

When Peacekeepers Leave: The Divergent Effects of Peacekeeping Operations on Rebel and Government Violence Against Civilians

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Abstract

A key tool in the arsenal of international intervention, peacekeeping operations (PKOs) have consistently been shown to reduce violent conflict. However, more recent work has begun to disaggregate these impacts in key ways. How does the entrance and exit of peacekeepers affect rebel and government violence against civilians? We argue that PKOs have divergent impacts on rebel and government violence based on their ability to diminish operational and organizational capacity. This paper uses fine-grained geolocated data on PKO deployment across all of Africa from 2000-2017 to examine the impact of PKOs on rebel and government violence. By leveraging a difference-in-differences approach with 2.3 million observations, we account for unobserved potential confounders and more closely approximate the effect of PKOs on violence. We find that peacekeepers increase local state political violence and displace it at an even higher rate, while likely diminishing rebel capacity and thus rebel violence against civilians. Taken together, our results suggest that scholars and policymakers should carefully consider how and when peacekeeping operations can effectively protect civilians from violence.

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After the assassination of President Laurent-Désiré Kabila in the Democratic Republic of the Congo (DRC), the UN deployed a peacekeeping force with the hopes of quelling the resulting widespread violence against civilians. The UN peacekeepers were mandated to patrol locally, respond to violence around the country as it occurred, and were given the explicit authority to use force to protect civilians and stop combat. Their mission was met with a mix of success and failure. For example, over a period of six months in Djugu, a small city on the border with Uganda, there were approximately fifty fatalities from clashes between ethnic militias and intentional attacks on civilians. In response, peacekeepers deployed to Djugu, staying in the area for nearly three years in order to reduce the violence. Yet, during the time that peacekeepers were present in Djugu the violence only increased. From when they arrived until they left, there were nearly 2,200 fatalities from battles and intentional violence against civilians by the state and state-sanctioned ethnic militias, an average of nearly sixty-two deaths per month. The situation only worsened after the peacekeepers left. In the six months following their departure, 1,100 people died - a rate of about one hundred and sixty-six deaths per month.

This was not the only effect that UN Peacekeepers had on violence in the the area surrounding Djugu. Their arrival and departure increased violence locally and also spread violence to the surrounding areas, including over the border into Uganda. In Figure 1, we geographically display the distribution of violence before, during, and after the arrival of peacekeepers in Djugu. As can be seen in Figure 1a, 6 months prior to the arrival of the peacekeepers, the violence was relatively concentrated in Djugu. During the 3 years that the peacekeepers were present, the violence continued within Djugu and spread to neighboring areas, as shown in Figure 1b. In the six months after they left, the violence re-intensified in Djugu, with some violence continuing in neighboring areas, further displayed in Figure 1c. What explains this temporal and geographic variation throughout the peacekeeping process—their arrival, their continued presence, and their withdrawal?

While the ineffectiveness of this mission may not be surprising to the UN's detractors,

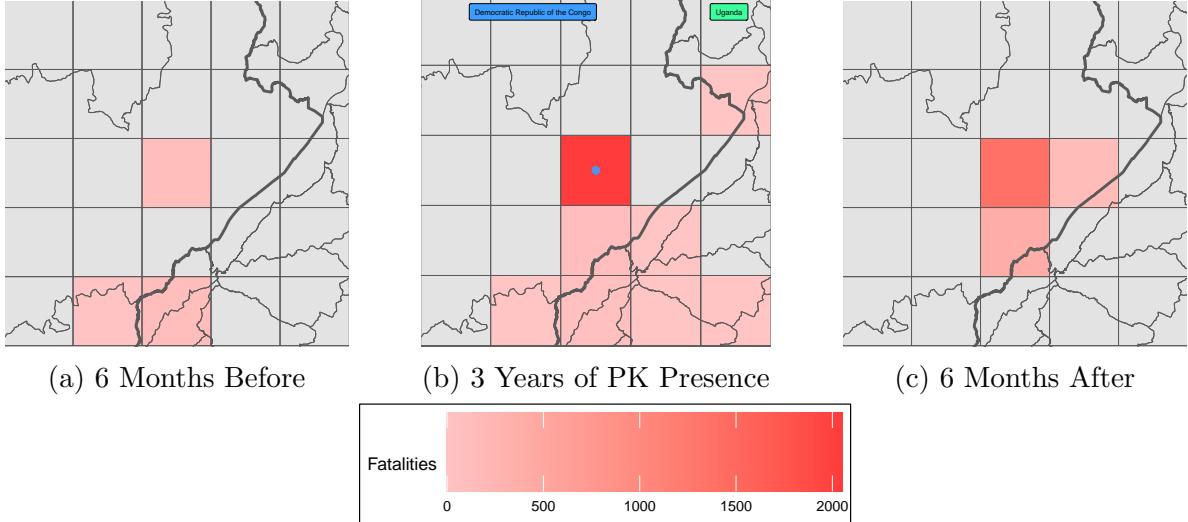


Figure 1: Aggregate violence in the DRC six months before peacekeeper entrance, three years during peacekeeper presence, and six months after peacekeeper exit.

it certainly runs counter to the expectations of much of the academic literature studying the topic. In the last two decades, studies have consistently shown that the presence of peacekeepers is strongly associated with lower fatalities (Walter, Howard, and Fortna 2021). For example, several papers explore this at the state level and conclusively show that more peacekeepers lead to less violence and fewer deaths (Hultman, Kathman, and Shannon 2013; Bara and Hultman 2020). The effectiveness of peacekeepers is all the more impressive given the fact that they consistently deploy to the hardest cases (Ruggeri, Dorussen, and Gizelis 2017). However, as the case of Djugu suggests, state-level studies may not shed light on local dynamics, and while they remain necessary building blocks, may be insufficient to explain subnational variation in violence.

We argue that previous research into peacekeeper effectiveness misses the subnational, temporal, and geospatial dynamics that occur throughout the peacekeeping process where peacekeepers are deployed. While some papers have examined the localized outcomes of peacekeeper withdrawal (Beber et al. 2019; Karim 2020), none have done so systematically across all central and western African UN peacekeeping missions. Furthermore, each of the previous works examined the outcomes of UN missions wholly rather than examining the

direct outcomes of peacekeeper entrance and exit subnationally.

Our argument centers on how peacekeeping operations impact the capacity of rebel groups and the government to carry out violence. We contend that peacekeeper entrance changes the strategic incentives and capacity of conflict actors, deterring some violence but potentially displacing violence simultaneously. We suggest that the impact of peacekeepers is dependent on their ability to impact the operational capacity and/or organizational capacity of conflict actors. We define operational capacity as the ability to carry out violent attacks, and organizational capacity as the ability to retain and strengthen administrative potential. We further argue that the impact of peacekeeping operations will be different for rebel groups compared to state violence. We posit that peacekeeping operations more effectively diminish the operational and organizational capacity of rebel groups than the government, and this pattern is reflected in the levels of personal violence upon peacekeeper entrance and withdrawal. Conversely, as rebel capacity for violence decreases, state actors are more empowered to commit violence, especially in neighboring locales.

To test our theory, we use data consisting of all Chapter VII UN Peacekeeping Operations in Africa from 2000-2017 at a 55km² grid-cell level. Using incidents of fine-grained, geolocated violence data within grid-cell-months, we build a complete panel of deployments and violence for Chapter VII missions¹ and 18 years across approximately 2.3 million observations.

To causally identify the effect of PKOs on violence, we use a difference-in-differences research design. Our findings show that peacekeeper presence within country increases state violence levels locally and in neighboring areas. Then, when peacekeepers leave, we find greater levels of state violence associated with their departure. We find that rebel group violence is somewhat diminished locally but greatly diminished in neighboring cells. Together, these results suggest that while peacekeepers remain important for reducing nonstate violence, the diminished power of rebels may lead to more political violence by the state. We do not make the claim that peacekeepers should never be deployed. Vast quantities of robust

1. Abyei, Burundi, the Central African Republic, Chad, Côte d'Ivoire, the Democratic Republic of Congo, Liberia, Mali, Sierra Leone, South Sudan, and Sudan.

evidence have established that, at the country level, peacekeeper presence causes lower levels of violence. However, our research adds nuance and explores one of many mechanisms that could be affecting violence throughout a country and at various points in the peacekeeping process.

We make several substantive contributions to the existing literature on peacekeeping effectiveness. First, we provide a novel analysis of whether peacekeepers create durable peace at a subnational level. This contribution highlights the difference in how peacekeeping impacts rebel and government violence differently and shows the importance of examining peacekeeper entrance and withdrawal. This includes a theoretical mechanism that connects the presence of peacekeeping missions to the differential organizational and operational capacity of governments and rebel groups. Second, we provide a better causal identification for established questions, like where and when PKOs work. Our findings provide some nuance to a sizable amount of quantitative research on peacekeeping's effect on violence against civilians. We also want to highlight the importance of focusing on personal levels of violence.²

This paper proceeds as follows. First, we review what the existing literature has found on peacekeeping effectiveness. Next, we explain our theoretical contributions, while building a novel mechanism to explain why and how peacekeeping changes local violence incentives. We then test our theory using a geospatially disaggregated approach and recent innovations in difference-in-differences research designs. We find substantial evidence that peacekeeping operations impact rebel and government violence differently, and, in this way, may end up displacing violence at a local level. Finally, we discuss the implications and what the results mean for those deciding where to send peacekeepers. As Walter, Howard, and Fortna (2021) argue, new research must uncover the nuanced and subnational effects of UN Peacekeeping, and our research contributes to that discussion.

2. While the existing literature often measures political violence in binary outcomes of whether violence occurs, measuring outcomes in this way can oversimplify “people’s lived experiences and can even directly harm individuals and communities during or after collective violence” (Nyseth Brehm, O’Brien, and Wahutu 2021, 394). Our research builds on attempts to address the issue and protect those most vulnerable to political violence. Accordingly, we attempt to measure all forms of intentional political violence against civilians, specifically with models that consider all violent events.

What We Know about Peacekeeping Effectiveness

Existing research on the impact of peacekeeping operations has found with remarkable consistency that peacekeeping is effective.³ A large body of literature utilizing data at the country-level suggests that the presence of peacekeepers successfully reduces violence (Hultman, Kathman, and Shannon 2014; Carnegie and Mikulaschek 2020). Some research disaggregates the question of effectiveness, finding that the impact of peacekeeping operations may be conditional. There is evidence, for instance, that effective peacekeeping is more difficult to maintain when the government is winning or in identity-based conflicts (Fortna 2008; Costalli 2014; Sandler 2017).

The literature on peacekeeping effectiveness has also engaged with the question of measures of success; that is, treating battlefield violence and violence against civilians as separate indicators of effectiveness. With a focus on a broad measure of violence and duration, Ruggeri, Dorussen, and Gizelis (2017) suggest that while peacekeeping operations can reduce the duration of episodic violence within an area, there is not conclusive evidence that they are able to stop violence from occurring within that area to begin with. Hultman, Kathman, and Shannon (2014) find that an increase in the number of UN-deployed (and armed) troops is associated with a decrease in battlefield deaths. Other research has found that peacekeeping operations are associated with a decrease in local levels of battlefield violence (Peitz and Reisch 2019). Beardsley, Cunningham, and White (2019) look at the interactive effect between peacekeeping and mediation, finding that more peacekeeping troops can lead to a reduction in violence. Hultman, Kathman, and Shannon (2013) also use data on the number of forces committed to an operation, finding that the greater the number of peacekeepers deployed, the fewer civilians are targeted with violence. When looking at other forms of violence, particularly sexual violence, however, the findings are not as clear; results suggest that

3. This is not to say, of course, that there have not been infamous and tragic examples of the failures of peacekeeping. Genocides in Bosnia and Rwanda were carried out in the presence of peacekeeping missions (although not Chapter VII missions), and research on ongoing operations suggests that current operations may not be as effective as we would like (Autesserre 2014; Van der Lijn 2019). The large-n quantitative and descriptive analyses, however, show the aggregate effectiveness of peacekeeping operations.

peacekeeping operations' ability to reduce sexual violence is weak and limited (Johansson and Hultman 2019).

Another indicator of effectiveness is whether peacekeeping operations impact violence carried out by the state compared to internal armed groups. Carnegie and Mikulaschek (2020), for instance, find that peacekeeping operations are effective in reducing rebel violence against civilians. Phayal and Prins (2020) suggest that peacekeepers are more responsive to violence carried out by rebels, indicating a potential reluctance to engage with violence against civilians perpetrated by the government. Similarly, Fjelde, Hultman, and Nilsson (2019) suggest that a significant local presence of peacekeepers will increase the costs for rebel groups to engage in civilian targeting, but as the presence of peacekeeping relies on the consent of the state, it is more difficult for peacekeepers to act as a deterrent against government violence against civilians. Building on the idea that mission characteristics shape responsiveness, recent evidence shows that when peacekeepers are drawn from countries geographically close to the host state, their familiarity and access further enhance civilian protection, improving peacekeepers' ability to prevent violence against civilians (Dworschak and Cil 2022).

Understanding the mechanisms that lead to the effectiveness of peacekeeping operations suggests a related line of research: the impact of the withdrawal of peacekeeping operations. Research on this subject is, as of now, relatively limited, but understanding what happens when peacekeepers leave is the natural extension of an increased interest in exploring the mechanisms of effectiveness. Dorussen (2015) uses a survey fielded in Timor Leste to examine perceptions of security after the withdrawal of peacekeepers, finding evidence of a positive correlation. Other work, focused on economic indicators, finds that the presence of peacekeepers has a positive effect on the local economy when they are present, but this effect dissipates and economic growth stagnates after they leave (Beber et al. 2017). Other studies have employed descriptive statistics to describe potential temporal patterns in the effects of peacekeeper withdrawal (Di Salvatore 2020; Gledhill 2020). Other research uses

in-depth case studies, finding that peacekeeping may only temporarily pause violence and the deterioration of state institutions (Karim 2020; Kolbe 2020).

We now turn to addressing the question of methodology in the quantitative study of peacekeeping. In the literature discussed above, there is a key distinction between country-level analysis and subnational analysis. More work is needed using fine-grained subnational data in order to understand mechanisms at a local level. As highlighted by Walter, Howard, and Fortna (2021, p. 1714), many of the quantitative studies on peacekeeping use country-level and yearly data which are often not adequately granular to test the relevant mechanisms. There have been notable strides recently, however, in leveraging subnational data on the deployment of peacekeepers that have contributed to our understanding of peacekeeping effectiveness (Ruggeri, Dorussen, and Gizelis 2018; Fjelde, Hultman, and Nilsson 2019; Phayal and Prins 2020; Fjelde and Smidt 2022; Reeder, Hendricks, and Goldring 2022).

Building upon the work that has already been conducted, we seek to better understand the mechanisms by which peacekeepers are effective at altering local and subnational violence. In the next section, we synthesize and develop an argument on how the mechanisms of peacekeeper effectiveness work at the local level when peacekeepers arrive and exit, and then introduce a novel empirical research design to test the hypotheses.

Mechanisms of Peacekeeping Effectiveness

How does the arrival of peacekeepers shift levels of personal violence? What happens after peacekeepers leave? Answering these questions requires an examination of the mechanisms through which peacekeepers shift the capacity and incentives of armed groups and governments to carry out acts of violence.

The dominant logic suggests that peacekeepers, by their very presence, provide belligerents with a security guarantee as a third-party participant (Hinkkainen Elliott, Polo, and Eustacia Reyes 2021; Walter, Howard, and Fortna 2021). This guarantee gives belligerents

confidence that they can put down their guns without imperiling their own survival. Peacekeepers achieve this effect by providing the warring parties with a guarantee of safety and security via deterrence (the threat of violence against defectors) and reporting (the observation and recording of belligerent behavior) (Hultman, Kathman, and Shannon 2014).

We argue that the effectiveness of peacekeeping operations in diminishing violence against civilians is a function of peacekeepers' influence on the capacity of rebel groups and governments. We further disaggregate into **operational capacity**, based on the ability of the group to carry out violent attacks, and **organizational capacity**, based on the ability of the group to retain and strengthen their administrative potential. We first discuss the impact of peacekeepers on both types of capacity for rebel groups, then governments.

Peacekeeping and Rebel Violence against Civilians

First, peacekeepers are able to disrupt the operational capacity of rebel groups via monitoring and geographic containment. Peacekeeping operations are placed not only in the hardest cases but also to the areas where violence is higher, more active, or more likely (Costalli 2014; Ruggeri, Dorussen, and Gzelis 2017; Phayal and Prins 2020).⁴ As a result, the peacekeeping operations are most likely to be placed where rebel groups (and likely governments) have concentrated resources and capital. Their presence in these areas will have a dampening effect on the amount of violence that rebel groups will be able to undertake in these areas, as the observation and monitoring undertaken by the peacekeeping operation, combined with the deterrent threat of peacekeeper intervention, should limit violent activity. A significant local presence will increase the costs for the rebel group to engage in civilian targeting (Fjelde, Hultman, and Nilsson 2019). It may be the areas where the rebel group has the most resources, but the presence of the peacekeeping operation will limit the viability of violence. The first hypothesis follows from this logic.

4. Although Ruggeri, Dorussen, and Gzelis (2018) do highlight that peacekeepers tend to arrive late and be concentrated near urban areas, potentially ignoring violence further from the metropole.

Hypothesis 1a: The arrival of peacekeepers will lead to a decrease in rebel violence against civilians in the immediate area.

The extension of this logic is the extent to which peacekeepers are able to constrain the geographic movement and dispersion of conflict. This is a containment mechanism and flows well from Beardsley and Gleditsch (2015): the presence of peacekeeping operations reduces the ability of belligerents to move undetected and provides logistical barriers and obstructions to movement. As such, we argue that peacekeeping operations reduce local violence because the armed groups do not have the freedom of movement to carry out violent operations on a wider scale. If the presence of peacekeepers makes it more difficult to carry out violence against civilians in the immediate area, it also makes it more difficult for rebel groups to effectively move from their centers of power toward the periphery. Note that this logic is predicated on peacekeeping bases being placed in or near rebel strongholds. The obstruction of geographic movement due to the presence of the peacekeeping operation suggests that the rebel group's ability to carry out violence in the periphery will be substantially diminished. The next hypothesis follows:

Hypothesis 1b: The arrival of peacekeepers will lead to a decrease in rebel violence against civilians in neighboring areas.

In addition to the expected reduction in violence as a result of decreased operational capacity, the security guarantee provided by peacekeeping operations is able to reduce the organizational capacity of armed groups. We define organizational capacity as the ability of an armed group to carry out long-term administrative functions and operations related to their viability and existence as an organization. Monitoring and geographic limitations reduce the operational capacity, but we further argue that the presence of a peacekeeping operation can reduce the organizational, or structural, capacity of a rebel group. As noted by Weinstein (2007), rebel groups face challenges to organization and structure that can be detrimental to their survival and capacity if not effectively managed. Viable rebel groups

must find effective mechanisms for recruitment and control, as well as develop material resources and a sense of legitimacy. The presence of a peacekeeping operation impedes a rebel group's ability to conduct the administrative affairs necessary to retain viability. Again, via the monitoring and a deterrent threat, peacekeepers impede a rebel group's ability to conduct open operations, including limiting their ability to recruit, coalesce, or even receive support from external actors (Beardsley 2011).

The impact on organizational capacity is associated in large part with the signal that the presence of a peacekeeping operation sends vis-à-vis the legitimacy of a rebel group. By definition and existence, the presence of a peacekeeping operation has a diminishing effect on rebel group legitimacy. The presence of a third-party security guarantee, such as a peacekeeping operation, is meant to restore internal authority to the government and diminish the validity of internal claimants to state authority. Often, though not always, peacekeeping operations are associated with negotiated settlements, agreements, or other informal arrangements that are also signals that rebel groups have ceded some power to legitimate authorities (including the government and third-party guarantors). The monitoring and deterrent effects of a peacekeeping operation, as well as other pressures that may delegitimize the operations of a rebel group, will over time have a diminishing effect on their ability to exist as an armed group. There may also be other forms of policy and third-party intervention by domestic or third-party actors meant to demobilize the rebel group and civilian populations. Over time, the presence of a peacekeeping operation should have a delegitimizing effect on the existence of a rebel group in the area. As a result, this can disrupt the rebel group's ability to carry out administrative functions and should diminish the organizational strength and capacity of a rebel group over time.

The ability of peacekeeping operations to diminish the rebel groups' organizational capacity is likely empirically indistinguishable from the impact on operational capacity; that is, both forms of capacity diminishment should lead to similar empirical observations. This follows logically, as a focus on a rebel group's diminished organizational capacity would also

lead to Hypotheses 1a and 1b.

The true test, then, of the extent to which peacekeeping operations are able to diminish the organizational capacity of rebel groups is whether there are lingering effects after the withdrawal of a peacekeeping operation. Here we distinguish our argument both theoretically and empirically by addressing the impact on violence against civilians after a peacekeeping operation leaves. If the impact of a peacekeeping operation is limited to the impact of their direct presence, the withdrawal of a peacekeeping operation should lead to an increase in violence, if not a full return to pre-deployment levels of violence. If, however, the peacekeeping operation successfully carries out its mandate to constrain conflict and reduces the long-term organizational capacity of a rebel group, this impact should last after withdrawal. We expect the presence and institutionalization of a peacekeeping operation to delegitimize a rebel organization, leading to demobilization and a decrease in organizational capacity. As a result of this decreased organizational capacity, rebel groups will not be able to return to violence even after peacekeepers have withdrawn. Hypotheses 2a and 2b follow from this logic.

Hypothesis 2a: The withdrawal of peacekeepers will not increase rebel violence against civilians in the immediate area.

Hypothesis 2b: The withdrawal of peacekeepers will not increase rebel violence against civilians in neighboring areas.

Peacekeeping and Government Violence against Civilians

While the first theoretical mechanism underlying the effectiveness of peacekeepers - diminishing operational capacity - does not necessarily distinguish between rebel and government violence, empirical research has started to distinguish between how peacekeepers handle rebel violence compared to government violence. We argue that peacekeeping operations have, in theory, the potential to have a similar diminishing impact on government's opera-

tional capacity, but this potential impact may not hold in practice due to tensions between the mandate of a peacekeeping operation and government authority. This distinction, while perhaps running contrary to the logic of peacekeeping missions and their importance in protecting against civilian victimization, does follow naturally from how violence operates in post-civil war environments.

One of the critical elements in understanding the differential impact of peacekeepers on rebel and government violence is how mandates for civilian protection work operationally. As noted by Holt, Taylor, and Kelly (2009), military peacekeepers often lack coherent and specific guidelines on civilian protection. In addition, as highlighted by Phayal and Prins (2020), one of the principles of civilian protection under the auspices of the United Nations is the responsibility of governments to protect their civilians.⁵ Phayal and Prins (2020, p. 319) make the astute observation that the responsibility to work in partnership with host nations, as well as mandate language frequently including the phrase “without prejudice to the responsibility of the state,” likely provides a tension within the incentives of the peacekeepers. Fjelde, Hultman, and Nilsson (2019) note as well that peacekeeper access to civilians is conditional on government consent, which makes it more difficult for peacekeepers to impose military costs on the government to deter violence against civilians. We argue that this lack of operational clarity creates a reluctance to engage with threats of violence against civilians when the government is the perpetrator. Peacekeepers will be more reticent to step in against government behavior, which in turn will lead to a neutral impact of peacekeeping operations in the areas immediately observable to the peacekeepers.

Hypothesis 3a: The arrival of peacekeepers will lead to no change in the government’s violence against civilians in the immediate area.

As mentioned above, we anticipate that when peacekeepers are present, it will both alter the geographic distribution of the members of the rebel group and strengthen the government.

5. See, for instance, statements made by the Security Council President (S/PRST/2015/23) and the UN-commissioned report by Holt, Taylor, and Kelly (2009).

However, the presence of the peacekeepers and the resulting geographic containment of the rebel group does not diminish the desire of the rebels to achieve their goals. Because the rebel group has not fully demobilized and the threat to the internal legitimacy of the government is still felt, the government will want to ensure that the rebel group cannot maintain a long-term foothold, which would enable them to potentially pose a renewed threat to the government in the future. The government, it follows, will continue to seek out opportunities to further challenge the rebel group's ability to make internal claims to authority. One key way the government will do this is to target the civilian population that the rebel group relies on as a recruiting base.⁶ This is likely a continuation of tactics used by the government before the arrival of a peacekeeping operation and, as outlined above, may very well be occurring in the areas patrolled by peacekeepers as well. With rebel groups weakened, the state will be able to re-group and rebuild its capacity to suppress and further weaken rebel groups and maintain order within its borders (Beardsley 2011).

As a result of this incentive structure, the locational impact of peacekeeping deployments for governments should be the opposite of rebel groups. While the immediate presence of a peacekeeping deployment can lead to the containment of rebel violence, it can also lead to the dispersion of government violence. As governments still feel the threat from the presence of the rebel group, they can continue to be incentivized to target civilian populations and carry out attacks against potential rebel strongholds. This is less likely to occur in the direct presence of peacekeepers, as the government seeks to solidify its claim as the sole proprietor of the legitimate use of force within the country. Moreover, in areas not patrolled by peacekeepers, costs cannot be imposed on the government for violence against civilians. Thus, violence will be more likely to increase in areas not directly monitored by peacekeeping operations.

6. The government may also target civilians due to operating in a low information environment where they have difficulty discerning between friend and foe and who among the civilian population supports the government vs. the rebel group. This inability to distinguish between harmless civilians and rebels will increase the chances that the government, seeking to meet and destroy the threat posed by the rebel group, will engage in collective or indiscriminate, rather than selective or targeted, violence (Davenport 1995; Lyall 2009).

Hypothesis 3b: The arrival of peacekeepers will lead to an increase in the government violence against civilians in neighboring areas.

The second mechanism, peacekeepers' impact on organizational capacity, does operate differently between rebel groups and governments in a post-conflict space. As originally noted in the seminal piece by Walter (1997), the critical barrier to settling civil wars is that one side must disarm while the other retains its capacity for and monopoly on the legitimate use of force. In a post-civil war context, it will necessarily be the case (by definition) that the government or ruling party must retain the ability to use force while the rebel group (or losing side) must disarm and demobilize. As a result of this, the impact of peacekeeping operations on the capacity of rebel groups will differ from the impact on the capacity of governments.

In contrast to the delegitimizing influence of peacekeeping operations toward rebel groups, the presence of a peacekeeping operation is meant to increase the state's legitimacy. As a result, a peacekeeping operation should strengthen a government's organizational capacity and long-term viability. Therefore, when a peacekeeping deployment withdraws, the government should be strengthened in its ability to carry out violence against civilians. Any quelling effect the presence of peacekeepers had on the government's use of violence against civilians may also be removed. This may lead to an increase in violence against civilians in the areas once patrolled by peacekeepers and continued violence against civilians in the neighboring areas that had not been monitored. The final hypotheses follow from this logic.

Hypothesis 4a: The withdrawal of peacekeepers will increase the level of government violence against civilians in the immediate area.

Hypothesis 4b: The withdrawal of peacekeepers will not decrease government violence against civilians in neighboring areas.

In the next section, we introduce the data and research design used to test these hypotheses.

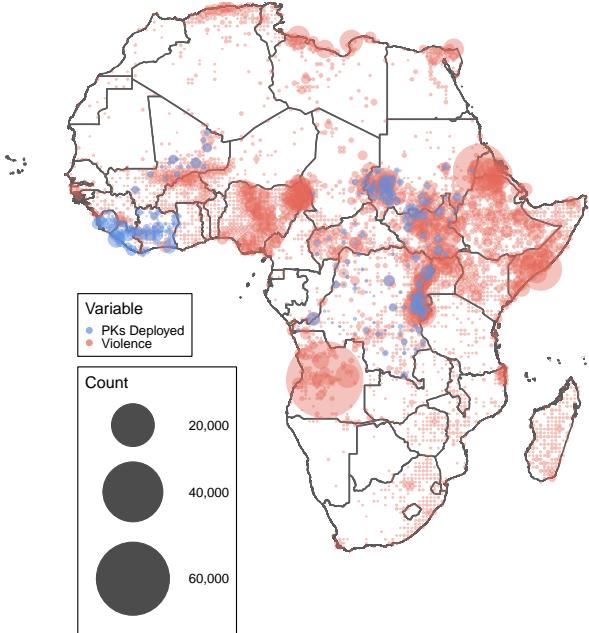


Figure 2: The dispersion of violence and Chapter VII Peacekeeping Operations throughout Africa from 2000-2017.

Research Design

To understand what happens when peacekeepers leave, we use two datasets underutilized in the peacekeeping effectiveness literature. The most prominent data source of violence within the existing literature is the UCDP's Georeferenced Events Dataset (GED) (Raleigh et al. 2010). Various authors such as Beardsley and Gleditsch (2015), Ruggeri, Dorussen, and Gizelis (2017), and Fjelde, Hultman, and Nilsson (2019) routinely use the GED to geo-locate violence against civilians. The UCDP's data is useful, especially when measuring violence as deaths. However, we use the Armed Conflict Location and Events Database (ACLED) for its inclusion of counts of violent events in addition to measuring civilian fatalities, which allows us to better examine our mechanism.

The data source we employ to measure the deployment of peacekeeping operations is the Robust Africa Deployments for Peacekeeping Operations (RADPKO) data (Hunnicutt and Nomikos 2020), which offers comprehensive monthly time-series data on every Chapter VII peacekeeping operation in Africa. The mechanisms as defined above rely on two aspects

of peacekeeping missions that distinguish Chapter VII from Chapter VI missions. First, peacekeepers must patrol locally; if they stay on base and never respond to violence, then there can be no deterrent effect. Second, peacekeepers must have the authority and mandate to protect civilians and thus impose costs against belligerents. Peacekeeping operations rely on the authorization to use force to create the deterrent necessary to diminish operational and organizational capacity.

RADPKO's data contains every Chapter VII African UN PKO, since 1999, from the start of the mandate until either the mandate ended, changed to a different mandate such as Chapter VI, or was ongoing through the end of 2017. RADPKO's data encompasses the deployed Chapter VII missions in the following countries and regions: Abyei,⁷ Burundi, the Central African Republic, Chad, Côte d'Ivoire, the Democratic Republic of Congo, Liberia, Mali, Sierra Leone, South Sudan, and Sudan.

Dependent Variables

ACLED is an event-based dataset introduced by Raleigh et al. (2010) that predominantly measures violent events. This dataset utilizes intercoder reliability checks, has dedicated coders for countries, and receives information from four different types of sources.⁸ ACLED also relies on local sources that provide them with initial information that is verified by additional sources, such as media reporting. ACLED also uses institutional and NGO-based data, which allows for incredibly comprehensive counts of violence. ACLED's data covers the years of interest from 2000-2017 for all violence in Africa.⁹

From ACLED's data, we code several different types of violence, each of which are run as dependent variables in separate models. Our classifications of violence are broadly divided into fatalities and violent events. Within each of these categories, we measure government

7. Abyei is the only non-country on this list, as it is a disputed territory between Sudan and South Sudan. It has a Ch. VII mission, and so is included in these analyses.

8. ACLED further explains how its database is sourced and constructed here: <https://acleddata.com/>

9. We truncate the RADPKO data to match the 2000-2017 years in order to keep only complete data years.

and rebel violence against civilians as separate outcomes. The dependent variable is also measured as the probability of violence as well as the total amount of violence. Probability of violence is a dichotomous indicator coded as a one if at least five civilians died or five violent events against civilians occurred in a grid-month; the count outcome is a measure of total violent events or deaths in a grid-month. Finally, we measure each of these outcomes in the same cell and in the neighboring cells. Neighbors are defined with queen contiguity, i.e. in a 3x3 grid layout where the center grid is the area of interest, there are eight neighboring grid cells. We measure each of these dependent variables when peacekeepers arrive and leave the same and neighboring cells.

Independent Variables

Our independent variable is peacekeeper presence, defined as a dichotomous measure of the arrival or exit of a peacekeeping unit in a grid. Recent scholarship from Hunnicutt and Nomikos (2020), has provided a substantively significant amount of peacekeeping data, granular to the PRIO-grid level.¹⁰ The RADPKO data contains nearly 400,000 observations spread out over close to twenty years in every Chapter VII UN PKO in Africa. For descriptives on the length of stay by mission, see Table 1 and Figure 3.

Early research on peacekeeping effectiveness had to make assumptions about the temporal and geospatial distribution of peacekeepers given the missions they deployed to (Greig and Diehl 2005; Diehl, Reifschneider, and Hensel 1996). Because of the coarseness in data quality and granularity available, this research focused on yearly variables and measures of peacekeepers. RADPKO, on the other hand, has data aggregated to the monthly level, and geospatially disaggregated to PRIO grids. Since the data comes from the UN via reports from the Secretary-General, and updates are rarely provided more frequently than monthly, this represents the most comprehensive level of peacekeeper data available to the public.

10. A PRIO-grid is approximately a 55 km x 55 km grid, with grid borders determined exogenously of any geospatial or political considerations, meaning for all purposes the borders are random. Thus, any data discrepancies, such as missing or incomplete data, should be evenly distributed across grids.

Table 1: Descriptive Statistics for Length of Stay by Mission

Mission	Mean	Median	SD	Min	Max
MINURCAT	37.00	20.0	29.55	1	83
MINUSCA	25.92	31.0	11.27	1	46
MINUSMA	38.67	45.0	11.05	12	45
MONUC/MONUSCO	33.45	17.0	45.96	2	215
ONUB	16.25	19.5	8.59	2	26
UNAMID	89.55	116.0	38.81	3	147
UNAMSIL	33.52	33.0	24.22	4	71
UNISFA	46.00	65.0	29.77	4	69
UNMIL	83.96	94.5	58.14	4	154
UNMIS	63.59	61.0	40.46	3	147
UNMISS	41.59	61.0	23.00	4	61
UNOCI	60.80	44.0	43.19	2	120

Peacekeeper presence, our treatment variable, is coded as *PKO Deployed*, a dichotomous measure of the arrival or exit of a peacekeeping unit.¹¹

Difference-in-Differences Design

In assessing mechanisms of peacekeeper effectiveness, we use recent advances in difference-in-differences (DiD) methods. This section begins with an explanation of the data structure and how our research design gives us the most leverage to answer our research question. We follow that with a discussion on recent trends with the generalized DiD two-way fixed effects (TWFE) model that would normally be seen as appropriate for this data, and the model that we use to address the contemporary critiques. Finally, we conclude the research design section with an explanation of the Group-time Average Treatment Effect model (Callaway and Sant'Anna 2021), including a description of how control groups are selected in the data. Although our data does not allow us to fully assess our causal claims, we employ a DiD design to answer our research question as it provides the greatest ability to account for unobserved potential confounders and isolate the causal effect of peacekeepers to the fullest extent possible.

11. Military, police, and/or observers.

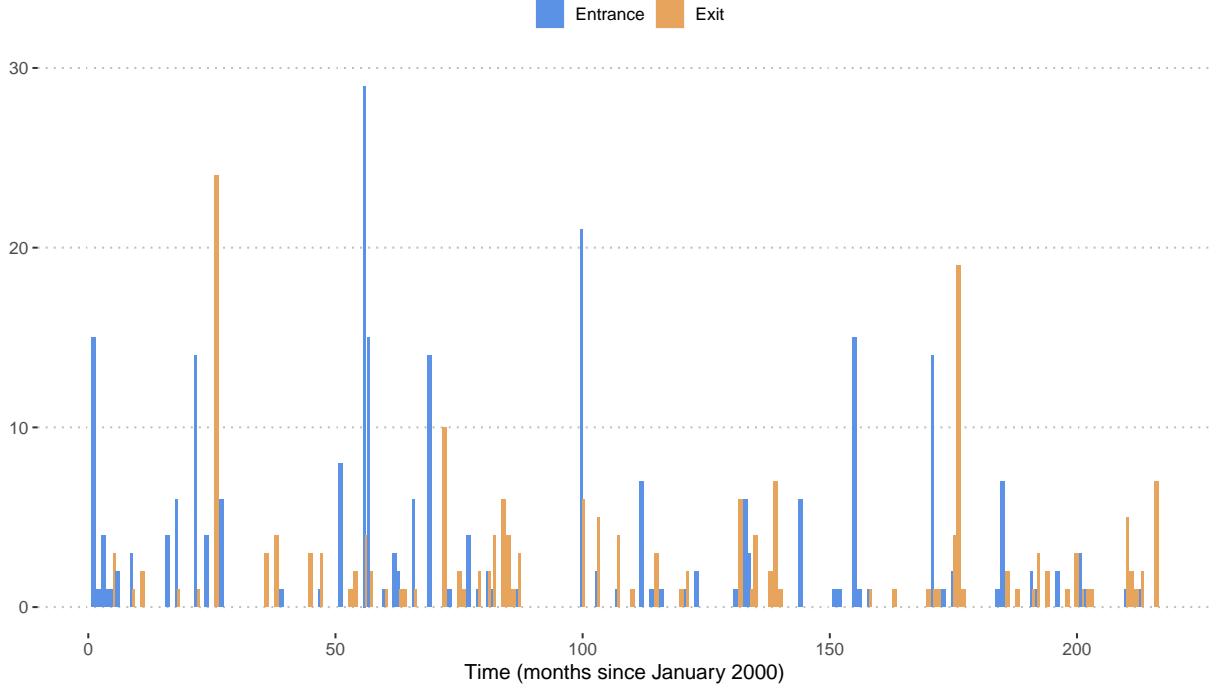


Figure 3: Frequency of Peacekeeping entrances and exits over time

Since the data is structured over the course of many years and includes temporary measures of the treatment,¹² the TWFE model seems most appropriate. However, recent scholarship shows that TWFE models are not robust to treatment effect heterogeneity (Callaway and Sant’Anna 2021; Chaisemartin and D’Haultfœuille 2022; Roth et al. 2023). A TWFE model makes three sets of comparisons. First, it compares newly treated units to “never-treated” units, which are grids in the model that never received peacekeepers. Second, TWFE models compare newly treated units to “not-yet treated” units, which are grids that have not yet received peacekeepers but will be treated eventually. These comparisons are robust to treatment effect heterogeneity. However, a TWFE model with multiple time periods with staggered treatment timing inevitably makes a third type of comparison of newly treated units to already treated units. This comparison biases the results, as units that have already received the treatment cannot be expressed as part of the control group without

12. I.e., one grid may go into the “treated” category, back into the “control” category when peacekeepers leave, and then return to the “treated” category when peacekeepers return to the same grid.

biasing the estimates (Roth et al. 2023).

To address the comparison issues made by the TWFE models, Callaway and Sant'Anna (2021) construct a different method to estimate the treatment effects. Their method, the Group-time Average Treatment Effect (GTATE), is a more appropriate way to approach staggered DiD designs. The treatment effect of the GTATE model is “the average treatment effect for group g at time t , where a ‘group’ is defined by the time period when units are first treated” (Callaway and Sant'Anna 2021: 201). The GTATE assigns each grid a time period of t and $t + 1, t + 2\dots$, and so on until the final time period. To make comparisons, the GTATE pools all treatment effects of the groups first treated at time t and then compares that to the “not-yet treated” and “never-treated” groups at identical time t . This resolves the aforementioned issues of the TWFE models. The GTATE can be further aggregated beyond group-time comparisons to a single average treatment effect on the treated (ATT), interpreted identically to canonical DiD analyses. Regardless of the model used to calculate a difference-in-differences estimate, parallel trends remain key to assessing model viability. For explanations and plots of the parallel trends tests using the GTATE models, see Appendix B.

Analysis and Discussion

We use the difference-in-differences approach outlined above to assess the impact of peacekeeper entrance and exit on violence against civilians carried out by rebel groups and the government in local areas and neighboring areas. Broadly, our results suggest that peacekeeper arrival leads to an increase in state violence against civilians locally and nearby. Peacekeepers tend to reduce rebel violence, especially in neighboring areas peacekeeping deployments, suggesting that peacekeepers increase state violence and decrease rebel violence against civilians.

Figures 4 and 5 and Tables 2 and 3 illustrate the results of the difference-in-differences analysis. Figure 4 and Table 2 illustrate results comparing treated to non-treated units

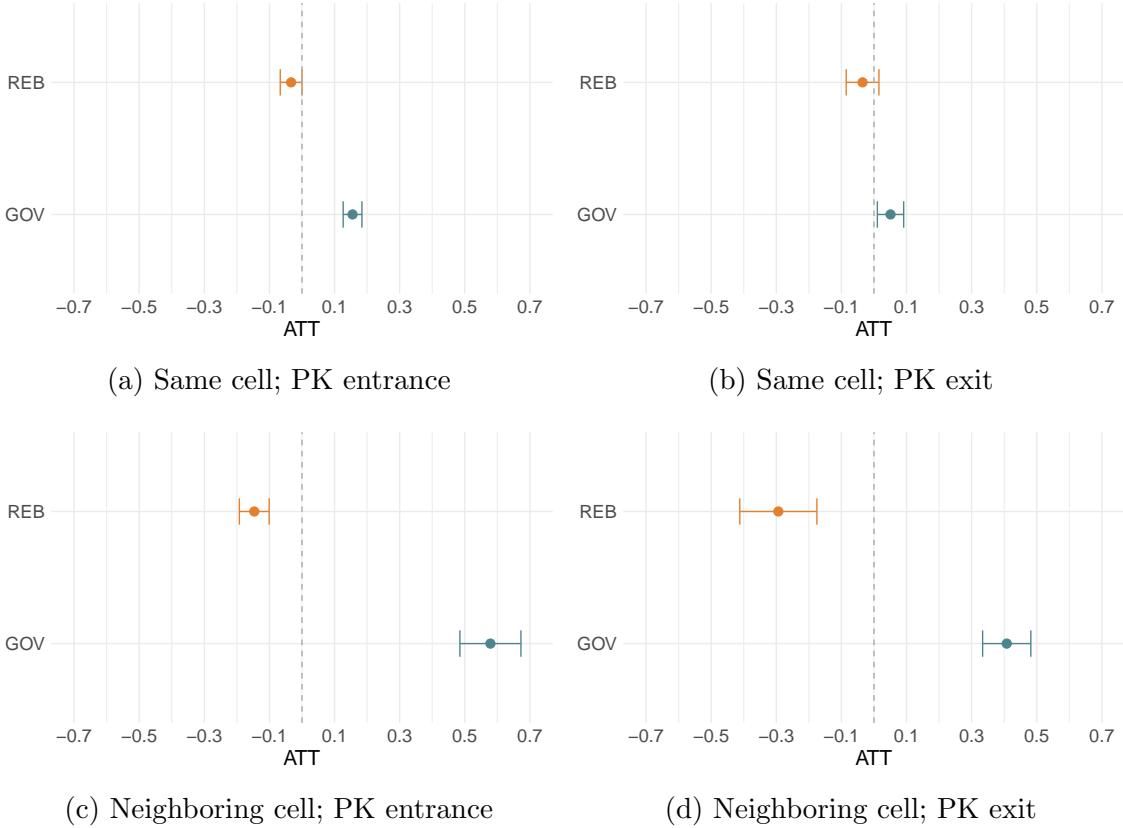


Figure 4: Total violent events against civilians in same and neighboring cells when peacekeepers enter and exit. Note: Violence in “Same” cell sum calculations is measured from a single grid, while neighboring violence is the sum of all neighboring grids. While the models account for this, it means that sum calculations must be cautiously interpreted between same and neighboring cell models.

for total violent events, while Figure 5 and Table 3 illustrate results for the probability of violent events.¹³ Similar patterns emerge from both total violent events and the probability of violent events.

Beginning with our hypotheses on the impact of peacekeeper entrance on rebel violence, we find weak evidence for H1a and moderately strong evidence for H1b, as peacekeeper entrance is associated with moderate decreases in rebel violence in the cell peacekeepers entered, but with a substantially larger effect in the neighboring cells. These results indicate that peacekeeper entrance and withdrawal has stronger effects on rebel violence in neighbor-

¹³ A full tabular set of all results, including fatalities as the dependent variable, can be found in Tables A1 and A2.

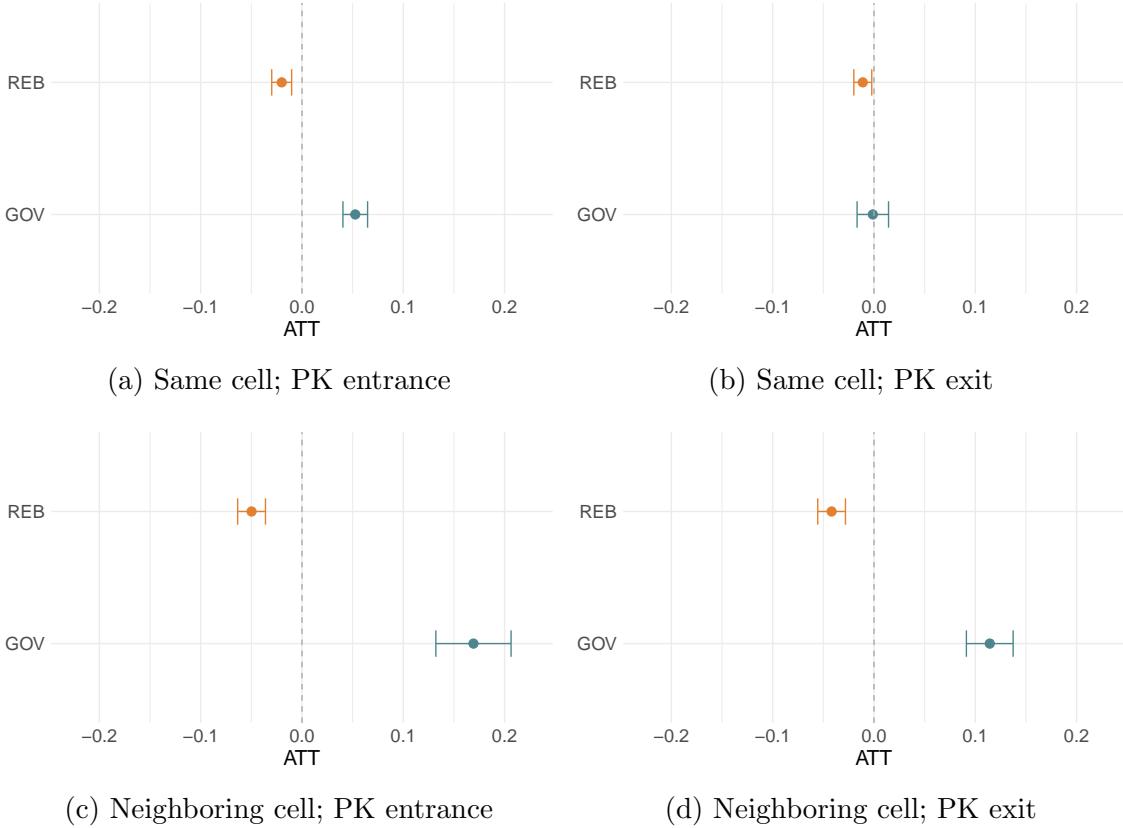


Figure 5: Probability of violent events against civilians in same and neighboring cells when peacekeepers enter and exit.

ing cells. These results lead us to believe that peacekeepers are effective in reducing rebel operational capacity sufficiently such that rebels are unable to project their power outside of their immediate area.

Upon arrival, either to protect civilians or in conjunction with the host state, peacekeepers often use force to attack rebel groups. Take, for example, the UN Mission to the Democratic Republic of the Congo (MONUSCO). After several years of severe rebel violence against civilians and government targets, the UN shifted its approach. Rather than simply watching the combat, MONUSCO now takes active, offensive actions against rebels, often in conjunction with state forces (Sweet 2019). The mission shifted closer to a counterinsurgency phase, where peacekeepers directly assisted in countering rebels. Another example can be found in the Central African Republic, where UN Forces, in conjunction with the French

Time	Cell	Actor	ATT	SE
Enter	Same	GOV	0.1553*	0.0288
Enter	Same	REB	-0.0334	0.0333
Enter	Neighbor	GOV	0.5788*	0.0938
Enter	Neighbor	REB	-0.1465*	0.0458
Leave	Same	GOV	0.0508	0.0404
Leave	Same	REB	-0.0351	0.0503
Leave	Neighbor	GOV	0.4077*	0.0740
Leave	Neighbor	REB	-0.2938*	0.1184

Table 2: Table for our main results testing the temporal effects of peacekeeper entrance and exit on the total events of violence against civilians. * = p-value lower than 0.05; bootstrapped standard errors are used to calculate the confidence intervals.

military, bombed rebel positions and killed seven insurgents ([Dembassa-Kette 2015](#)).

While this deterrent action against rebels may cause a decrease in rebel violence in the short term, this likely increases the incentives for government political violence. By committing violence against rebel groups and generally siding with the incumbent, peacekeepers change how power is distributed within an area, which changes the incentives for both sides. Rebels are weakened, thus lowering their operational capacity to compete with state forces. Their decrease in capacity corresponds to a lower ability and likelihood to commit violence.

The results also suggest that the capacity diminishment of rebel organizations extends to their organizational capacity. H2a and H2b, which use the withdrawal of peacekeepers to indicate whether the rebel group capacity was sufficiently diminished, are supported in the empirical findings as well. In comparing the effects of peacekeeper entrance to peacekeeper exit, we see both local cells and neighboring cells retain the level of violence post-peacekeeper exit. In local cells where the decrease is close to zero, this pattern remains. More notable (and per H2b) is the continued decrease (compared to non-treated units) in rebel violence in the neighboring cells. These results indicate that the presence of a peacekeeping operation is able to diminish a rebel group's operational capacity in the short-term as well as their organizational capacity in the long-term.

Turning to the hypotheses on state violence, we do not find evidence for H3a; rather, we find that when peacekeepers arrive, state violence increases both locally and in neighboring

Time	Cell	Actor	ATT	SE
Enter	Same	GOV	0.0526*	0.0122
Enter	Same	REB	-0.0200*	0.0098
Leave	Same	GOV	-0.0012	0.0155
Leave	Same	REB	-0.0110	0.0088
Enter	Neighbor	GOV	0.1693*	0.0371
Enter	Neighbor	REB	-0.0498*	0.0137
Leave	Neighbor	GOV	0.1143*	0.0231
Leave	Neighbor	REB	-0.0418*	0.0137

Table 3: Table for our main results testing the temporal effects of peacekeeper entrance and exit on the probability of violence against civilians. * = p-value lower than 0.05; bootstrapped standard errors are used to calculate the confidence intervals.

cells. When peacekeepers enter a cell, the probability of state violence in that cell increases by nearly 5%, and the amount of total civilian fatalities increases as well. These results illustrate how peacekeepers can increase the chances of violent outcomes from state actors upon entrance. This finding contradicts our expectations; H3a posited that the arrival of peacekeepers would lead to no change in government violence against civilians in the immediate area. We found, however, that the arrival of peacekeepers increases the level of government violence against civilians. This increase may be the result of an even stronger incentive structure than we had previously posited for the government to solidify its claim as the sole proprietor of the legitimate use of force within the country, as well as a strengthening of both operational and organizational capacity from the presence of a peacekeeping operation.

When peacekeepers enter a grid, the probability and amount of state violence more than triples for each outcome in neighboring cells relative to same-cell violence. Thus, we find strong evidence for H3b. Rather than peacekeeper entrance being associated with no state violence in the location peacekeepers are stationed, government forces may instead be empowered by the UN’s presence to commit violence against civilians, particularly in areas not patrolled by UN troops. These results provide evidence for the potential dispersion of government violence: the government retains a sense of threat from the rebel group while working to consolidate its claim to authority, and therefore will be more likely to target

civilian populations.

Now that peacekeepers have lowered the capacity of the rebels to compete with the incumbent, government forces have less competition from the rebel group locally. Two factors may initially present as obstacles to government violence, especially against civilians, but we argue that peacekeeper presence and violence change the nature of these obstacles. Rebels who may have competed with and lowered the incumbent's capacity and willingness to commit political violence now have less ability to compete with the state. With the power imbalance now leaning more heavily towards the incumbent, rebel inability to compete lowers the costs of state political violence (Schelling 1966). The second barrier to violence, peacekeepers, will be unlikely to prevent local violence outcomes from incumbents even when present, as peacekeepers inherently operate with the consent of state forces (Hultman, Kathman, and Shannon 2014; Fjelde, Hultman, and Nilsson 2019). So, peacekeeper violence against rebel forces can increase the probability of state forces committing further violence, even when the peacekeepers' initial presence may successfully reduce rebel operational and organizational capacity. Our empirical results support this argument, as peacekeeper entrance not only leads to state-led increased violence against civilians locally, it leads to a relatively higher level in neighboring cells.

We argue the increased violence in neighboring cells upon peacekeeper entrance is also explained by the fact that peacekeepers lower rebel capacity after entrance. Thus, rebels in neighboring cells are also now on weaker footing than they otherwise would be if peacekeepers did not enter. Now that the rebel groups are on the defensive, the incumbent will be more likely to recommit itself to areas surrounding peacekeeping deployments. While the state may have some reservations about committing political violence where peacekeepers deploy, they are less likely to face deterrent force from peacekeepers, as the presence of a peacekeeping operation depends on cooperation from the state government (Phayal and Prins 2020). Additionally, they are more likely to have fewer reservations about committing violence in areas outside the purview of peacekeepers (Fjelde, Hultman, and Nilsson 2019).

Our results can be seen in Tables 2 and 3.

Similarly to our findings on peacekeeper exit and rebel violence, we find that peacekeeper exit does not shift the behavior of the state. We find some evidence for H4a, suggesting that the withdrawal of peacekeepers increases the level of government violence against civilians in the immediate area, although this evidence is stronger based on total violent events compared to the probability of violent events. We find strong evidence for H4b, as both models suggest that peacekeeper exit will lead to a continued increase (compared to non-treated units) in government violence against civilians in neighboring cells. This suggests that there is evidence of the ability of peacekeeping operations to strengthen the state's capacity to project force within its borders. Peacekeeping operations strengthen a government's organizational capacity and long-term viability without necessarily shifting their likelihood of targeting rebels and civilians, leading to the continued violent events after peacekeepers withdraw.

While our difference-in-differences GTATE accounts for potential confounders by passing the parallel trends test (Card and Krueger 1994), we also acknowledge other potential threats to inference. For example, existing research established that peacekeepers are sent to hard cases that could bias them as less effective, but they still reduce violence more than if they were not deployed at all (Ruggeri, Dorussen, and Gizelis 2017; Fjelde, Hultman, and Nilsson 2019). If peacekeepers are deploying to where violence is expected, and there is reason to think that may be occurring, our models could be mis-estimating the outcome. Although it is possible that our results in the cells peacekeepers enter may be overestimated, we believe that it is unlikely that this anticipation effect is as strong in the areas next to where peacekeepers deploy. In other words, there is little reason to believe that the diffusion of violence is overestimated in neighboring cells.¹⁴

Overall, our findings present strong evidence that Ch. VII peacekeeping operations are

14. We emphasize that our research is a departure from previous methods examining peacekeeping effectiveness, and our models account for endogeneity in ways that previous subnational research on peacekeeping has not addressed (Fjelde, Hultman, and Nilsson 2019; Kunkel 2025), in large part by accounting for confounding variables via the parallel trends test.

able to reduce the operational and organizational capacity of rebel groups and decrease overall rebel-led violence against civilians. They are, however, less successful at reducing violence against civilians committed by the government, and can even lead to an increase in government-perpetrated violence against civilians particularly in areas not directly patrolled by peacekeeping operations.

Conclusion

Our paper explores mechanisms of peacekeepers' effectiveness against rebel and state violence against civilians, examining what happens when peacekeepers arrive and when they leave. Despite a large body of literature that asserts that peacekeepers are effective in violence reduction, our argument and models provide evidence of a more complicated story. Instead of finding that peacekeepers reduce violence overall, our analyses show that peacekeeper entrance displaces violence, with an increase in state violence and decrease in rebel violence. We conclude that there is strong evidence that peacekeeping operations are able to diminish rebel violence against civilians, but are much less effective at reducing government-perpetrated violence. This is because peacekeeping operations are able to diminish the operational and organizational capacity of rebel groups, but, due to implicitly and explicitly supporting the government, cannot have the same diminishing effect on state capacity. This was illustrated in the introductory vignette, where peacekeepers entered Djugu, an area experiencing an increase in violence. During their stay and after they left, while rebel activity was low, state and state-sponsored violence increased.

The UN deploys Ch. VII missions in the hopes of reducing violence against civilians, often with force taken against belligerents to achieve those ends. The expectations, however, that peacekeeper violence against rebels may lead to lower levels of violence overall may be misguided. These new types of peacekeeping missions, upon arrival, scatter the violence to neighboring areas. We argue that to enhance the state's capacity and reduce the power

of rebel groups, the state is empowered to commit more violence when peacekeepers enter and reduce the capacity of rebels. These results further indicate that peacekeepers may not create a durable peace but that their actions have complex and interconnected effects on violence.

Rather than focusing on peacekeeper movement within a country as the causal mechanism, future research should examine how other mechanisms affect the distribution of violence throughout a country. We also know that PKOs are multidimensional and often arrive in concurrence with other forms of international intervention, and this is an avenue that should continue to be explored.¹⁵ Little research explores other forms of peacekeeping intervention, such as the economic impacts of peacekeeper presence. Future research should dive into not only how peacekeepers affect institutional aspects of the country they deploy to, but also in how they affect the civilians they interact with.

Peacekeeping operations continue to be a critical tool in the policymaker's toolbox for international intervention and post-conflict stability. We do not suggest that they are ineffective overall or should not be used under appropriate circumstances. Instead, we suggest an approach that recognizes the strengths of peacekeeping operations (particularly, as we have shown, in regards to diminishing and demobilizing rebel groups) while also being careful about what peacekeeping operations will be unable to accomplish. As we seek to understand the mechanisms most effective in increasing conflict management and post-conflict stability, continued research into the conditional efficacy of peacekeeping operations paramount.

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15. See, for instance, Beber et al. (2019) and Beardsley, Cunningham, and White (2019)

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Replication

The dataset, codebook, and R files for the empirical analysis in this article are available at https://github.com/skytheacademic/when_peacekeepers_leave.

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Appendices

A Full tables

See below for the full table of all the models run for this paper.

Table A1: Models with violent events as the outcome. Bootstrapped standard errors are used to calculate the confidence intervals.

Time	Cell	Actor	DV	DV Type	ATT	SE	CI Lower	CI Upper
Enter	Same	GOV	Total	Event	0.15530	0.02880	0.09886	0.21175
Enter	Same	REB	Total	Event	-0.03341	0.03330	-0.09869	0.03187
Enter	Neighbor	GOV	Total	Event	0.57879	0.09377	0.39500	0.76257
Enter	Neighbor	REB	Total	Event	-0.14652	0.04580	-0.23629	-0.05676
Leave	Same	GOV	Total	Event	0.05079	0.04040	-0.02840	0.12998
Leave	Same	REB	Total	Event	-0.03507	0.05027	-0.13359	0.06346
Leave	Neighbor	GOV	Total	Event	0.40774	0.07402	0.26265	0.55282
Leave	Neighbor	REB	Total	Event	-0.29376	0.11843	-0.52588	-0.06163
Enter	Same	GOV	Binary	Event	0.05260	0.01217	0.02874	0.07645
Enter	Same	REB	Binary	Event	-0.02003	0.00983	-0.03931	-0.00075
Enter	Neighbor	GOV	Binary	Event	0.16930	0.03713	0.09653	0.24206
Enter	Neighbor	REB	Binary	Event	-0.04977	0.01374	-0.07669	-0.02284
Leave	Same	GOV	Binary	Event	-0.00116	0.01552	-0.03159	0.02926
Leave	Same	REB	Binary	Event	-0.01103	0.00884	-0.02836	0.00629
Leave	Neighbor	GOV	Binary	Event	0.11431	0.02308	0.06907	0.15956
Leave	Neighbor	REB	Binary	Event	-0.04184	0.01368	-0.06865	-0.01503

Table A2: Models with deaths as the outcome. Bootstrapped standard errors are used to calculate the confidence intervals.

Time	Cell	Actor	DV	DV Type	ATT	SE	CI Lower	CI Upper
Enter	Same	GOV	Total	Death	0.41635	0.16986	0.08342	0.74927
Enter	Same	REB	Total	Death	-0.37813	0.43782	-1.23625	0.47999
Enter	Neighbor	GOV	Total	Death	0.13873	0.41150	-0.66782	0.94528
Enter	Neighbor	REB	Total	Death	-0.36116	0.30829	-0.96541	0.24309
Leave	Same	GOV	Total	Death	-2.46420	3.09129	-8.52313	3.59473
Leave	Same	REB	Total	Death	-0.00513	0.05098	-0.10504	0.09479
Leave	Neighbor	GOV	Total	Death	-4.61797	3.24899	-10.98599	1.75005
Leave	Neighbor	REB	Total	Death	-2.53538	1.23045	-4.94705	-0.12370
Enter	Same	GOV	Binary	Death	0.05260	0.01217	0.02874	0.07645
Enter	Same	REB	Binary	Death	-0.01092	0.01015	-0.03081	0.00897
Enter	Neighbor	GOV	Binary	Death	0.04824	0.01746	0.01402	0.08245
Enter	Neighbor	REB	Binary	Death	-0.04977	0.01374	-0.07669	-0.02284
Leave	Same	GOV	Binary	Death	-0.00116	0.01552	-0.03159	0.02926
Leave	Same	REB	Binary	Death	-0.01103	0.00884	-0.02836	0.00629
Leave	Neighbor	GOV	Binary	Death	0.03819	0.01506	0.00867	0.06772
Leave	Neighbor	REB	Binary	Death	-0.04184	0.01368	-0.06865	-0.01503

B Parallel Trends Plots

While GTATE models are more robust to treatment heterogeneity than TWFE models, the most important factor in any difference-in-differences research design is still the parallel trends test. The parallel trends test posits a simple assumption, in the absence of treatment, that the trend lines would have remained parallel. To verify this assumption, we examine the parallel trends via Callaway and Sant'Anna's unconditional parallel trends test.

Our plots of the unconditional parallel trends test are found in Figures A1 and A2. These plots show event-study analyses of four of our models: each uses a dependent variable on the probability of state political violence, as Figures A1a and A1b show the plots on peacekeeper entrance, while Figures A2a and A2b show the plots on peacekeeper exit. For the event-study plots of the other models run in our analysis, please see the Online Appendix.

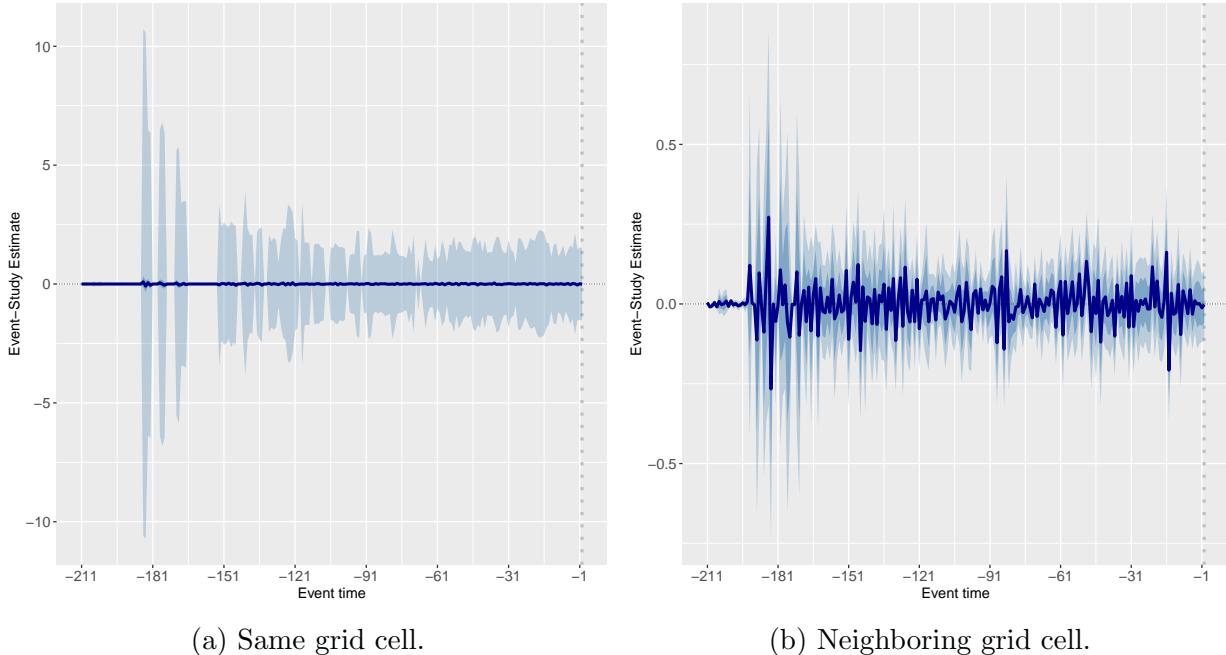
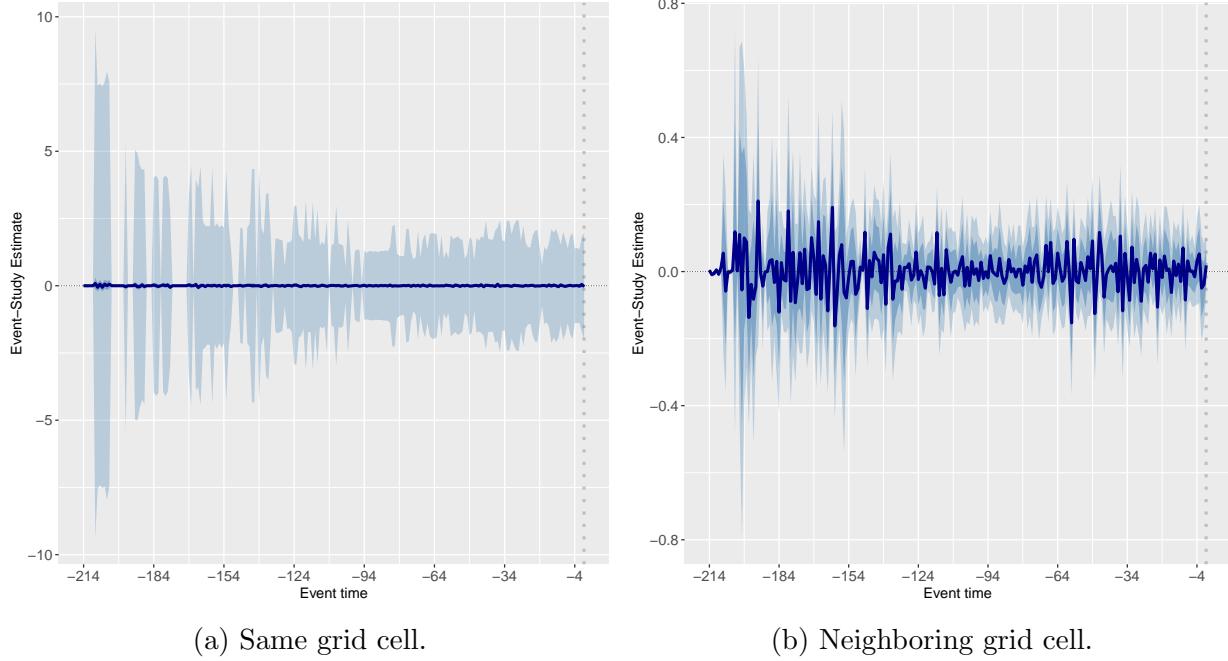


Figure A1: Estimates and confidence intervals of violence for pre-treatment of peacekeeper entrance, based on length of exposure.

To interpret these models, we focus on the *pre*-period. The unconditional parallel trends test plots the GTATE across groups and treatments, and tests the following null hypothesis: H_0 : The parallel trends test is violated across all pre-treatment periods. In other words, a



(a) Same grid cell.

(b) Neighboring grid cell.

Figure A2: Estimates and confidence intervals of violence for pre-treatment of peacekeeper entrance, based on length of exposure.

violation of this test before the “treatment” of peacekeepers provides support for the parallel trends assumption. Visual confirmation is provided by examining all pre-treatment periods where the confidence interval crosses zero.

As shown in Figures A1 and A2, the confidence intervals in all pre-treatment trends cover zero. Hence, we reject the null hypothesis and conclude that the parallel trends assumptions are met in the pre-treatment periods of these models.

While we use the event-study plots above to examine the parallel trends, they are less helpful when aggregating the GTATE. The *post*-treatment period in Figures A1 and A2 show the effect of treatment by length of exposure, which can be misleading to interpret as the average treatment effect in GTATE models. In the next section, we aggregate the estimates in each time period into the Aggregate Group-Time Average Treatment Effects (AGGTE).

In this rest of this section, we plot the parallel trends test for all of our models before the treatment of peacekeeper entrance or exit. In the models, we describe which model the plot refers to by the description of the dependent variable and the cell. When the cell is listed

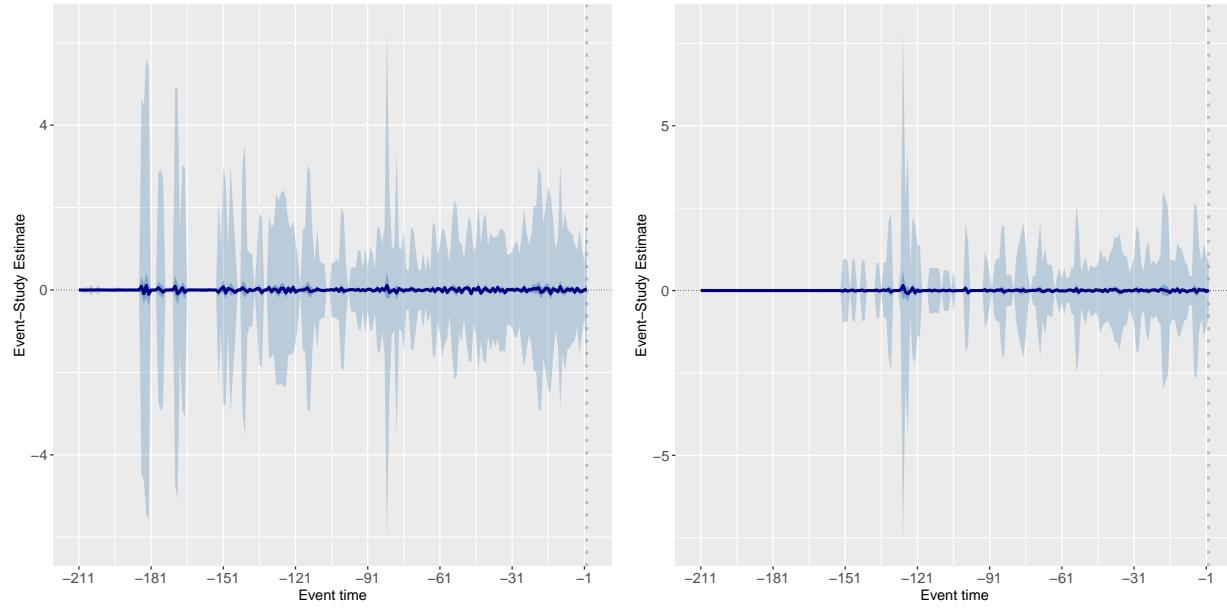
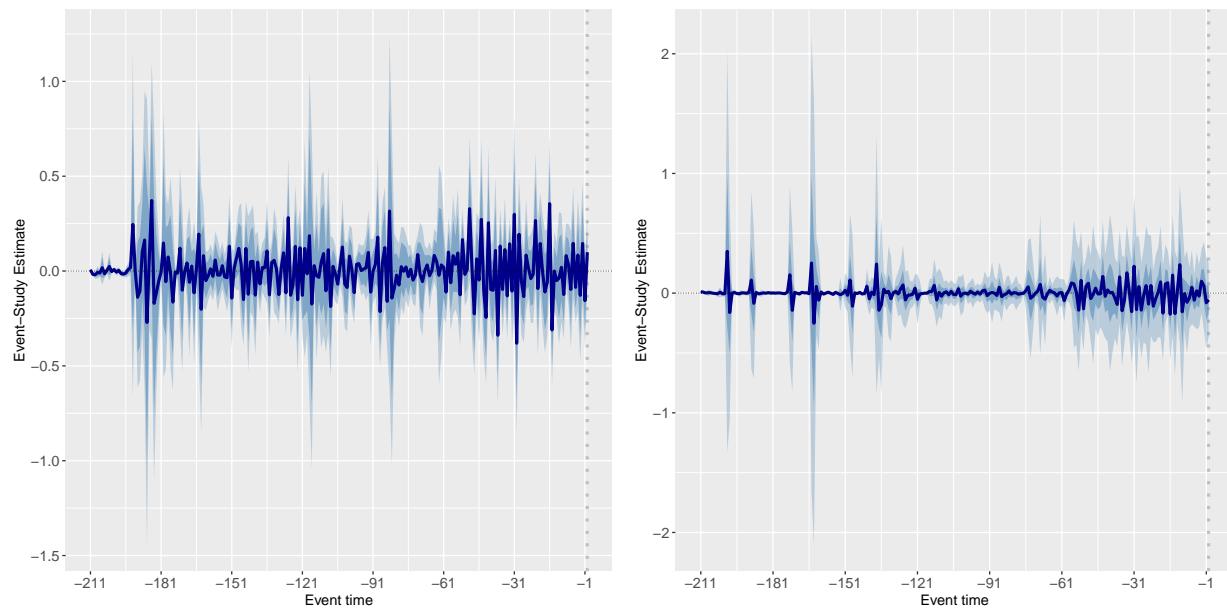


Figure A3: Timing - entrance.

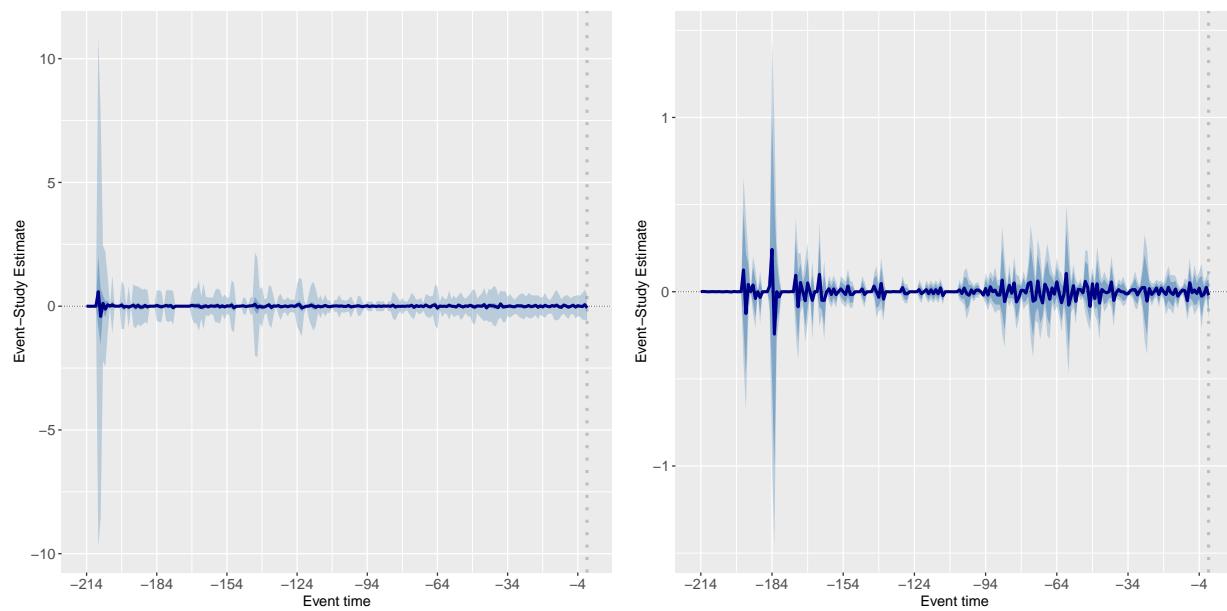
as “same,” the unit of analysis is the cell peacekeepers entered (or exited). When the cell is listed as “neighbor,” the unit of analysis is the cell neighboring where peacekeepers entered (or exited).



(a) DV - Total violent events by the state.
Cell - neighbor.

(b) DV - Total violent events by rebels.
Cell - neighbor.

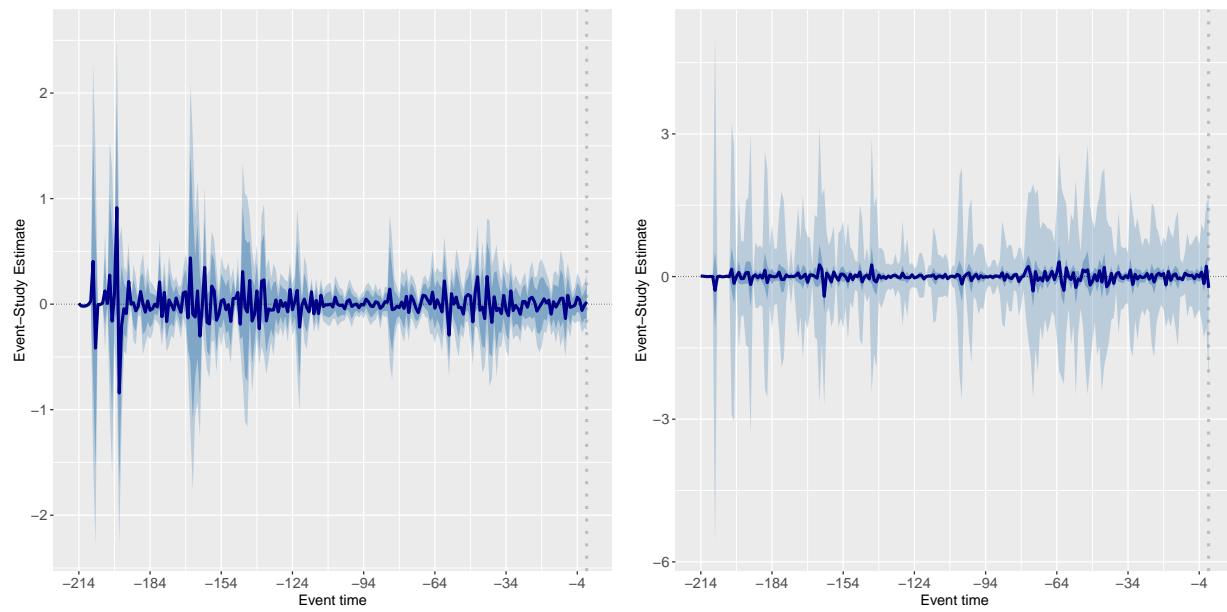
Figure A4: Timing - entrance.



(a) DV - Total violent events by the state.
Cell - same.

(b) DV - Total violent events by rebels.
Cell - same.

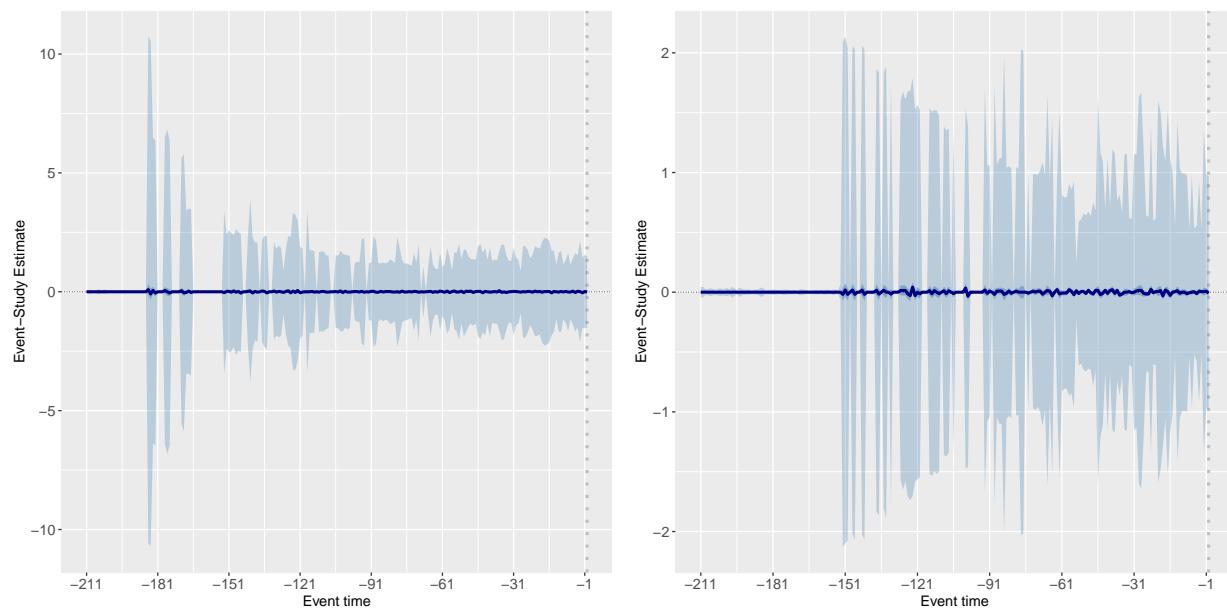
Figure A5: Timing - leave.



(a) DV - Total violent events by the state.
Cell - neighbor.

(b) DV - Total violent events by rebels.
Cell - neighbor.

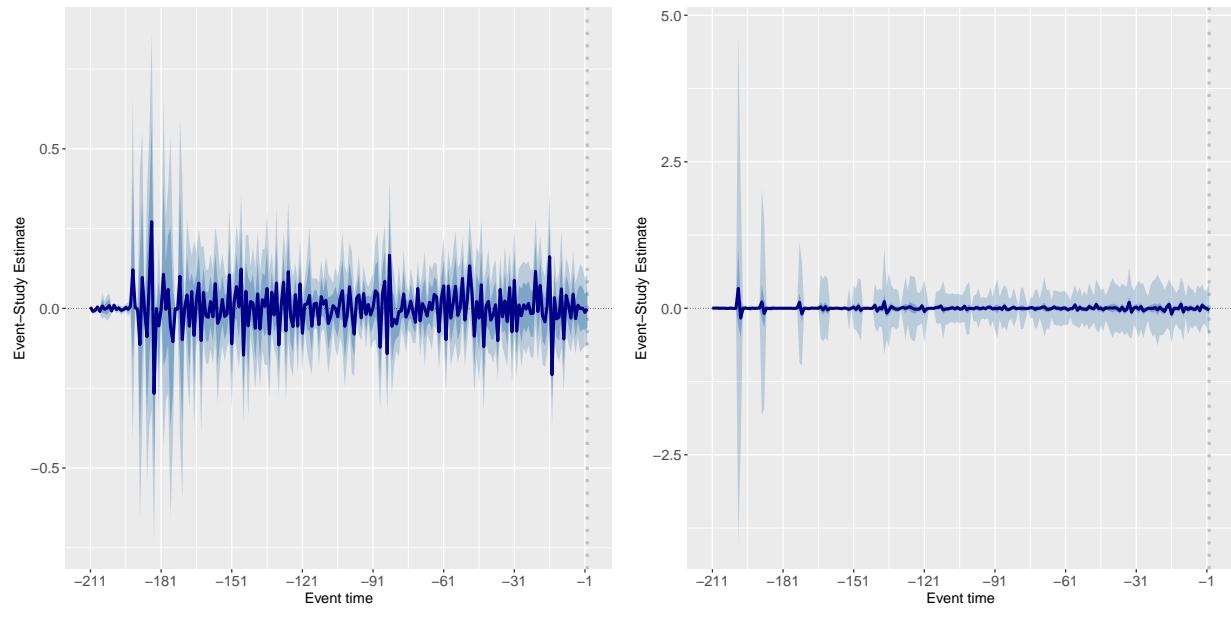
Figure A6: Timing - leave.



(a) DV - $\text{Pr}(\text{violent event})$ by the state.
Cell - same.

(b) DV - $\text{Pr}(\text{violent event})$ by rebels.
Cell - same.

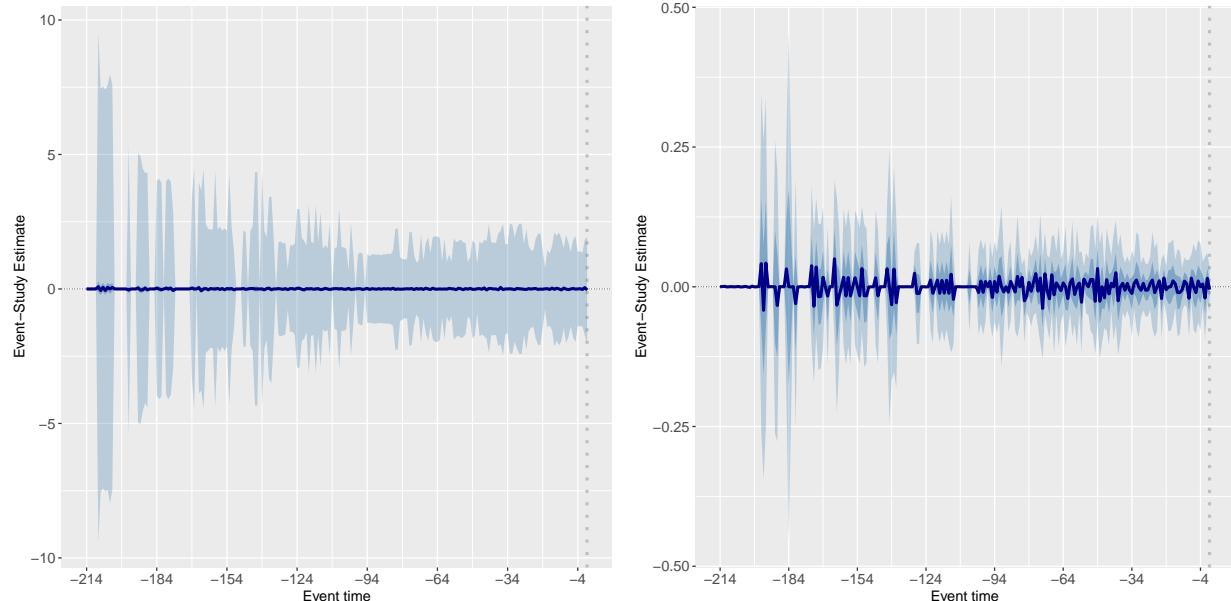
Figure A7: Timing - entrance.



(a) DV - $\text{Pr}(\text{violent event})$ by the state.
Cell - neighbor.

(b) DV - $\text{Pr}(\text{violent event})$ by rebels.
Cell - neighbor.

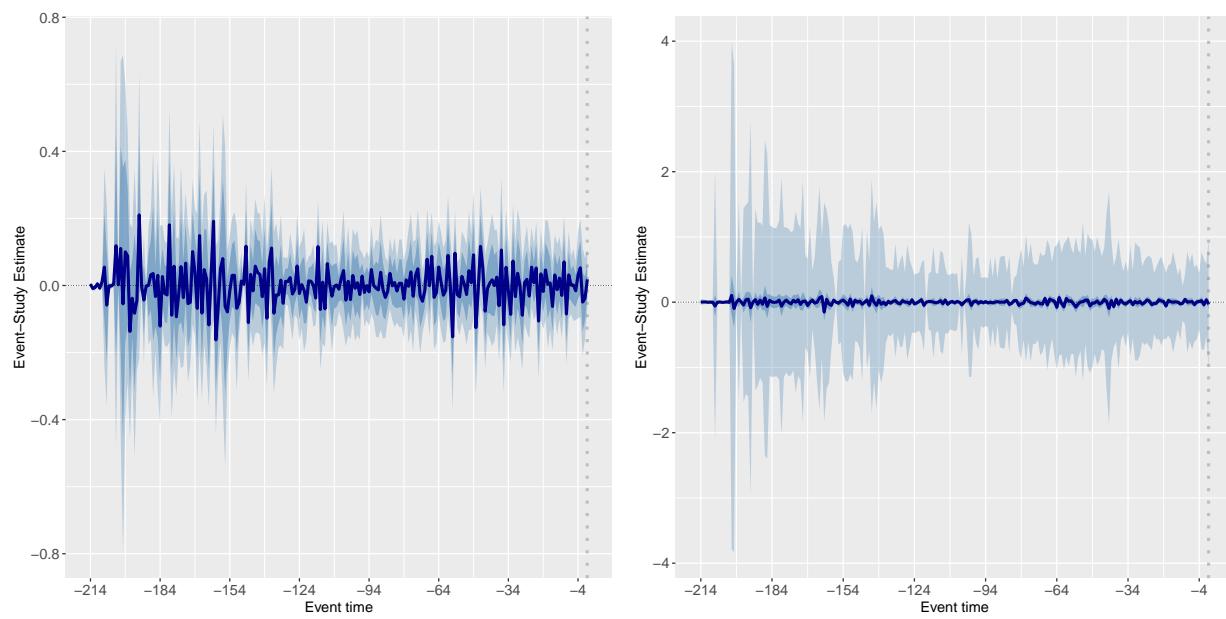
Figure A8: Timing - entrance.



(a) DV - $\text{Pr}(\text{violent event})$ by the state.
Cell - same.

(b) DV - $\text{Pr}(\text{violent event})$ by rebels.
Cell - same.

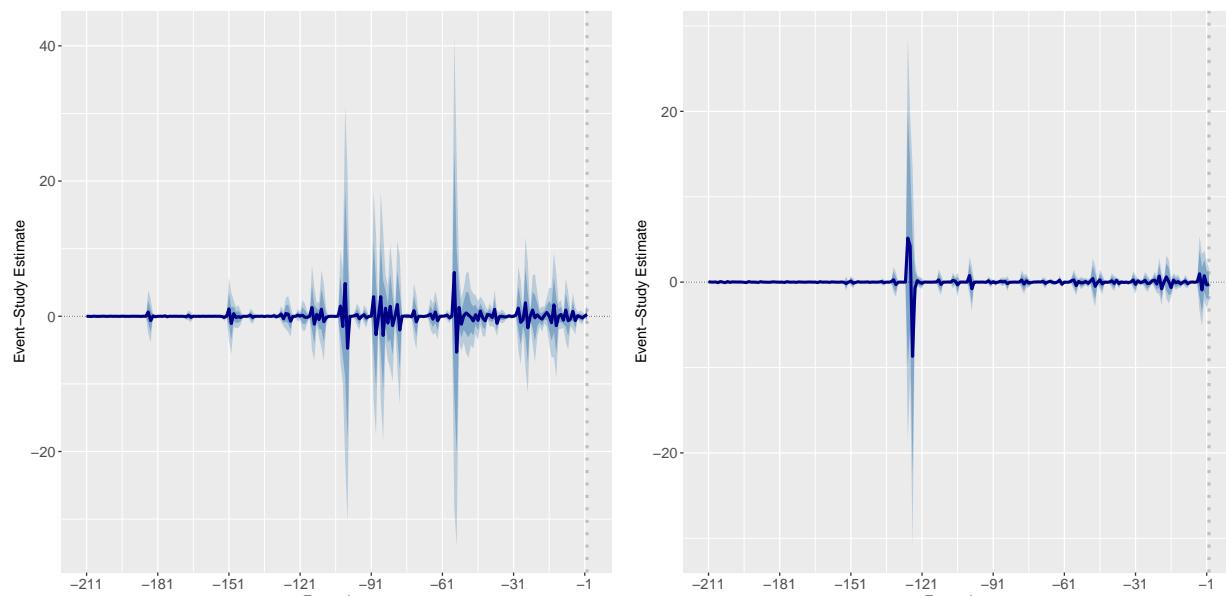
Figure A9: Timing - exit.



(a) DV - $\text{Pr}(\text{violent event})$ by the state.
Cell - neighbor.

(b) DV - $\text{Pr}(\text{violent event})$ by rebels.
Cell - neighbor.

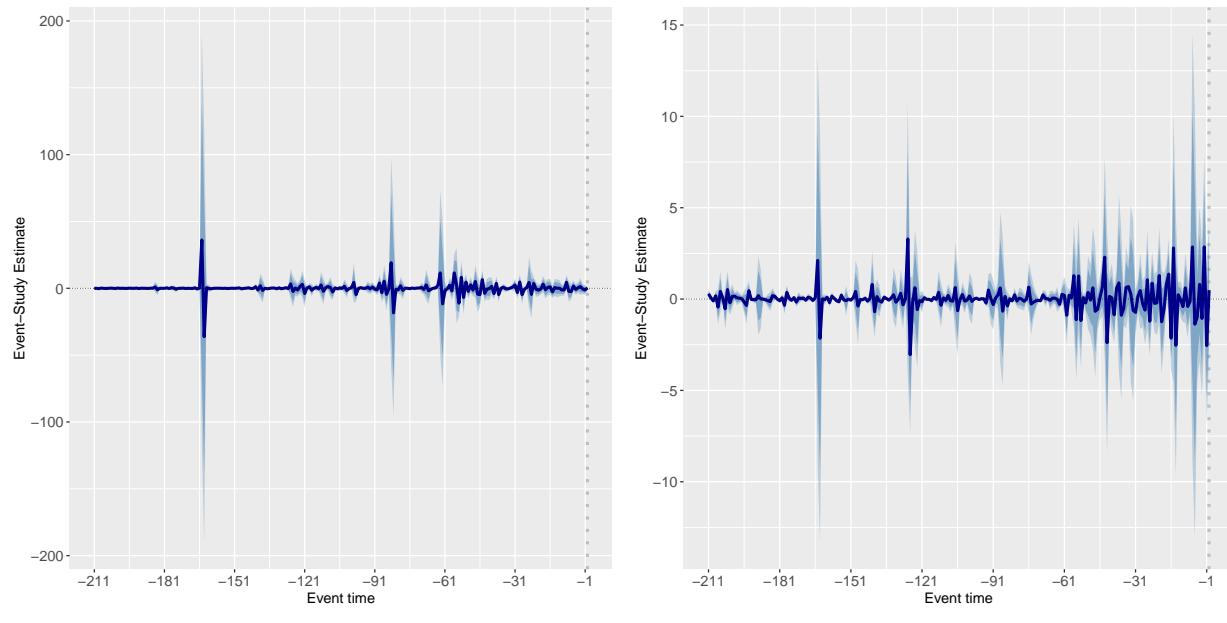
Figure A10: Timing - exit.



(a) DV - Total deaths by the state.
Cell - same.

(b) DV - Total deaths by rebels.
Cell - same.

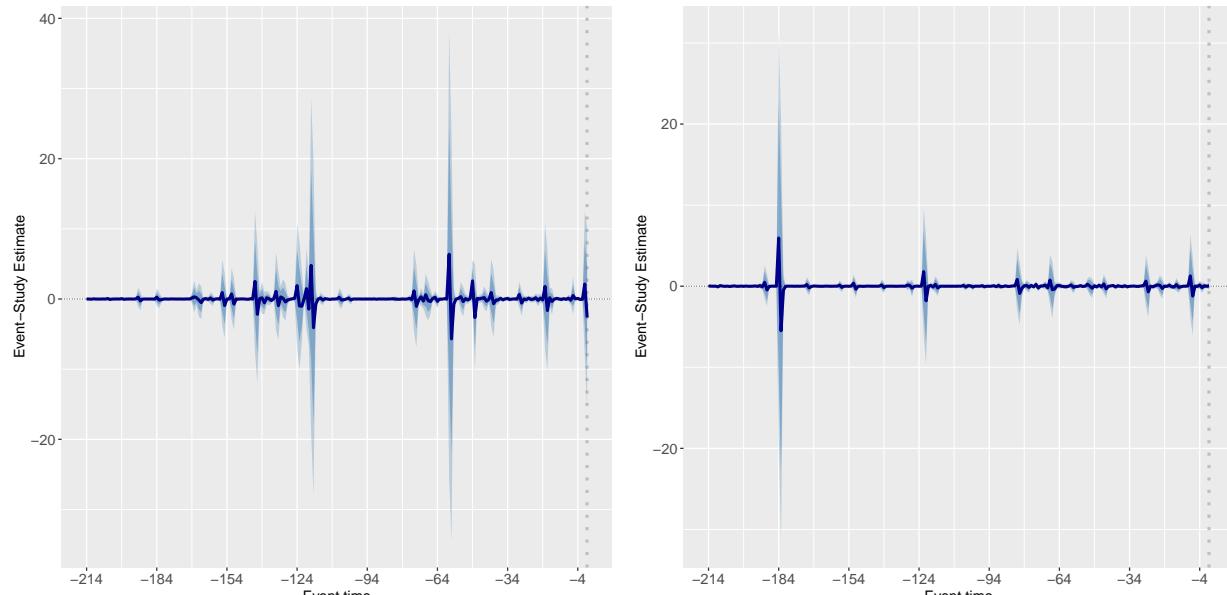
Figure A11: Timing - entrance.



(a) DV - Total deaths by the state.
Cell - neighbor.

(b) DV - Total deaths by rebels.
Cell - neighbor.

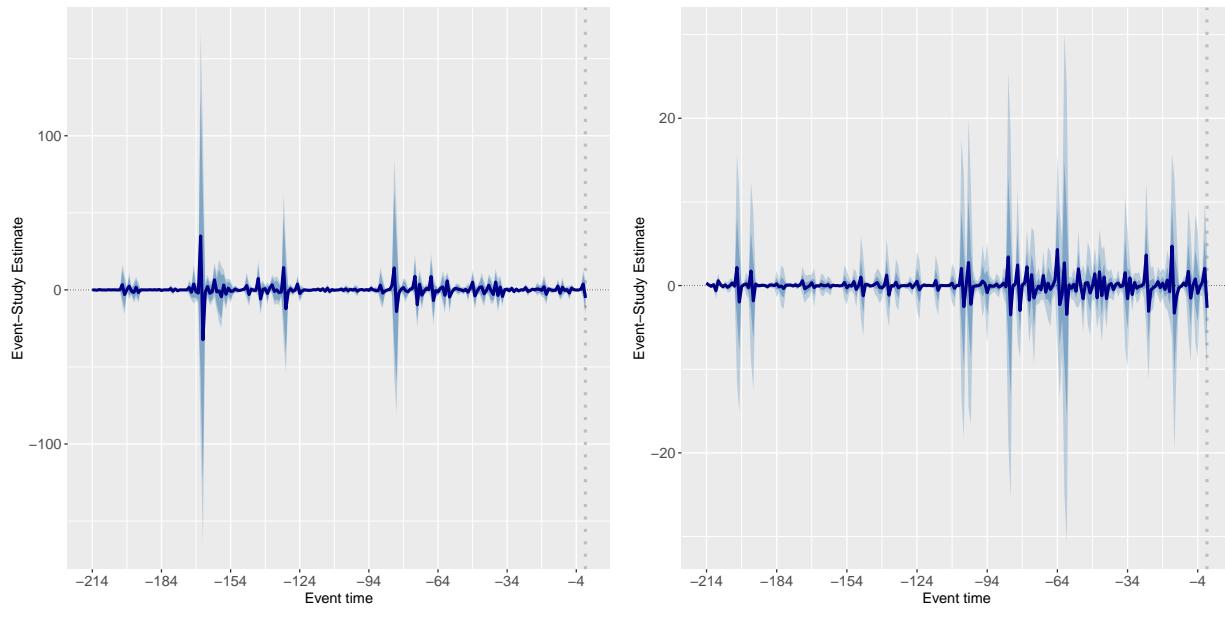
Figure A12: Timing - entrance.



(a) DV - Total deaths by the state.
Cell - same.

(b) DV - Total deaths by rebels.
Cell - same.

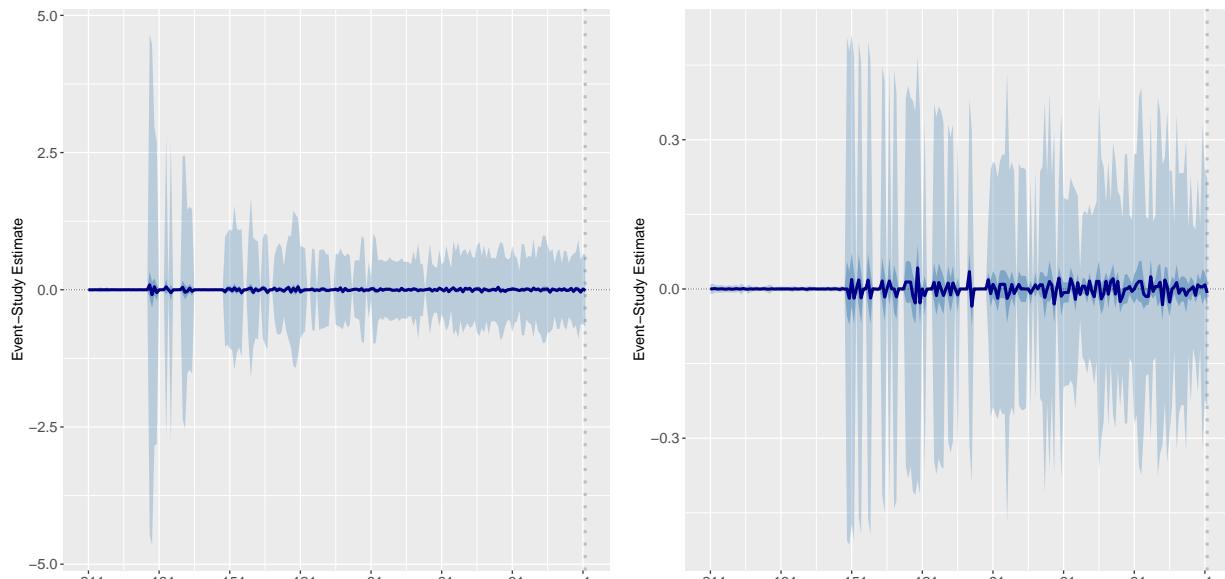
Figure A13: Timing - leave.



(a) DV - Total deaths by the state.
Cell - neighbor.

(b) DV - Total deaths by rebels.
Cell - neighbor.

Figure A14: Timing - leave.



(a) DV - $\Pr(\text{death})$ by the state.
Cell - same.

(b) DV - $\Pr(\text{death})$ by rebels.
Cell - same.

Figure A15: Timing - entrance.

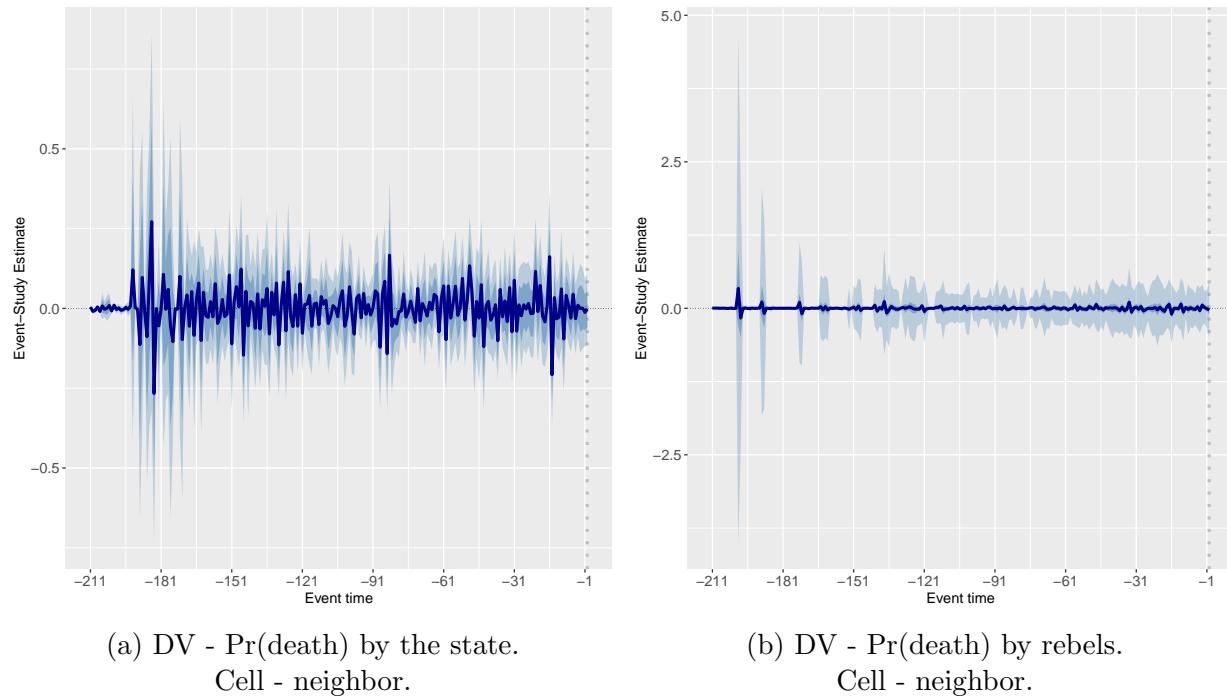


Figure A16: Timing - entrance.

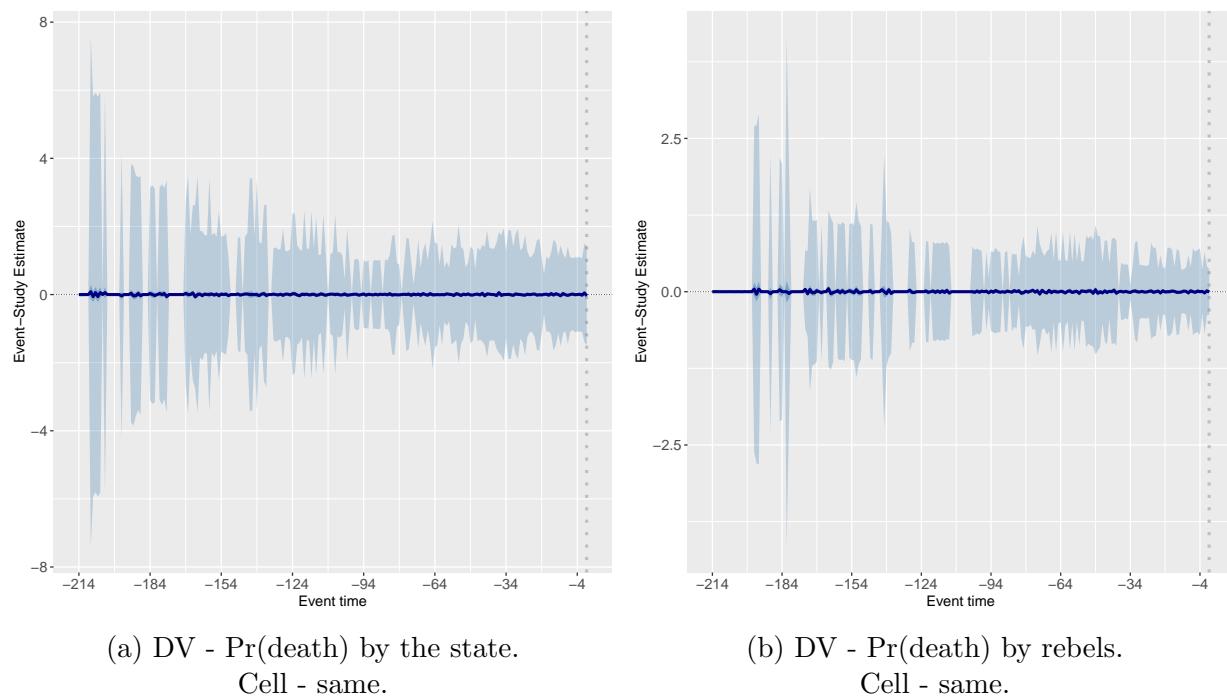


Figure A17: Timing - exit.

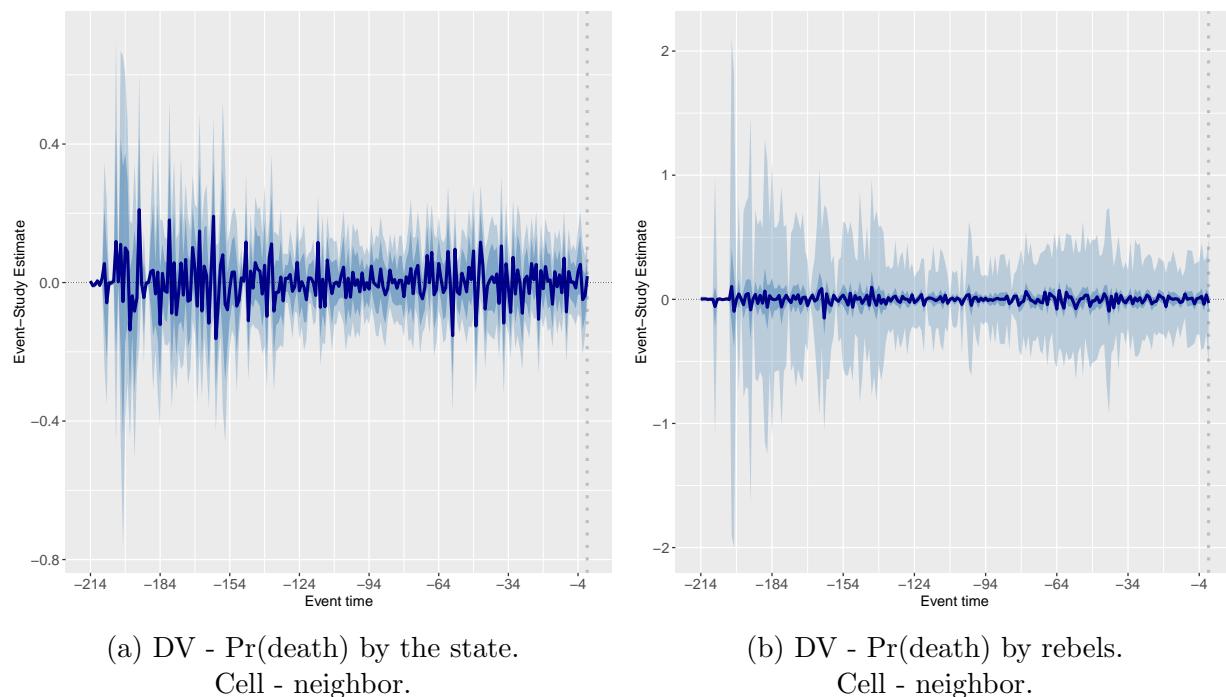


Figure A18: Timing - exit.