UN Peacekeeping and Varieties of Violence

Evidence from the Border between Burkina Faso and Mali

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Abstract

Though a large body of research finds that UN peacekeeping operations promote peace, newer work calls this finding into question. We address this tension in the literature with a new theoretical framework that distinguishes between different forms of violence and a novel empirical strategy that can disentangle the causal effects of peacekeeping. Since intrastate wars tend to have many different armed actors, civilian and military victims, and varying repertoires of violence, understanding how peacekeeping works within a multifaceted, complex setting is a pressing concern. We argue that the deployment of UN peacekeepers to resolve one type of violence may unintentionally cause the outbreaks of other types of violence. To test our argument, we examine the case of Mali, the site of a robust, multidimensional UN peacekeeping operation as well as large-scale violence of all kinds since 2013. We employ a geographic regression discontinuity design around the border of Mali and Burkina Faso to estimate the causal effect of deploying peacekeepers to an area beset by violence. We find that UN peacekeeping reduces violence between rebel groups as well as communal violence between civilians, but has no discernible impact on violence against civilians, regardless of the identity of the perpetrator. We also find no evidence that it decreases fighting between government forces and rebel groups.

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Introduction

An abundance of evidence demonstrates that United Nations peacekeeping operations enhance the prospects of peace in conflict and post-conflict settings (Walter, Howard and Fortna 2021). For example, previous studies have highlighted that UN peacekeepers make negotiated settlements in civil wars possible (Doyle and Sambanis 2006), deter belligerents from returning to violence (Fortna 2008), promote the rule of law (Blair 2020b), support power-sharing arrangements (Nomikos 2021), and bolster post-conflict democratization (Blair, Di Salvatore and Smidt 2022). Yet qualitative case studies of peacekeeping operations have questioned their effectiveness, particularly at the local level (Autesserre 2015; Lake 2022). Publics and policymakers in troop-contributing countries remain similarly skeptical, pointing to the spread of violence against civilians in fragile settings as proof positive of the failure of peacekeeping (Deutsche Welle 2022; Doxsee 2022). This article begins to bridge the gap between these conflicting views by proposing a theory and supporting it with causally identified evidence that explains how peacekeepers reduce some types of violence but not necessarily others.

Prominent ideas about the effectiveness of peacekeeping focus on how operations shape armed group violence (Fortna 2008; Ruggeri, Dorussen and Gizelis 2017), civilian victimization (Fjelde, Hultman and Nilsson 2019; Hultman, Kathman and Shannon 2020), or communal violence (Smidt 2020; Nomikos 2022) *in isolation*. However, we know relatively little about UN peacekeepers' ability to manage instability that results from different types of conflicts in the same setting, occurring at the same time.¹ We suggest that scholarly disagreements over the effectiveness of peacekeeping are driven by methodological challenges that have also hampered coherent theorizing. Case studies, qualitative research, and ethnographic accounts have pointed to outbreaks of civilian victimization in countries like the Democratic Republic of Congo (DRC) as evidence that UN peacekeeping in those countries is largely ineffective.

¹A potential exception is Hegre, Hultman and Nygård (2019).

Yet even some of these accounts concede that peacekeepers succeed at certain tasks. The key issue for researchers is that we cannot observe what a country's levels of violence would be *without peacekeepers*. Thus even a relatively high level of violence does not necessarily mean that peacekeeping has failed. Given that peacekeepers tend to deploy to the most violent areas, it is likely that levels of violence would be even higher if they were not there (Gilligan and Sergenti 2008; Ruggeri, Gizelis and Dorussen 2013). In addition to this selection issue, there may also be general confounding from unobserved omitted variables that bias estimates of UN effectiveness in unknown directions.

To address these challenges, we broaden the analytical lens to investigate how the deployment of UN peacekeepers affects the incentives facing different domestic conflict actors. We develop a theoretical framework incorporating a nuanced understanding of the specific practices of UN peacekeepers on the ground, informed by extensive field research conducted by one of the authors, into insights from existing research on international intervention (Fortna 2008; Hultman, Kathman and Shannon 2020; Bove, Ruffa and Ruggeri 2020). We begin by identifying three relevant domestic actors in conflict and post-conflict settings: (1) *governments* and their affiliated military or paramilitary forces, (2) *rebels* and their armed forces, and (3) *civilians* and any self-defense groups or communal militias representing those civilians.

Next, we explain how the deployment of UN peacekeepers affects the incentives of different actors to perpetrate violence. Our primary theoretical insight is that UN peacekeepers cannot eliminate *all* forms of violence because actions that reduce one type of violence increase another type. We highlight two countervailing mechanisms. First, the deployment of UN peacekeeping troops raises the costs of violence for rebels and civilians. Second, because the UN relies on the consent, cooperation, and collaboration of domestic governments to defend against rebel groups and civilian militias, it is unable to raise the costs of violence for governments and, unintentionally, may incentivize the government to attack civilians and rebels. Put otherwise, while UN collaboration with governments reduces violence by

rebel groups and civilians, it unintentionally increases violence by emboldened governments against civilians and rebel groups. For instance, following its initial deployment to Mali in 2013, the UN delegated much of the defense of central Mali to the Malian government and its military, the Forces Armées Maliennes (FAMA). From their bases in central Mali and UN peacekeeping headquarters in Bamako, the UN offered financial and logistical support to the Malian government and FAMA as a way to coordinate against rebel groups and protect civilians. However, FAMA went on the offensive, attacking rebel groups and even civilians from rival ethnic groups. In one case of note in July 2015, FAMA soldiers beat, tied up, and suspended by a pole 10 men from the minority Fulani ethnic group, including a 55-year-old Fulani chief, an important authority figure in the community.

To test our theory, we use a geographic regression discontinuity design (GRDD) to analyze original data on intrastate conflict in Mali and Burkina Faso, two West African countries plagued by instability over the past decade. In other contexts, experiments can solve causal identification problems because randomly assigning a treatment to units of analysis produces a sample that is balanced in expectation on a set of covariates. These experiments are typically not feasible in studies of peacekeeping since the UN does not assign its patrols at random. Regression discontinuity (RD) designs offer the next best approach—as-if random assignment of a treatment variable using observational data. Through careful research on the geography, history, and politics of the region, including field research by one of the authors, we identify a geographic discontinuity along the border between Mali and Burkina Faso, one of the world’s most permeable land borders. Although people and goods flow freely between the two countries, UN peacekeepers bound by international law remain in Mali, where the UN Security Council has authorized them to protect civilians by any means necessary. The border thus creates a geographic boundary that splits localities in the region into areas treated by peacekeeping and control areas not treated by peacekeeping as-if randomly.

We document five important findings. First, in line with prior research, we find that UN peacekeeping reduces conflict between rebel groups. Second, we also find that the UN

decreases violence between civilians, typically described as “communal violence.” Third, we find that UN peacekeeping has no effect or modestly increases government violence against civilians. Finally, counter to our own theoretical expectations, we find no evidence that the UN reduces rebel group violence against civilians. We caution against over-interpretation of this last set of findings because Mali is an especially difficult setting for UN peacekeeping, which we explain may account in part for the pervasive victimization of civilians. Together, our empirical analysis presents a nuanced picture of UN peacekeeping effectiveness that has clear tradeoffs. Although Mali is not devoid of violence and communities still suffer from severe conflict, the counterfactual case shows that peacekeeping operations prevent an important source of instability in the country.

This article extends existing research on the conditions under which the international community can reduce the fragility of post-conflict settings (Beath, Christia and Enikolopov 2013; Sexton 2016; Lyall, Zhou and Imai 2020). By considering the effect of UN peacekeepers on different types of violence altogether, this article advances scholarship on peacekeeping both theoretically and empirically. The study’s findings suggest that peacekeepers can decrease the intensity of some forms of violence but not others. Scholars have recognized the need for a method to overcome bias arising from selection and omitted variables; in response they have offered innovative parametric approaches that adjust for potential observable covariates of peacekeeping deployment and violence (Ruggeri, Dorussen and Gizelis 2017; Fjelde, Hultman and Nilsson 2019). However, these studies may still fail to obtain accurate causal estimates of peacekeeping effectiveness because they are unable to identify a plausibly exogenous source of variation.² Moreover, all these studies omit more recent conflicts or emphasize cross-national patterns at the expense of focused attention on micro-level data reflecting localized conflict. We advance these efforts by offering a credible identification strategy that incorporates micro-level data on different types of intrastate violence. This approach allows us to bridge the gap between prominent quantitative peacekeeping scholarship

²One exception is the work of Carnegie and Mikulaschek (2020).

on the one hand and incisive qualitative critiques on the other. Our findings validate and extend existing work, suggesting that our study is best understood as a complement to, rather than a replacement for, existing approaches.

Types of Violence in Conflict and Post-Conflict Settings

UN peacekeeping operations deploy to conflict and post-conflict settings where violence is multifaceted and complex. For clarity, we distinguish between three sets of relevant domestic actors in a conflict setting. First, we define *governments* primarily as the recognized representative of a regime that has control of the state. We include in this definition a state's official armed forces as well as any pro-government militias and paramilitary organizations. Second, we identify *rebels* as any non-state highly organized armed forces operating within a country's borders. Rebels typically compete for centralized control of the government or the separation of a political entity from government control. Third, we adopt Kalyvas's conceptual demarcation of civilians as "individuals who are not full-time armed members of a faction, [including] collaborators of various stripes, part-time fighters killed outside armed action, and unarmed prisoners" (Kalyvas 2006, p. 415).

The UN Security Council typically authorizes peacekeepers under Chapter VII of the UN Charter to stop fighting between armed groups. Most often, this violence is between an incumbent government or its military and at least one rebel group. For example, the clashes between the army of the Republic of South Sudan (SSPDF), namely the South Sudan People's Defence Forces, and the National Salvation Front, a South Sudanese militant group, are between an incumbent government and a rebel group. However, there could also be fighting between rival rebel groups themselves. For instance, the clashes between al-Qaeda in the Maghreb (AQIM) and Movement for the Salvation of Azawad (MSA) in Mali are a type of fighting between rival rebel groups.

Even though separatist conflicts and religious extremists grab the headlines, civilians

have borne the brunt of violence in various fragile settings in the post-Cold War era. Armed groups target civilians for several reasons, including to secure their cooperation, consolidate control over an area, exact retribution, and gain the upper hand at the bargaining table. Civilian victimization is thus unlikely to diminish in the future. Consider the case of the Democratic Republic of Congo. For 25 years, the country has been suffocating under the yoke of local and foreign armed groups, with more than 10 million deaths. Yet 2022 is considered one of the deadliest years by the UN Security Council ([UNSC 2023](#)).

While rebel groups are the most frequent perpetrators of violence against civilians, government and government-affiliated forces victimize civilians as well ([Fjelde, Hultman and Nilsson 2019](#)). For example, according to the UN's own estimates, the SSPDF has committed 27% of the conflict-related sexual violence incidents affecting civilians ([UNSC 2021](#)). The United Nations Mission in South Sudan (UNMISS) documented 193 cases of conflict-related sexual violence affecting 142 women, 46 girls and 5 men. A further 25 cases, which occurred between 2014 and 2019, affecting 14 women, 8 girls and 3 men, were also verified in 2020.

In recent years, civilians themselves have taken up arms, organizing self-defense groups and communal militias that engage in lethal violence. Participants of communal violence are individuals or social groups operating independently of the state with low levels of organizational complexity ([Krause 2018](#)). Groups typically organize around a common identity, such as race, ethnicity, clan, or tribe ([Sundberg, Eck and Kreutz 2012](#)). In sub-Saharan Africa, these groups often fight for control over land for agricultural production or cattle herding. The sources of the initial conflicts vary; traditional land boundaries may come into conflict with formal land boundaries, civil wars or mass droughts may displace groups of people, and political parties or armed groups may intentionally seek to ethnicize communal disputes. For example, in the Jonglei region of South Sudan, 200 kilometers north of Juba, bordering Ethiopia, disputes over land between two cattle herding communities have become especially violent. These groups often use attacks or threats of attack to resolve disputes.

In January 2022, an armed militia raided cattle in a Jonglei village—killing 33, including 4 children—in retaliation for an earlier cattle raid.³

Countervailing Mechanisms of Peacekeeping

Existing Research

Prior cross-national research has documented a robust positive relationship between the deployment of peacekeepers and post-conflict peace (Walter, Howard and Fortna 2021). Scholars have noted the ability to contain the spread of violence across borders (?), limit violence against civilians (Hultman, Kathman and Shannon 2020), bring armed groups to the negotiating table (Fortna 2008), and bolster intergroup cooperation between civilians (Nomikos 2022). Previous research has offered several mechanisms explaining the robust connection between peacekeeping and peace. For instance, some research has highlighted the importance of rapidly deploying peacekeepers from military bases to limit violence in conflict settings (Ruggeri, Dorussen and Gizelis 2017; Fjelde, Hultman and Nilsson 2019; Hultman, Kathman and Shannon 2020). Other work has emphasized the UN’s ability create legal frameworks that secure the conditions necessary for the rule of law to thrive (Blair 2020a). Related research highlights the political and economic incentives that interveners embed into peace agreements and negotiations (Dayal 2021; Matanock and Lichtenheld 2022). UN peacekeepers can also provide conceptual maps that help post-conflict states hold elections and forge power-sharing agreements (Matanock 2017; Nomikos 2020). Similarly,

³“UN condemns attack that killed more than 30 in South Sudan," <https://www.aa.com.tr/en/africa/un-condemns-attack-that-killed-more-than-30-in-south-sudan/2484523>; *Al Jazeera*, “Dozens including children killed in South Sudan violence," January 25, 2022, <https://www.aljazeera.com/news/2022/1/25/dozens-including-children-killed-in-south-sudan-violence>.

UN peacekeepers can deploy international monitors to increase the legitimacy of post-conflict elections (Hyde 2011; Bush and Prather 2022). Accounts of efforts to end civil wars have also identified international civilian attempts to reduce communal violence (Blattman, Hartman and Blair 2014; Smidt 2020). A related argument emphasizes the importance of having information about a conflict setting, including the local culture and the dynamics of conflict resolution (Bove and Ruggeri 2019; Bove, Ruffa and Ruggeri 2020).

However, the available qualitative evidence suggests a far more mixed record regarding the UN’s effectiveness (Autesserre 2010; Howard 2019; Lake 2022). Some of this work highlights the limitations of UN peacekeepers in employing coercive force to stop armed groups in conflict settings. For instance, Howard (2019) shows that there is variation in the success of the use of coercion even within one case, the Central African Republic. Some skeptics question the entire enterprise of peacekeeping. Autesserre (2015) argues that peacekeepers’ everyday practices, embedded in the institutional behavior of the organization itself, prevent them from promoting peaceful outcomes, regardless of how many resources they have at their disposal. She maintains that peacekeepers arrive in conflict zones with little local knowledge and do not acquire sufficient information about the culture in which they are expected to keep the peace. Other prominent criticisms of international intervention have questioned whether intervention produces legitimate institutions or reduces the incidence of conflicts at all (Lake 2016; Russell and Sambanis 2022).

We suggest that these apparent disagreements stem from the complexity of modern peacekeeping operations, which often succeed at some things while failing at others. Moreover, while qualitative accounts offer important insights that add nuance to the findings in the cross-national quantitative scholarship, they provide an incomplete picture of the effectiveness of UN peacekeeping. Although it is true that civilian victimization has occurred in areas to which peacekeepers have been deployed, we do not know how would it have been had the UN peacekeepers not been deployed. Some of the apparent disagreements between cross-national and qualitative evidence also likely arise from differences in the type of violence analyzed.

Though past research examines each type of violence in isolation, the complexity of violence in the conflict and post-conflict settings where the UN deploys suggests that a more holistic approach is needed to fully understand the multifaceted effect of UN peacekeeping operations.

How UN Peacekeepers Shape Costs of Violence

We argue that the very same practices that help UN troops reduce some types of violence also lead to the persistence of other types of violence. We highlight two countervailing mechanisms. On one hand, the deployment of UN peacekeeping troops raises the costs of violence for rebels and civilians. On the other, because the UN relies on the consent, cooperation, and collaboration of domestic governments to defend against rebel groups and civilian militias, it is unable to raise the costs of violence for governments and, unintentionally, may incentivize the government to attack civilians and rebels. We discuss each of these mechanisms in turn.

UN Raises Costs of Violence by Rebel Groups and Civilians

When the UN Security Council approves a peacekeeping operation, UN force commanders establish a number of bases in the country of operation according to the preferences of troop-contributing countries. These bases tend to remain in place for the duration of the mission ([Blair 2020b](#)). Force commanders also establish temporary operating bases from which to deploy their forces to more remote locations. Peacekeepers conduct weekly patrols along set routes from these permanent and temporary bases. For example, in August 2020 a company of Bangladeshi peacekeepers from the United Nations Mission in South Sudan established a temporary operating base in the rural town of Tonj in the center of South Sudan following reports of violence in the area. The peacekeepers began regular patrols in the area that successfully enforced peaceful interactions between communities ([Dumo 2020](#)).

Peacekeepers' physical presence increases the costs of violence for rebel groups. Peacekeepers can establish buffer zones that prevent armed groups from attacking other armed groups or

civilians in conflict settings (Hultman, Kathman and Shannon 2020). Local actors respond to peacekeepers' apparent resolve—i.e., the probability that a peacekeeper will use force if a violent event occurs—and the greater the number of peacekeepers, the more likely local actors are to practice restraint. Although UN peacekeepers rarely use offensive force, this does not mean they are not mandated or allowed to do so. The UN estimates that more than 95% of all deployed peacekeepers are mandated to use force, even if this involves using force against a party in a local conflict (UN Department of Peace Operations 2020).

Hypothesis 1 *UN peacekeepers reduce violence between rebel groups.*

UN peacekeeping mandates have recently expanded to include the protection of civilians in recognition of the unique and severe dangers that civilians face. In November 2019, the UN adopted the Protection of Civilians mandate for its peacekeeping operations, codified in *The Protection of Civilians in United Nations Peacekeeping* handbook (UN Department of Peace Operations 2020). This handbook details the strategies and tactics peacekeepers employ in the field to protect civilians, and forms part of their training. They can also deter armed groups from attacking civilians where those groups already exist (Ruggeri, Dorussen and Gizelis 2017; Nomikos 2022) or defend civilians when armed groups attack (Fjelde, Hultman and Nilsson 2019).

Hypothesis 2 *UN peacekeepers reduce violence against civilians by rebel groups.*

Next, we argue that UN peacekeepers raise the costs of civilians that choose to violently resolve a communal dispute through self-defense groups, militias, or other paramilitary organizations. When community members peacefully dispute a local issue, they face the same critical decision regardless of the nature of the disagreement: resolve the dispute peacefully or escalate it violently. If an individual chooses to escalate a dispute, there are several available options. They may directly attack the other party or call on allies associated with their family, clan, tribe, or ethnic group. In conflict settings, the presence of armed militias or rebel

groups presents an additional option: calling upon an armed group for reinforcement. The actors involved may use lethal violence or a wide-ranging, non-lethal repertoire of violence, including sexual violence, torture, kidnapping, and forced displacement (Wood 2006; Lindsey 2022). In this way, a local-level dispute about an ostensibly trivial issue such as land, stolen goods, or market prices can involve groups that operate at a higher level. If they escalate in this way, communal disputes can manifest in various ways—as riots, communal clashes, pogroms, or massacres.

UN peacekeepers affect this calculation by deterring civilian use of violence (Nomikos 2022). Peacekeepers do what domestic security institutions are unable or unwilling to do—draw a clear line between violence used in intergroup interactions and the punishment of such violence. The message to locals is that if they use violence, peacekeepers will respond in kind or detain them. Even when disputes are far from violent, the presence of peacekeepers discourages aggression that may lead to bloodshed. For example, a company of Mongolian peacekeepers set up a temporary operating base in the northern town of Mayom in February 2021 after UN force commanders learned about cattle raids in the area. Patrolling from the base, the peacekeepers monitored ongoing disputes and reacted rapidly when they thought they were likely to escalate. After a dispute in a nearby town they had been monitoring escalated in April 2021, peacekeepers deployed to the area within 3 hours to prevent violence. (Dumo 2020; UN News 2020). Their deployment stopped more serious outbreaks of communal violence.

Hypothesis 3 *The presence of UN peacekeepers reduces levels of communal violence.*

UN Does Not Raise Costs of Violence by Governments

However, peacekeepers' physical presence doesn't necessarily increase the costs of violence for the government. If anything, it may reduce these costs. To begin with, UN peacekeeping operations require government consent to operate, deploy, and carry out necessary functions at the tactical, operational, or strategic level. Governments hold substantial leverage over

peacekeeping operations. Therefore, they may not be deterred by the threat of peacekeeping violence. Because they have so much leverage, governments can steer peacekeepers away from areas where they want to commit violence or hinder peacekeepers from carrying out their duties (Fjelde, Hultman and Nilsson 2019). UN peacekeepers are also required to cooperate with the government “in accordance with the military ROE (rules of engagement) and the police DUF (Directives on Detention, Searches and Use of Force), including to apprehend and temporarily detain hostile persons or groups and, where appropriate, hand them over to the national authorities (UN Department of Peace Operations 2020, p. 141).”

Similarly, peacekeepers work with local authorities to consolidate the gains from peace once violence against civilians has subsided. For these reasons, UN peacekeeping operations may unintentionally empower and embolden governments to perpetrate violence with impunity. Indeed, atrocities by state governments, militaries, and their militias have become increasingly common in peacekeeping settings (Nomikos and Villa 2021). Finally, the UN’s very emphasis on post-conflict institution-building may enable violence by providing wartime elites another avenue through which to further their personal agendas (Lake 2017).

Hypothesis 4 *UN peacekeepers increase violence against civilians by governments.*

We argue that this logic also shapes violence between rebel groups and government forces. Although governments typically sign peace agreements with rebel groups during the deployment of peacekeeping operations, these agreements rarely mark the end of all fighting between armed groups. For example, South Sudanese President Salva Kiir signed a peace agreement with his chief opponent, Riek Machar, in 2020, pledging an end to the civil war that had directly killed more than 50,000 people and indirectly led to the deaths of nearly 500,000 civilians since South Sudan declared independence in 2011. Unfortunately for its residents, the agreement did not end fighting in South Sudan. Outbreaks of violence throughout the country killed thousands and displaced tens of thousands more in 2020 and 2021 was the deadliest year to date, with almost 25,000 people killed. Although UN

peacekeepers raise the cost of violence for rebel groups, they do not do so for governments and their affiliated militias and paramilitary groups. As a result, though the deployment of peacekeepers may deter rebel groups from attacking government forces, it will not stop government forces intent on attacking rebel groups. And so, we expect that UN peacekeepers will have no cumulative effect on violence between government forces and rebel groups.

Hypothesis 5 *UN peacekeepers have no effect on violence between government forces and rebel groups.*

Context

We test our hypotheses using data from Mali and Burkina Faso, two West African countries that share a border of approximately 1,300 km, a significant part of which has been historically disputed.⁴ Although outside observers long considered Burkina Faso and Mali models of coexistence in sub-Saharan Africa (Englebert 1998; Wing 2013), ethnic and religious conflicts have severely destabilized both countries in recent years. According to data from the UN, intrastate conflict has claimed the lives of almost 5,000 people in Burkina Faso and 10,000 in Mali since 2012. Violence has further displaced a total of 2.5 million people across both countries. Although the instability began with a separatist conflict led by the Tuareg minority in northern Mali, the violence has since spread to central Mali and across the border to Burkina Faso (Nomikos 2020).

Islamist extremist organizations have further exacerbated tensions between ethnic groups in both countries. In Mali, relations between dominant “Mandé”⁵ ethnic groups and the minority Tuareg and Fulani ethnic groups have long structured the country’s politics. In recent years, extremists have used attacks by the government to gain new adherents, especially among the Fulani (Tull 2019). In turn, the spread of extremists that recruit among Fulani

⁴See Appendix A for extended discussion of border.

⁵Mandé denotes a culture shared by a majority of Malians (Conrad and Conde 2004).

(a) Satellite image, border
(Source: Google Maps)

(b) Satellite image, part of the border
(Source: Google Maps)

Figure 1: Burkina Faso–Mali border

has inspired the creation of Mandé “self-defense” militias ([Diallo 2017](#)). Similarly, Islamist extremist groups in Burkina Faso have taken advantage of longstanding Fulani grievances against the central government dominated by the Mossi ethnic group ([Idrissa 2017](#)). They overwhelmingly attack Mossi civilians to sustain the support of radicalized Fulani. As in Mali, the government of Burkina Faso and Mossi paramilitaries have retaliated against Fulani civilians for their perceived support of militants ([Grossman, Nomikos and Siddiqui 2021](#)).

In 2013, the UN Security Council established the United Nations Stabilization Mission in Mali (MINUSMA) under a Chapter VII mandate, which authorizes peacekeepers to limit armed group violence and protect civilians in Mali. Specifically, MINUSMA employs military and police peacekeepers who are authorized to use force to protect civilians. MINUSMA short-range patrols give target communities an opportunity to report crimes and register local grievances. For example, UN police in major population centers have routine, daily patrolling routes that they use to monitor ongoing interactions and disputes between Malians from different ethnic groups. Additionally, MINUSMA deploys long-range patrols that accompany Malians to weekly markets outside of major population centers to encourage trade and

protect them from intergroup predation.⁶ For instance, UN patrols in central Mali routinely accompany cow herders to markets outside secure city centers to ensure the herders and the farmers they interact with at these markets do not cheat or steal from their trading partners, who are frequently from another ethnic group.

The proliferation of various kinds of political actors and armed groups allows us to study the outbreak of different types of violence *in the same context*, thus facilitating controlled comparisons. As we discuss in much greater detail below, while people and goods move freely across the border, UN peacekeepers cannot since they must abide by international law. This legal precedent provides a unique opportunity to examine how the presence of UN peacekeepers has affected levels of conflict while avoiding observable and unobservable sources of bias due to confounders.

In addition, Mali is an especially difficult test case of UN peacekeepers' ability to reduce levels of violence. Many fragile settings around the world have some but not all of the types of violence discussed here. UN peacekeepers must be prepared to face highly organized extremist organizations, less organized self-defense militias deeply rooted in Malian communities, and government forces that routinely commit atrocities against civilians. Indeed, while many of the challenges peacekeepers in Mali face are typical of the obstacles the UN faces around the world, instability in Mali poses a serious threat to peacekeepers. More peacekeepers have died there than in any other peacekeeping operation since 2013, the year it deployed. This constellation of threats should bias against detecting any effect of UN peacekeeping in Mali. For these reasons, we expect the findings presented in this study to generalize to other conflict and post-conflict settings with UN peacekeeping operations.

⁶Author interview with MINUSMA official. See Appendix D for discussion of qualitative interview data.

Data

The geographic unit of analysis is a grid cell approximately $10\text{km} \times 10\text{km}$. We use a grid rather than a particular political unit such as a district or village because violence sometimes breaks out in unmarked rural areas. To compensate for the inaccuracies of any single data source (Shaver et al. 2022) and to capture the broadest possible spectrum of violence, we merge data from the Uppsala Conflict Data Program (UCDP) Georeferenced Event Dataset (GED) (Sundberg, Eck and Kreutz 2012), the Armed Conflict Location & Event Data Project (ACLED) (Raleigh et al. 2010), the Global Terrorism Dataset (LaFree and Dugan 2007), and the Social Conflict Analysis Database (Salehyan et al. 2012) to operationalize our dependent variables.

We combine these data sets by matching all events by location, time, and type ranging from 2014 through 2020. To minimize the double counting of events, we use a deterministic algorithm to identify groups of two or more events from the datasets that could refer to the same incidents. The algorithm flags all potentially identical events using features such as actor identity, event type, or confidence in the dataset’s geocoding.⁷ After running the program, we manually examined each observation to confirm the precision and accuracy of the data. Next, we hand code the actors involved in every observation in our data set and divide the observations into three categories based on whether the perpetrator of the violence is the government or a non-state armed group and whether the victims are civilians or armed groups.

First, we code *government violence against civilians* as instances when the security forces of the governments of Mali or Burkina Faso attack civilians. Second, *violence between government and rebels* as instances when the security forces of the governments of Mali or Burkina Faso clash with extremist groups such as ISIS and al-Qaeda in Maghreb (AQIM). Third, *violence between rebels* refers to violent clashes between heavily organized extremist

⁷We use the `meltt` package in R to run the algorithm (Donnay et al. 2019).

armed groups or lightly organized militias. Fourth, *rebel violence against civilians* denotes organized extremist groups’ violence against civilians. Fifth, we code instances of non-state *communal violence*, most of which is armed banditry underscored by long-standing communal tensions or motivated by interpersonal grievances or criminal intent. Sometimes the perpetrator is identified as a violent extremist, and sometimes local militias attack another community claiming that an extremist hid there.

We also gathered data on covariates related to the level of violence in these areas and the two countries. First, we control for the average slope and elevation of the terrain within a grid cell to capture the ruggedness of the terrain (Danielson and Gesch 2011). These factors account for the fact that some areas may be more conflict prone because they are more easily accessible. Second, we control for the average annual rainfall within a grid cell (Harris et al. 2020), since drought can drive violence at the local level (Detges 2016). We also control for the level of nighttime light emissions measured by satellite in 2011. Nightlights are a proxy for economic activity, and areas with differing levels of economic development may experience different rates of violence. We use data from 2011 to avoid potential post-treatment bias because the conflict in Mali began in 2012. These data come from the Defense Meteorological Satellite Program Operational Linescan System (Elvidge et al. 2009). Finally, we control for the total population within a grid cell (CIESIN 2015). We list the summary statistics for these covariates for all grids within 50 km of the border in Table 1.

Research Design

We identify the effect of peacekeeping patrols using a geographic RD design (Keele and Titiunik 2015; Albertus 2020; Henn 2021). The GRDD measures the local average treatment effect at a geographic boundary that splits observations into treated and control areas as-if randomly. In this section, we describe the approach in greater detail, investigate the validity of our central identifying assumptions, and outline our estimation strategy. We also consider

Table 1: Summary statistics of all grids within 25 km of the border

	mean	sd	min	max	N
Outcome variables					
Events (communal violence)	0.84	2.18	0.00	18.00	546
Events (rebels v. rebels)	0.15	0.52	0.00	4.00	546
Events (rebels v. civilians)	0.46	1.30	0.00	11.00	546
Events (government v. civilians)	0.12	0.62	0.00	9.00	546
Events (government v. rebels)	0.52	1.95	0.00	26.00	546
Explanatory variables					
Border distance	-0.14	14.21	-24.59	24.97	546
Slope	0.33	0.29	0.02	2.29	546
Elevation	322.88	67.91	251.17	558.65	546
Travel time	6.23	4.38	1.02	34.01	546
Rainfall	0.01	0.04	0.00	0.20	546
Nighttime lights	0.90	8.38	0.00	132.47	546
Population	28.73	18.99	2.22	248.89	546

potential challenges associated with identifying a causal effect using this approach.

Continuity and Discontinuity Assumptions

In implementing a GRDD using the Mali–Burkina Faso border, we assume that there exists a *continuity* in the assignment of all factors *with the exception of UN peacekeeping* that may be associated with violence. Put otherwise, we should expect all observable and unobservable confounders to be balanced across the border.

For most of the border, boundaries are barely noticeable on the ground. Mali and Burkina Faso are low-state-capacity countries; both central governments have a minimal institutional presence near the border. Figure 1 depicts the lack of infrastructure near the border. According to ongoing work by Michael Kenwick and Beth Simmons, there are only two developed border crossings between the two countries, and the border as a whole is one of the least fortified in the world.⁸ We restrict the sample to the territory around the border between those two crossings, which is not distinguishable on the ground.

⁸Authors’ correspondence with Kenwick.

We further assume that there exists a *discontinuity* in the treatment (UN Peacekeeping Operations) such that it is assigned as-if randomly on one side of the border (Mali) but not the other (Burkina Faso). Since peacekeepers cannot cross the border, comparing grids on either side allows us to measure the impact of peacekeepers on the Mali side. There are at least four reasons to expect this assumption to hold.

First, international law only allows UN peacekeepers to maintain a presence within the country the UN Security Council has authorized them to operate in. The Security Council authorizes peacebuilding operations like the one in Mali under Chapter VII of the UN Charter. These authorizations give each mission a mandate to provide temporary, physical security to citizens in the aftermath of civil war and to create new (or bolster existing) formal or informal institutions that can peacefully resolve new disputes or conflicts that arise. The legal authority of such mandates rests upon the domestic government's consent to allow the UN to deploy foreign peacekeepers within its borders. Given that peacekeeping operations necessarily breach the sovereignty of states, a foundational UN principle, peacekeeping operations require the consent of the domestic government in order to lawfully deploy troops. In the context of this study, this means UN peacekeepers are legally allowed to patrol in Mali, but not Burkina Faso.

Second, UN peacekeepers adhere very strictly to international law for fear of sanction by superior officers. Unlike other criminal activities like sexual and gender-based violence, for which UN peacekeepers have faced less scrutiny from their commanders, breaching the sovereignty of another country would invite immediate punishment. Going into Burkina Faso would constitute an international incident for MINUSMA peacekeepers; it would also be very difficult to hide or cover up. Beyond reports from news organizations and non-governmental organizations (NGOs) like Human Rights Watch and Amnesty International that pervade the region, MINUSMA commanders would very quickly find out.⁹

Third, peacekeepers take extraordinary care not to violate the sovereignty of Burkina

⁹Author interview with official from UN headquarters.

Faso. They carry GPS devices to ensure they do not cross the border. These devices also allow commanders to monitor their troops' locations, and serve as an additional deterrent to crossing over into Burkina Faso.¹⁰ Once they have established set patrol routes that they know are on the Malian side of the border, peacekeepers do not stray from their paths. The heavily structured and routinized tendencies of peacekeepers facilitate their adherence to international law in this context (Autesserre 2015).

Finally, as an empirical matter, there are to our knowledge no reports of UN peacekeepers patrolling in Burkina Faso. We found no mention of UN peacekeepers in Burkina Faso in local or international newspapers or NGO reports. In a recent paper, Hunnicutt, Nomikos and Williams (2022) document all attacks against UN peacekeepers in the region from 2014 and 2020. Though they report hundreds of incidents in Mali, they do not find evidence of a single attack occurring during this period in Burkina Faso.¹¹ Although the absence of reports is not definitive proof, it is consistent with what we would observe if UN peacekeepers never entered Burkina Faso, as we assume.

Estimation

Implementing the GRDD requires us to restrict observations close to the boundary and measure a running variable that indicates the center of each grid's distance from the boundary. In creating the treatment variable, we restrict the sample to grids within 100 km of the border between Mali and Burkina Faso to ensure that our units are similar enough across the border.

Figure 2 maps the different types of violence in the data.¹² It indicates that the greatest amount of violence is clustered around the *region* of Mopti in Central Mali. The Mopti

¹⁰Author interview with MINUSMA officers.

¹¹Author correspondence with Nomikos.

¹²For clarity, the figure omits violence between armed groups and armed group violence against civilians since these take places in largely the same areas as the conflict events we graph.

Figure 2: Violent events in Mali and Burkina Faso 2014-2020. The Mopti region (first order administrative unit) in Mali is denoted by the dotted line. Slight jittering applied to event locations.

region also hosts extensive UN peacekeeping activities, ensuring the internal validity of our design. We therefore focus on UN peacekeeping efforts in Mopti in greater detail in the empirical analysis below.

We observe several patterns within the 25 km distance from the border; 40 of the 546 grids in our data experienced government violence against civilians during this period. The most violent grid had nine separate occasions of government violence against civilians. However, armed group violence against civilians was much more common, occurring in 114 different grids; the most violent location had 11 distinct outbreaks. Finally, we document armed group clashes in 54 of the 546 grids.¹³

The left panel of Figure 2 illustrates the location of the sample relative to the international border. The right panel displays the sample of all grid cells within 100 km of the border. If

¹³See the Appendix E for more descriptive statistics.

a grid cell is within the Mali side of the area, it is assigned to the treatment group. If it is on the Burkina Faso side, it is assigned to control. Grid cells on the border are assigned to the country that constitutes more of their area. As events are aggregated up to grid cells they result in a count of events per grid cell. Unlike [Keele et al. \(2017\)](#), who have multiple observations coarsely geolocated to a limited number of locations, we have one observation per grid cell, so their strategy to ensure the regression discontinuity assumptions hold is not necessary.

Formally, a regression discontinuity design assigns a treatment status of $T_i = 1$ to an observation i if the associated value of the *running variable* X is greater than some cutoff $\bar{x}$. The distance to the Mali–Burkina Faso border is the running variable. We set X as the negative distance to the border in Mali, and the positive distance to the border in Burkina Faso, so the cutoff value is $\bar{x} = 0$. The treatment status of UN peacekeeping is given as:

$$T_i = \begin{cases} 1 & \text{if } X_i \leq 0 \\ 0 & \text{if } X_i > 0 \end{cases} \quad (1)$$

The estimate of the treatment effect is the difference between two local linear regressions fit on either side of $\bar{x}$.

The right panel of [Figure 2](#) graphs the distribution of events within grids based on distance from the border. Violent events intensify in the northern parts of the border segment, whereas other parts are less violent. To measure the effect of the presence of UN peacekeeping operations on one side of the border while leaving the other side unaffected, we use local regression discontinuity point estimators and inference procedures developed by [Calonico, Cattaneo and Titiunik \(2014\)](#). We use a local linear fit on either side of the cutoff and then report the distance between the two regression lines. The local linear fit approach to the estimation is superior to polynomial fits of the entire sample because the latter requires the choice of bandwidth to be used in the estimation ([Imbens and Kalyanaraman 2012](#)). The bandwidth represents the maximum absolute value of the running variable; observations

above this value are discarded. We select the bandwidth by minimizing the mean squared error of the difference between the two regression estimates at the cutoff.

We select a kernel to weight observations by their distance from the cutoff value $\bar{x}$ to allow observations with fewer unobserved differences between the variables to provide more influence on the results. We use a triangular kernel, which weights observations using a linear function that increases from 0 at the end of the bandwidth to 1 at the cutoff. We report robust bias-corrected estimates of the discontinuity and its standard error to reduce the possibility of bias in the estimation of the coefficients.

The Effect of Peacekeeping on Levels of Violence

Table 2 presents regression discontinuity estimates for each type of violent events. Negative estimates indicate an increase in the event type when crossing the border from Burkina Faso into Mali, i.e., when the treatment of UN peacekeeping is applied. In alternative specifications in the appendix, we account for the average slope, elevation, rainfall, nighttime lights, population, and Fulani population in each grid cell over the sample period. Results are substantively unchanged. The results show that the presence of UN peacekeeping operations on the Malian side of the border has a substantively and statistically significant effect on some forms of violence but not others. We find five sets of patterns corresponding to the five types of violence we analyze.

First, in line with Hypothesis 1, we find that a UN presence reduces violence between rebel groups. A grid patrolled by UN peacekeepers on the Mali side of the border will have an average of 0.6 fewer armed group clashes than one on the Burkina Faso side. This represents a 15% decrease in the intensity of armed group violence for *the most violent grids*.

Second, we find that UN peacekeepers reduce rebel violence against civilians, though this is statistically indistinguishable from zero. As a result, we do not find support for Hypothesis 2, which predicts that the deployment of UN peacekeepers reduces the level of

Table 2: Regression discontinuity estimates for event counts of different violence types

	Rebels v. Rebels	Rebels v. Civilians	Government v. Civilians	Government v. Rebels	Communal Violence
Conventional	-0.330* (0.141)	-0.290 (0.294)	0.162 (0.087)	-0.233 (0.366)	-0.917 * (0.462)
Bias-Corrected	-0.378* (0.141)	-0.339 (0.294)	0.196* (0.087)	-0.315 (0.366)	-1.079* (0.462)
Robust	-0.378* (0.164)	-0.339 (0.356)	0.196* (0.098)	-0.315 (0.431)	-1.079* (0.541)
Bandwidth	20.912	19.349	20.333	27.995	17.655
Bandwidth (robust)	36.741	31.173	32.261	39.374	30.672
Bandwidth selection	MSE	MSE	MSE	MSE	MSE
kernel	Triangular	Triangular	Triangular	Triangular	Triangular
N _{left}	1051	1051	1051	1051	1051
N _{right}	902	902	902	902	902
Order	1	1	1	1	1
Bias order	2	2	2	2	2

* p < 0.05

civilian victimization by rebel groups. This finding is in line with several qualitative works that question whether international peace interventions reduce violence at the local level and argue that they often fail to reach their full potential (Autesserre 2015). Indeed, our findings demonstrate that while UN operations reduce violence between armed groups, their effect on reducing armed group violence against civilians is indistinguishable from zero.

Third, in line with the expectations of Hypothesis 3, we find that a UN presence reduces communal violence. The participants in communal violence are individuals or social groups operating independently of a state with low levels of organizational complexity. . A grid patrolled by UN peacekeepers on the Mali side of the border will have, on average, 1.1 fewer instances of communal violence compared to a grid on the Burkina Faso side of the border.

Fourth, in line with the expectations of Hypothesis 4, we find that the UN does not reduce government violence against civilians and, in some cases, may increase it, though this effect is modest in magnitude. The treatment effect is approximately 0.2.

Finally, we find that UN peacekeepers reduce the violence between government and rebels.

However, this effect is statistically indistinguishable from zero. Therefore, we find support for Hypothesis 5.

Figure 3: Regression discontinuity estimates for different cutoffs of different violence event counts

Figure 3 graphs the regression discontinuity estimates with 95% robust bias-corrected confidence intervals for all types of conflict and outcome variables. The x -axis denotes each cut-off distance from the border that we set to estimate the treatment, and the y -axis denotes the treatment estimate for each cut-off distance. Each point in the rows represents a different regression discontinuity estimate corresponding to a different RD bandwidth.

Figure 4: Regression discontinuity plots for different cutoffs of different violence event counts

Table 3: Balance statistics

	Burkina Faso (N=268)		Mali (N=278)		Diff. in Means	p
	Mean	Std. Dev.	Mean	Std. Dev.		
Slope	0.35	0.30	0.31	0.28	-0.04	0.11
Elevation	327.20	70.84	318.72	64.83	-8.48	0.15
Rainfall	0.01	0.04	0.02	0.05	0.00	0.48
Nighttime lights	0.41	3.44	1.37	11.23	0.95	0.18
Population	28.62	14.59	28.83	22.46	0.21	0.90

Figure 4 presents the robust bias-corrected regression discontinuity estimates for each type of outcome. The x -axis denotes the bandwidth around the border selected by the estimation procedure, and the discontinuity between lines on the y -axis denotes the treatment estimate.

Robustness Checks

In this section, we present the results of four sets of robustness checks. First, we provide results that test the balance on covariates across the RD threshold, which is important for identification. Second, we discuss issues linked to our compound treatment assumption, which we must invoke to recover causal estimates of our treatment. Third, we consider possible spillover effects. Fourth, we conduct a series of placebo tests that further confirm the validity of our research design.

Testing Covariate Balance across the Border

Our identification strategy relies on the assumption that all relevant factors are distributed as-if randomly across the Mali–Burkina Faso border. This assumption must hold for all border areas in our sample. To validate this assumption, we estimate balance statistics across a set of characteristics within 50 km of the border on each side—slope, elevation, rainfall, nighttime lights, and total population. Table 3 presents the balance tests, which

Table 4: Placebo test of control variables with 25 km sample cutoff

	Difference	p-value	Bandwidth	N treated	N control
Elevation	7.87	0.72	15.66	187	173
Slope	-0.05	0.60	15.81	190	175
Rainfall	-0.03	0.01	14.84	174	167
Nightlights	-0.05	0.51	6.45	81	74
Population	-0.37	0.95	9.85	115	108

show that both sides of the border are sufficiently indistinguishable within 25 km in terms of geographic, developmental, and demographic characteristics. We adjust for each of these factors in our formal statistical analysis to account for any residual imbalance.

Next, we estimate placebo regression discontinuity effects across the same variables to check for significant differences in control variables along the border. These regressions are estimated using the same bandwidth selection and bias correction procedures as in our main analyses, described in the previous section. Table 4 presents these results. There is no evidence of a statistically significant treatment effect along the boundary with the exception of rainfall, for which we find an effect that is not substantive in magnitude. That is, all relevant factors except the treatment vary smoothly and continuously across the discontinuity, as required by RDD. In other words, if the treatment were not as-if random, we would expect to observe sharp differences between relevant factors on either side of the border, but we do not.

Compound Treatment Irrelevance

An additional concern associated with using GRDDs is that more than one treatment may be influencing the outcome. This challenge may also arise in conventional RD designs if the timing or application of the treatment coincides with other changing variables that also affect the outcome. However, it is a more pressing concern in GRDD designs since the discontinuity of interest is typically the boundary of an administrative unit (Keele and Titiunik 2015). In our case, this is the jurisdiction in which the UN is allowed to operate; this boundary

Table 5: Assessing potential compound treatments at the border

Potential Compound Treatments	Evidence of Irrelevance
State Capacity	<i>Empirical:</i> Balance tests in Table 6 show that both sides of the border lack basic services and facilities. <i>NGO Report:</i> The population of more than 50% of the settlements [along Mali-Burkina Faso Border] lack access to functioning health, nutrition and sanitation services (REACH 2021).
Development	<i>Empirical:</i> Balance tests in Table 3 indicate no significant difference in nightlights, a common indicator of economic development. <i>Literature:</i> Communities in the borderlands of Mali and Burkina Faso suffer from their “remoteness from the access to protection, development, and investment (Thurston 2020).”
Policing	<i>Empirical:</i> Balance tests in Table 6 show that fewer than 30% of towns in this region have a police station, with no significant difference between the countries. <i>Anecdotal:</i> A Malian explains: “Every time we call the authorities, they fail to show up (HRW 2016).”
Educational	<i>Empirical:</i> Table 6 indicates that there is a similar number of schools on both sides of the border. <i>NGO Report:</i> The population in more than a third of settlements [along Mali-Burkina Faso Border] does not have access to functioning education services (REACH 2021).

overlaps with the legal boundaries of Mali and Burkina Faso. Since it is difficult to isolate a single treatment, we must assume compound treatment irrelevance—i.e., that the outcome is only affected by the treatment of interest. In other words, we assume that potential variation in the level of violence within a given distance of the border can only be attributed to the presence of UN forces, *not* to jurisdictional differences between the two countries.

To test this assumption, we analyze a set of other potential treatments that may affect the level of violence in the border region due to differences in national jurisdiction—state capacity, economic development, policing, and educational infrastructure. We summarize the results of our analysis in Table 5 with accompanying theoretical and empirical evidence to support the compound treatment irrelevance assumption. Border regions do not exhibit substantive differences in economic development, policing, or other variables that could

impact violence. Therefore, the evidence presented here suggests that compound treatments along the Mali–Burkina Faso border are not driving the level of violence.

Spillover Effects

Another possibility is that there is some spillover of the UN effect across the border. That is, the treatment being measured may affect an individual unit beyond the one assigned to the treatment. This may take two forms. One manifestation of spillover is that peacekeepers—intentionally or, more likely, unintentionally—cross the border between Mali and Burkina Faso. As discussed above, interviews conducted with UN officials in the field suggest that this is highly unlikely. They were quite aware that crossing the border would lead to sanction from a commanding officer or expulsion from the mission altogether. Peacekeepers use GPS devices to determine their patrol routes within Mali and once they have established a route, they keep to the Malian side.¹⁴

The second form of spillovers is that people in Burkina Faso may believe that peacekeepers would intervene on their behalf. However, this is also unlikely given that they have never received direct support from peacekeepers. Even if they believed this was likely when the peacekeepers first deployed in 2013, the fact that it never happened would change their beliefs over time.

In general, both forms of spillovers across the boundary should downward bias our results by making Burkina Faso more, rather than less, similar to Mali.

Placebo Test

To explore the possibility that these findings are driven by a spurious association, we conduct a series of placebo tests to check for false positives at artificially constructed boundaries instead of the real border (Imbens and Lemieux 2008; Albertus 2020). We create a sequence of artificial borders by shifting the true boundary between the countries either northwest

¹⁴Author interview with MINUSMA officers.

or southeast in 5 km increments. We then repeat our main analysis with the four different types of violence as outcome variables, using the entire 100 km dataset on either side of this new border and select the optimal bandwidth for each outcome variable.

Figure 5: Illustration of NW-SE border shift for placebo test

Figure 5 illustrates this process, with artificial borders shifted 5, 10, and 15 km northwest and southeast of the actual border. Each shift is accompanied by subsequently selecting only the grid cells that lie within 100 km of the artificial border, resulting in a different set of grid cells being included in each placebo specification. This means that the distribution of both the outcome measures and control variables will differ for each placebo specification.

Figure 6 displays these results. Only one of the 24 specifications detects a statistically significant effect. This is unsurprising, given that the conventional 95% confidence level used

Figure 6: Results of border shift placebo test. Full results for each model may be found in Online Supplemental Information.

in tests of statistical significance implies a 5% false positive rate. This means if we perform 20 tests and detect no statistical association between two variables, we would expect one to falsely return a statistically significant result. Accordingly, the statistically significant results for three out of four outcome measures in our main analysis do not appear to be driven by idiosyncrasies in the data.

Discussion

Combined, our findings suggest that it is the UN's ability to limit violence against civilians by other civilians, and their affiliated local militias at the community level, rather than highly organized armed groups that accounts for UN peacekeepers' ability to protect civilians from armed groups, documented in the main results of this paper and others (Fjelde, Hultman and Nilsson 2019; Carnegie and Mikulaschek 2020). In this section, we discuss possible explanations for the empirical patterns we document.

Explaining Government Abuse

We acknowledge that a limitation of our approach is that the governments of Mali and Burkina Faso are different political entities. At the country level, we should expect these

governments to behave differently. However, our identification strategy only relies on them behaving similarly in the border regions, not throughout the countries. We assume that the two governments' coercive capacity is comparable at this level, which allows us to make inferences about the effect of peacekeeping.

Table 6: State capacity balance statistics

	Burkina Faso (N=14)		Mali (N=17)		Diff. in Means	p
	Mean	Std. Dev.	Mean	Std. Dev.		
Services						
Electricity	0.29	0.47	0.24	0.44	-0.05	0.76
Water	0.14	0.36	0.35	0.49	0.21	0.18
Sewage Disposal	0.14	0.36	0.06	0.24	-0.08	0.47
GSM Network	0.71	0.47	0.94	0.24	0.23	0.12
Road Condition	2.64	1.78	2.53	2.21	-0.11	0.88
Facilities						
Post Office	0.07	0.27	0.18	0.39	0.11	0.39
School	0.93	0.27	1.00	0.00	0.07	0.34
Police Station	0.21	0.43	0.29	0.47	0.08	0.62
Transportation	0.43	0.51	0.29	0.47	-0.13	0.46

Source: Subnationally Geocoded Afrobarometer Data Round 7

As an additional check, Table 6 reports further balance tests for the two sides, drawing on Afrobarometer data. Although we do not use Afrobarometer data as a covariate in our analysis, these tests provide an additional assurance that state capacity is similar on either side of the border.

Another concern might be that the Malian government or its military is particularly harsh or abusive in this area in ways that are systematically different from the government of Burkina Faso and its military. If this were the case, we would observe that violence by the Malian government against civilians has always been higher than that of the Burkinabe government. Appendix Figure E3 illustrates that levels of government violence against civilians remained fairly similar and constant in both countries until the deployment of UN peacekeeping operations in 2013. It is especially notable that levels of violence in Mali did not increase in 2012, after the civil war began but before the UN peacekeeping operation

was deployed. This analysis suggests that the grids in Mali were similar to those in Burkina Faso in every way except the presence of the UN. Therefore, we reason that the modest increase in government violence in the presence of the UN forces should be related to the presence of the UN forces.

These results complement previous qualitative and quantitative research on the effect of UN peacekeeping. For instance, [Fjelde, Hultman and Nilsson \(2019\)](#) show that UN peacekeeping does not reduce government violence against civilians. However, our findings are also in line with qualitative work such as Milli Lake’s seminal multi-year study of policing in the eastern DR Congo, which found that authorities used the state to reinforce a wartime order, thus undermining stability in the process ([2022](#)). Indeed, the UN Security Council mandates MINUSMA “to extend and re-establish state authority throughout the country” with an emphasis on police and gendarmerie building.¹⁵

Displacement Effects

Does UN peacekeeping actually reduce violence, or does it merely displace it across the border? Our finding that a UN presence reduces both communal violence and violence between armed groups on the Malian side of the border is at odds with the idea that violence is displaced. A displacement effect would suggest that the UN does not reduce overall violence in the region, but instead that violent actors simply move across the border and continue attacking civilians in Burkina Faso. While armed groups are notoriously mobile and may migrate to regions where fighting is less costly, communal violence occurs between and among regular residents of the land who cannot simply leave their farming or herding lands to find work across the border. Since UN peacekeeping reduces both armed group and communal violence, our findings are unlikely to be due to the displacement of violence across the border from Mali to Burkina Faso.

To further test this possibility, we empirically assess whether overall levels of violence

¹⁵Security Council Res 2100, para. 16 (a).

Table 7: Displacement effects within 10 km of the border

Event type	N (Mali)	N (Burkina Faso)	Estimate	t-statistic
Rebels v. rebels	115	111	0.12	1.61
Rebels v. civilians	115	111	0.18	0.94
Government v. civilians	115	111	-0.06	-0.71
Government v. rebels	115	111	0.16	0.52
Communal violence	115	111	0.32	1.12
H_1 : Burkina Faso > Mali				
*p < 0.05				

are similar in the regions on either side of the border. If UN peacekeeping merely displaces violence across the border into Burkina Faso, we should expect to observe a significantly higher rate of violence in grid cells on the Burkina Faso side of the border than on the Mali side. We test this proposition by conducting a series of one-tailed t -tests where the null hypothesis is that the mean number of events does not differ across the border and the alternative hypothesis is that it is higher for cells in Burkina Faso. Because our grid cells are $10 \text{ km} \times 10 \text{ km}$, we define any grid cell with a centroid within 10 km of the border as adjacent to the border.

Table 7 presents the results of these t -tests for the four categories of the outcome variable. No type of violence is statistically significantly higher in grid cells adjacent to the border in Burkina Faso than in Mali. This pattern provides further evidence that UN peacekeepers *do not* reduce violence by displacing combatants across the border, beyond their jurisdiction.

Conclusion

Past research on the effectiveness of peacekeeping mostly focuses on how operations shape the behavior of armed groups and their leaders or on civilian victimization *in isolation*. We instead examine a broader array of peacekeeping practices, including efforts by peacekeepers to stop violence between rebel groups, violence between government forces and rebel groups, communal violence, as well as violence against civilians by rebels and governments. While

quantitative evidence overwhelmingly shows a positive relationship between UN peacekeeping operations and peace, qualitative evidence suggests a far more nuanced picture. We suggest that scholarly disagreements over the effectiveness of peacekeeping are driven by methodological challenges that have hampered coherent theorizing as well.

In this paper, we address these challenges by applying a GRDD to analyze an original dataset on violence against civilians in Mali and Burkina Faso, two West African countries plagued by instability in the past decade. Although people and goods flow freely across the desert border separating the two countries, UN peacekeepers bound by international law remain in Mali, where the UN Security Council has authorized them to protect civilians by any means necessary. The border thus creates a geographic boundary that splits localities in the region into areas treated by peacekeeping and control areas not treated by peacekeeping as-if randomly.

We find that UN peacekeepers reduce some types of violence but not others. In particular, we find that peacekeepers decrease violence between rebel groups and communal violence. The fact that the Malian side of the border region still experiences violence and casts doubt on the efficacy of UN peacekeeping. However, our comparison to a counterfactual case that is otherwise similar suggests that peacekeepers prevent a significant amount of violence and human suffering. However, we also find that the presence of UN peacekeepers increases government violence against civilians. Moreover, we find inconclusive evidence about the effect of UN peacekeeping on fighting between governments and rebel groups and violence against civilians by rebel groups.

Our findings have at least three important implications for the conduct of UN peacekeeping operations. First, they suggest that the UN should expand its investment in reducing and preventing communal violence. While researchers have long established the ability of UN peacekeeping operations to broker peace agreements between leaders of armed groups ([Walter, Howard and Fortna 2021](#)), skeptics have pointed instead to outbreaks of communal violence as a critical threat to the stability of settings where peacekeepers deploy ([Autesserre](#)

2010, 2015). While the management of communal violence has become a core component of recent multidimensional missions, contributing countries have frequently balked at providing the personnel and materiel necessary to support these efforts. Our findings indicate that investing resources in these operations would be worthwhile. Given sufficient resources, peacekeepers can mitigate the instability from communal violence and offer wartorn communities a chance to rebuild after conflict.

Second, our results suggest a pathway by which peacekeepers can succeed in conflict settings with large pockets of instability. Recent work in political science has focused on civilian efforts within UN peacekeeping operations to promote the rule-of-law and reduce communal violence in places like Liberia and Côte d’Ivoire (Smidt 2020; Blair 2020b). However, the success of civilian peacebuilding efforts such as these necessitate the end of violence and the presence of broad-based peace. For better or worse, 21st century multidimensional UN peacekeeping operations typically deploy to countries in places like Mali, the Central African Republic, and South Sudan where there is no national peace to keep.

Third, given that the presence of peacekeepers may increase the intensity of government violence against civilians, the UN should consider alternative strategies for building state capacity. For example, Sabrina Karim’s work on policing in Liberia has emphasized the importance of interpersonal relationship for building successful states (Karim 2020). Another option is for the UN to invest more heavily in existing communal conflict resolution mechanisms since opportunity structures that empower local communities, domestic and international NGOs, and human rights activists can help decrease violence (Lake 2018; Krause 2018; Autesserre 2021).

More broadly, we expect our results to generalize to other settings where UN peacekeepers are deployed with some important limitations. Violence between governments, rebel groups, and civilians pervade fragile settings around the world. Although we expect the logic of our theory to apply to any similar setting, it is likely that our findings underestimate the

effectiveness of UN peacekeepers. Mali has been an especially difficult operation for the UN so it is likely that the UN is *more* effective in reducing violence than what we find, especially relative to rebel groups. In particular, while we anticipate that the UN's reliance on domestic governments and their militaries will make it difficult for peacekeepers to raise the costs of violence for governments in other settings as well, it is likely that UN peacekeepers be more successful in limiting rebels in other contexts. However, whether the countervailing effects we theorize operate in other settings is an open question and one we view as a promising avenue for future research.

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