and Civil War* 1(1):265–300.
- Schutte, Sebastian & Karsten Donnay. 2014. "Matched Wake Analysis: Finding Causal Relationships in Spatiotemporal Event Data." *Political Geography* 41:1–10.
- Schwartz, Rachel A. & Scott Straus. 2018. "What Drives Violence against Civilians in Civil War? Evidence from Guatemala's Conflict Archives." *Journal of Peace Research* 55(2):222–235.
- Seawright, J. & J. Gerring. 2008. "Case selection techniques in case study research: A menu of qualitative and quantitative options." *Political Research Quarterly* 61(2):294–308.
- Smillie, Ian, Lansana Gberie & Ralph Hazleton. 2000. *The Heart of the Matter: Sierra Leone, Diamonds & Human Security: Complete Report*. Diane Publishing.
- Staniland, Paul. 2012. "States, insurgents, and wartime political orders." *Perspectives on politics* 10(2):243–264.
- Stewart, Megan A. 2018. "Civil War as State-Making: Strategic Governance in Civil War." *International Organization* 72(1):205–226.
- Sundberg, Ralph & Erik Melander. 2013. "Introducing the UCDP georeferenced event dataset." *Journal of Peace Research* 50(4):523–532.
- Tollefsen, Andreas Forø & Halvard Buhaug. 2015. "Insurgency and Inaccessibility." *International Studies Review* 17(1):6–25.
- Valentino, Benjamin, Paul Huth & Dylan Balch-Lindsay. 2004. "'Draining the Sea': Mass Killing and Guerrilla Warfare." *International Organization* 58(02):375–407.
- Voors, Maarten, Peter Van Der Windt, Kostadis J. Papaioannou & Erwin Bulte. 2017. "Resources and Governance in Sierra Leones Civil War." *The Journal of Development Studies* 53(2):278–294.
- Weidmann, Nils B. 2015. "On the accuracy of media-based conflict event data." *Journal of Conflict Resolution* 59(6):1129–1149.
- Weidmann, Nils B. 2016. "A closer look at reporting bias in conflict event data." *American Journal of Political Science* 60(1):206–218.
- Weinstein, Jeremy M. 2006. *Inside rebellion: The politics of insurgent violence*. Cambridge University Press.
- Wood, Elisabeth Jean. 2003. *Insurgent Collective Action and Civil War in El Salvador*. Cambridge Studies in Comparative Politics Cambridge University Press.
- Wood, Reed M. 2010. "Rebel Capability and Strategic Violence against Civilians." *Journal of Peace Research* 47(5):601–614.

Wood, Reed M., Jacob D. Kathman & Stephen E. Gent. 2012. "Armed Intervention and Civilian Victimization in Intrastate Conflicts." *Journal of Peace Research* 49(5):647–660.

Zhukov, Yuri M. 2012. "Roads and the Diffusion of Insurgent Violence: The Logistics of Conflict in Russia's North Caucasus." *Political Geography* 31(3):144–156.