Deploying to Protect:
The Effect of Peacekeeping Troop Deployments on Violence Against Civilians[*]

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Introduction

Political violence remains all too prevalent in many societies in Sub-Saharan Africa, South Asia, and the Middle East. Rebel groups in the Democratic Republic of Congo, for example continue to spar with Joseph Kabila's security forces, displacing millions of civilians and exposing them to violence, hunger, and disease. The South Sudan has also witnessed intense fighting despite a peace agreement signed in 2015, which led to the formation of a national unity government shortly thereafter. In the capital, Juba, civilians have been targeted by both government forces and rebel fighters, forcing thousands to flee their homes and stretching limited resources at UN refugee camps to the breaking point (Human Rights Watch 2017).[1] Fifty-one armed conflicts were active in 2016, making it the second most conflictual year ever recorded in the post-WWII era and the extent of human suffering in many of these conflicts has increased significantly since 2011.[2] The United Nations has been tasked to resolve state-based conflict and stabilize post-war environments. In particular, safeguarding civilians has become a core responsibility of UN peacekeeping operations, although a mandate the UN acknowledges remains difficult to implement. Still, the UN insists that peacekeeping forces are an essential tool for helping countries transition away from fighting, and despite intense criticism of peacekeepers and overall mission management,[3] evidence supporting the efficacy of UN operations in reducing civilian harm in post-conflict environments continues to grow.

   The collapse of the Soviet Union and the end of the Cold War renewed confidence that the UN could provide an institutional framework for resolving entrenched state-based conflicts. Between 1989 and 1998 (10 years), the UN authorized 34 peacekeeping operations, which was more than twice the number of missions authorized in the previous four decades (see Andersson 2000). To be sure, the super-power rivalry imposed constraints on UN activities. Interventions during the Cold War were often designed to limit Soviet or American influence, support decolonization or "contain civil conflicts that might draw in the great powers" (Fortna 2004) rather than specifically facilitate conflict resolution. The weakening of the Soviet regime in the late 1980s and its subsequent collapse in 1991 allowed the UN to focus efforts on ending entrenched fighting without super-power interference. Yet, despite an increase in peacekeeping operations in the 1990s, and notable successes in Sierra Leone and the Democratic Republic of Congo, two critical failures cast doubt on the effectiveness of UN efforts: the inability to prevent genocide in Rwanda in 1994 and the failure to shield civilians from harm in Srebrenica in 1995. Both disasters brought into question the UN's ability to foster peace and rebuild war-torn societies.

   Former Secretary-General of the United Nations, Kofi Annan, responded to these two failures with a panel tasked to evaluate the deficiencies of peacekeeping missions. Lakhdar Brahimi, the chair of the panel, issued a report in August of 2000 that called specifically for strengthening troop deployments in post-conflict environments to ensure that they were capable of protecting civilians from harm (Brahami Report Executive Summary 2000, 3). These reinforced peacekeeping units and a demonstrated willingness to use force would also deter violence, which

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[1] See https://www.hrw.org/world-report/2017/country-chapters/south-sudan).
[2] The year 2015 tied the highest post-war conflict level (1991) with 52 active state-based conflicts. Battle deaths have also generally increased. From 2001 to 2010 the average number of battle deaths from all state-based conflicts was approximately 480. After 2010 the average jumped to near 1,500.
[3] See http://www.nytimes.com/2013/10/11/world/un-questions-criticism-of-its-peacekeepers.html.

would provide stability and subsequently facilitate rebuilding efforts. The Brahimi report has had two notable effects: one, to increase the number of combat-capable peacekeepers deployed with UN missions and two, to persuade the UN Security council to sanction all future operations under Chapter 7.[4] Even so, the demand for larger combat units authorized under Chapter 7 of the UN Charter has notably increased the cost and risk of peacekeeping missions, and in response the Security Council has shown an increasing reluctance to authorize new missions. From 1989 to 1999 the UN authorized around 3.5 missions per year but less than 1 per year between 2000 and 2017.[5] The decrease has not been caused by the absence of conflict. In 2016, for example, there were 12 civil wars in progress (greater than 1,000 battlefield deaths using data from UCDP). No peacekeeping operations were authorized for any of these conflicts, although there were 15 missions ongoing in the same year.[6] Perhaps these conflicts are not ripe for resolution or perhaps a reluctance to intervene remains even after the UN adopted the R2P doctrine in 2005.[7]

Growing empirical evidence, however, shows peacekeeping operations indispensable for postwar peacebuilding. The presence of blue helmets on the ground appears to lengthen peace after civil war (Gilligan and Sergenti 2008), prevent the spatial spread of conflict (Beardsley and Gleditsch 2015), and reduce civilian targeting (Hultman, Kathman, and Shannon 2013). Further, the size of peacekeeping deployments may help limit postwar violence (Hultman et al. 2013), although evidence also shows that symbolic displays of force restrain hostilities (Fortna 2004; Phayal 2017). Still, despite a growing sense that peacekeeping operations support conflict resolution and postwar peacebuilding, several important theoretical and empirical questions remain unanswered, which we address in this paper. First, is the apparent success of peacekeepers in reducing postwar violence a function of credible commitment or coercive capacity? If the former is true, then high-cost heavy troop deployments seem unnecessary. Second, evidence for UNPKO civilian protection remains at the national level (Hultman et al 2013). But we would have more confidence in the ability of peacekeepers to limit harm and protect non-combatants (and more confidence in the empirical results from the study) if the reduction in violence occurred locally where blue helmets were positioned. Finally, do peacekeepers prevent violence by government and rebel forces equally or are they better at stopping or deterring one actor rather than the other? The answer to this question may suggest changes to the location and/or mission of troop deployments.

We build on existing research by Ruggeri, Dorussen, and Gizelis (2017), Costalli (2013), and Hultman et al (2013) to develop our theoretical argument and design our empirical investigation. Ruggeri et. al, for example, model peacekeeping missions sub-nationally, but their study explores the duration of conflict rather than the amount of violence suffered or the harm inflicted on civilians. Hultman and colleagues, in contrast, specifically examine violence against civilians yet do so at the country level and consequently cannot determine whether peacekeepers

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[4] Howard and Dayal (2018, 71-72) reports that since 1999 the UNSC "has mandated every multidimensional UN peacekeeping operation to use force under Chapter VII of the UN Charter." The Brahami report was officially published in August of 2000 but the panel was authorized in 1999 with the purpose of reviewing the failures of Rwanda and Srebrenica.

[5] The number of state-based conflicts generally decreased from 1991 (52) to 2005 (32) but increased from 2006 (33) to 2015 (52).

[6] The demand for peacekeeping has perhaps outpaced the supply.

[7] Friis (2010) concludes that peacekeeping missions increasingly look like counter-insurgency operations. This clearly raises the cost and risk of deployment.

are actively responsible for the observed decreases in civilian harm.[8] Costalli's research design seemingly complements our own most closely. His disaggregated analysis of troop deployments and violence reduction in Bosnia is comparable to our investigation of peacekeeper effectiveness in four Sub-Saharan African conflicts. But where Costalli focuses on wartime conditions, we examine the post-war environment and where Costalli limits his study to a single case, we assess peacekeeping effectiveness in four separate conflicts (Darfur, South Sudan, Ivory Coast, and the Democratic Republic of Congo). Using original geocoded data of yearly UN troop deployments, we find that PKOs go to violent post-conflict areas but reduce the level of civilian harm within 3-4 years. We also observe that peacekeeping units prevent violence against civilians inflicted by both government and rebel forces. Finally, we find peacekeeping units more responsive to rebel violence against civilians than government violence.

Literature review

Civil wars, increasingly prevalent since the end of the Cold War, pose significant challenges for the international community. Not only do such conflicts tend to be costly in human terms, but they also remain especially difficult to resolve. Combatants find personal losses hard to abide and post-war power-sharing arrangements can unravel, increasing group vulnerability. The inability to overcome combatant mistrust and design credible peace settlements has meant that outright victory by one side in a civil war, evidence shows, produces more durable peace (DeRouen and Sobek 2004, Brandt et al. 2008, Duffy 2010). But of course, allowing conflicts to organically resolve themselves remains morally unsatisfying, especially when the international community invests sizeable resources in resolving conflict, keeping the peace, and helping war-torn societies rebuild.

The commitment concerns that inhibit civil war settlement also pose challenges for both post-conflict peacemaking and peacebuilding.[9] Former rebels, in particular, fear that government forces will ignore ceasefire agreements and target former fighters that are now disarmed and defenseless. For example, Former Prime Minister of Rhodesia, Ian Smith, initially sought to retain control of critical security ministries in negotiations over future control of the state. Robert Mugabe and his Zimbabwe African National Union, however, feared Smith would use security forces to retain white control even if the Patriotic Front was given parliamentary authority. Mugabe is reported to have said: "it would be ridiculous for the settlers who were murdering the Zimbabweans to be entrusted with security during the crucial transitional period" (quoted in Walter 2002: 125). Only after Great Britain promised to supervise the political transition and place Commonwealth forces on the ground in Zimbabwe did the two sides finally agree to a deal.

Third party intervention was crucial to conflict resolution in Zimbabwe and increasingly evidence more generally shows the deployment of peacekeepers critical to durable peace. Walter (2002: 26) maintains that "third parties can guarantee that groups will be protected, violations detected, and promises kept." Such protection reduces fears of defection among former combatants and thus helps ensure that intended or unintended violence will not lead to settlement collapse. Hartzell et al (2001) agree with the importance of security assurances in post-war peace and stabilization. However, their evidence suggests 3rd party protection may be insufficient to avert

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[8] Hultman et al. (2013) also examine peacekeeping effectiveness *during* civil war, similar to Costalli but different from our focus on post-war conditions.

[9] Quinn, Mason, and Gurses (2007) observe 41% of civil war cases return to conflict while Joshi (2013) finds the rate to be 48%.

renewed fighting. Additional security through territorial separation appears important in extending the duration of peace. Studies by both Gilligan and Sergenti (2008) and Beardsley (2013) also show that UN interventions prolong peace following civil conflict and the effects are sizable. Gilligan and Sergenti's (2008, 124) results show an 85% reduction in the hazard rate of renewed war when peacekeepers are deployed in a country and Beardsley (2013) concludes that UN military units deployed in post-conflict environments help prevent a return to fighting in the long run.[10] It appears that boots on the ground alleviate vulnerabilities and thus help build trust among former combatants that remain wary of being manipulated or exploited.

Still, both Gilligan and Sergenti and Beardsley use blunt measures of both peacekeeping and conflict. Their analyses also remain aggregated to the country level and ignore the amount of political violence that occurs in post-war environments. Both studies, for example, conclude that peacekeepers help prevent renewed fighting which implicitly suggests deployed military units actively stop and or deter fighting. However, without noting the location of both troop deployments and violence, it is difficult to conclude that peacekeepers are responsible for any changes observed. Further, by focusing on the return to war, both studies seemingly ignore lower level violence directed at non-combatants but meant to have political effect. The Democratic Republic of Congo was formally not at war in 2016. But nonetheless 163 deaths from political violence occurred (Allanson, Melander, and Themner 2017).

Two recent studies more directly examine the effectiveness of peacekeeping units by moving from the country level to a more local level of analysis. Ruggeri et al. (2017) identify the grid-cell locations of peacekeepers in eight African countries and find that deployments reduce the duration of conflict in the grid cells where troops are stationed. Further, increasing the size of the mission strengthens the effect, which strongly suggests the presence of peacekeeping forces prevent and deter former combatants from returning to the battlefield. Yet, while Ruggeri et al. clearly observe a reduction in violence resulting from peacekeeper deployments in post-Cold War African conflicts, Costalli (2013) sees less effect in Bosnia. Peacekeepers went to the most violent local areas, but Costalli (2013) did not find a noticeable drop in violence levels after the troops arrived. Despite the differing results, both studies convincingly argue that local conflict and political dynamics affect patterns of violence and consequently must be modeled when assessing intervention success or failure (also see Autesserre 2010). A micro-level focus enables a clearer causal connection between peacekeeping units and violence reduction, allows the identification of government versus rebel spoilers, and permits the exploration of symbolic versus coercive interventions.

While we consider disaggregation an important advance in research on post-war peacebuilding, we propose another dimension of assessing the effectiveness of peacekeepers civilian protection. As argued by Diehl and Druckman (2010) different components within a contemporary peacekeeping mission have varying degree of objectives and goals, all of which tend to converge towards the ultimate goal of maintaining peace in a post-conflict country. The ultimate goal of maintaining peace results from the contributions of both military and non-military peacekeeping components. A number of non-military components, such as the Office of Rule of Law, Electoral Assistance Division, DDR, Office of Coordination of Humanitarian Affairs, are important parts of a mission's overall goal, but their level of contributions often correlate with

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[10] Beardsley (2013) also finds that peacekeeping missions deployed during conflict have little long-term effect in reducing the hazard of future conflict if troops do not remain on the ground during the post-war phase. Former combatants remain vulnerable after a conflict ends. Peacekeepers can shield groups from harm and facilitate cooperation.

mission size and troop size. Moreover, larger size of peacekeeping troops suggests that the mission is a priority for the international community, and therefore a larger troop presence tends to confound with diplomatic efforts by key actors too. However, despite such heterogeneity of goals and mandates, a commonality in nearly all contemporary peacekeeping missions is the mandate to protect civilians, which directly relates to the goal of peacekeepers. While recent micro-level studies have focused on the efficacy of peacekeepers in the duration or containment of conflict, they do not evaluate the specific role that peacekeepers play in protecting civilians from harm. Our research seeks to fill this gap.

Studying the effect of peacekeepers on violence against civilians

Post-war environments are often characterized by hostility and competition over scarce resources. Power-sharing arrangements and political bargaining can lead to opportunistic violence intended to mobilize groups against opponents. Impending elections, in particular, produce violence as political rivals target opponent supporters so as to reduce voter turnout and show resolve. In Afghanistan, for example, the Taliban engaged in extensive electoral violence to challenge state legitimacy and deter voter turnout (Condra, Long, Shaver, and Wright 2017). Can presence of peacekeepers lower civilian targeting?

Anecdotal evidences suggest that deploying peacekeeping units is effective in protecting civilian lives from violence. The example of Shabunda territory in Eastern DRC is a case in point. Shabunda, roughly the size of Belgium, is one of the eight territories of South Kivu province. The region is remote but has abundant mineral resources. According to Wens, Metthews and Hoex (2016), Shabunda had 61 artisanal mines as of 2015, out of which 45 were gold mines, 17 were cassiterite mines and 11 were coltan mines. Shabunda was frequently mentioned in the media due to the presence of violent groups in the region such as FDLR, Mai-Mai, or the more recent self-defense militias called the Raïa Mutomboki ('Outraged Citizens') (Stearns 2013). Report document rebel atrocities like sexual violence and civilian killings in the Shabunda region.[11]

In early 2013, UN peacekeepers established an operating base in the Shabunda territory. Since there was no such base prior to this, we can compare the level of violence in the region before and the after the deployment in order to examine the impact of peacekeepers. Figure 1 below depicts incidents of violence against civilians, from the ACLED dataset, before and after deployment. The left panel in the figure shows the location of violence against civilians by various rebel groups prior to 2013 (2009-2013). There were 9 major incidents where 70 or more civilians were killed (63 in the years 2011 and 2012).

[Figure 1 here]

The right panel in Figure 1 shows the number of civilian fatalities because of rebel violence after the deployment of peacekeepers. Compared to 63 fatalities in the years 2011 and 2012, there were only five civilian fatalities by rebel groups since January 2013 until the end of 2016. This abrupt decrease in violence against civilians is in sharp contrast to the overall trend of increasing violence levels elsewhere. According to ACLED data, overall civilian fatalities due to rebel violence in the country increased fivefold in 2016 since 2011. This example suggests that the

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[11] OXFAM has documented accounts of internally displaced people from Shabunda region, who also mention such atrocities (Dixon 2012). Also see 2012 report by MONUSCO's UN Joint Human Rights Office (UNJHRO), available: http://www.ohchr.org/Documents/Countries/CD/UNJHRO_HRVMasisi_en.pdf [Accessed March 7, 2018].

presence of peacekeepers positively contributes to protecting civilian lives. We further explore this anecdotal finding with a comprehensive data of four UN peacekeeping missions for over a decade. Similar to a crossnational study (Fortna 2004), we focus on two key questions. First, we examine whether UN peacekeepers deploy to areas where they are needed the most, in terms of civilian protection. Second, we evaluate their effectiveness by analyzing how their deployment might affect the violence against civilians at local level.

Are Peacekeepers Deployed In Response to Violence Against Civilians?

At the cross-national level, Gilligan and Stedman (2003, 44) find that peacekeepers are more likely to intervene in countries with severe conflicts.[12] Although some scholars insist long-duration peacekeeping missions should be considered failures (De Waal 2009), Fortna (2004) argues that deployment of peacekeepers work in sustaining the peace, especially when considering the fact that they are deployed in the most difficult cases. More recent micro-level studies, Costalli (2013) and Ruggeri et al (2016), also observe that peacekeepers deploy to violent areas (also see Gilligan and Stedman 2003).

For policy purposes, however, it is necessary to acquire a micro-level understanding of how different aspects of peacekeeping interventions work. One way to enhance our understanding is by examining where they get deployed locally: do they get deployed to regions where they are needed the most? While this could mean different things, we seek to evaluate their performance with respect to their mandate to protect civilian lives. Are peacekeepers deployed locally in response to violence against civilians?

Peacekeeping inaction or delay in response to crises like Rwanda, Bosnia and more recently in South Sudan has led to substantive criticism against the organization.[13] Actions such as these have led some to call peacekeeping 'organized hypocrisy' (Lipson 2007). According to Jett (2000, 50), peacekeepers on the ground neither have the incentive nor the commitment to fulfill the mission thus resulting in missions that often fail to produce sustainable peace. Since a majority of the troops are from developing countries, economic incentive is often key for both troop contributing countries and individual peacekeepers. Moreover, from a political standpoint, governments of troop contributing countries want to get their peacekeepers back home safely, and when sending their troops for missions, the Memorandum of Understanding between the country and the UN, signed before the deployment, usually stipulates the role of peacekeepers in a mission (Leck 2009). While these incentive mechanisms encourage inaction, there are other explanations suggesting why peacekeepers might respond to civilian protection mandate.

As mentioned in the peacekeeping mandate of recent missions, peacekeepers must incorporate protecting strategies in their mission plans and during the pre-deployment training, with the aim to ensure effective protection of civilians under imminent threat of physical violence. The civilian protection mandate in UN peacekeeping originated as a consequence of failure in responding to crises like Rwanda and Bosnia, and was first introduced to address Sierra Leone's ongoing peacekeeping mission in 1999. Over the years, discussion on protection of civilians in

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[12] Conflict severity measured in terms of the number of people killed in conflict

[13] For instance, as cited in the Stimson report, "in August 2011, and again from December 2011 to January 2012, intercommunal violence between the Murle and Lou Nuer ethnic groups in Jonglei State led to the estimated deaths of hundreds of people. On the ground, UNMISS was criticized for its inadequate response to the violence. In 2012, the Security Council expressed "deep concern" regarding this violence" (Gorur and Vellturo 2017, 13).

the Security Council has evolved [14] and has now become mainstream, after about a decade since it was first introduced (Nasu 2011). The DPKO-DFS Operational Concept on the Protection of Civilians in the UN Peacekeeping Operations was introduced in 2010, which provided a more concrete policy and clearer guideline for peacekeepers. As an indication of continued discussion on the topic, the operational concept has been superseded since 2015 by a more recent and refined policy.[15] As a result of this mandate, peacekeepers now are clearer than before on their role to protect civilian lives.

Failure to react against civilian atrocities is significant, not only for the UN as an international organization but also for a peacekeeping mission in the field. It can range anywhere from international condemnation of the UN to loss of funding for a particular mission. At the local level, the consequences due to such costs are more indirect, and they boil down to two reasons that propel peacekeepers to take risks in saving civilian lives. First, the countries sending troops have their reputation at stake and they want their troops to accomplish the task. Since the mandate to protect civilians is a norm and the risk associated with deployment is commonly known, both the troop contributing countries and the peacekeepers are less likely to blatantly refuse to deploy when needed. Second, if peacekeepers fail in their duty to protect civilian lives, it may lead to local protests and animosity,[16] creating significant challenges for carrying out daily peacekeeping-related tasks. In light of these costs, it is often in the best interest of the peacekeepers to get deployed in areas either as a pre-emptive measure or as response to civilian atrocities.

H1: Peacekeeping units at local level are more likely to get deployed in areas where there are higher instances of violence against civilians.

The task of protecting civilians is more challenging for peacekeepers during active conflicts. Peacekeeping mandates often restrain peacekeepers from getting into active combat with belligerents. Yet, active conflicts often attract media attention and help foment political action among regional and international actors to pressure against belligerent violence and end civilian suffering.

International pressure urging UN action becomes more acute when civilian lives suffer during or after a high profile clash. In November 2012, when rebel group M23, composed of mutineers from the Congolese Army, were advancing to seize the city, UN peacekeepers in the region failed to mount resistance, arguing that the responsibility to contest M23's advance lay with the DRC military.[17] After the rebel group took control of the city, the peacekeepers faced intense criticism for their inaction.[18]

Amidst mounting international pressures to act against the rebel takeover, two major developments occurred over ensuing months. First, the key players in the region held several rounds of dialogue in Kampala, hosted by the Chair of the International Conference on the Great Lakes Region. As result of this dialogue, neighboring countries Rwanda and Uganda, which had

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[14] Security Council's meeting record on Protection of Civilians available: www.securitycouncilreport.org/protection-of-civilians/ [Accessed March 11, 2018]

[15] 2015-07 Policy on protection of civilians in peacekeeping operations

[16] As mentioned above, when the rebel group M-23 captured Goma in Democratic Republic of Congo, there were widespread protests in the region, as the locals were angry because of UN peacekeeper inaction.

[17] MONUSCO probably saved lives by not engaging M23 in Goma since urban fighting would have put thousands of civilians at risk (Rosen 2013).

[18] http://world.time.com/2012/11/26/defining-peacekeeping-downward-the-u-n-debacle-in-eastern-congo/

been supporting the M23 rebel groups initially,[19] pledged to cooperate and support the Armed Forces of the Democratic Republic of the Congo (FARDC) in their fight against the rebels (S/2013/773).

Second, the UN for the first time authorized the launching of a Force Intervention Brigade (FIB) in support of the FARDC.[20] FIB would operate under the MONUSCO Force Commander and assist the host nation army through training and direct support in combatting the rebel group. Nearly one year later, when M23 rebels advanced to re-capture Goma in August 2013, FARDC was able to retaliate against the rebels, eventually leading to the disbandment of M23 rebel groups.[21] UN peacekeepers were also given authority to use any means necessary to ensure the safety of civilians and as a consequence of the fighting, 161 peacekeepers lost their lives (Ruggeri, Dorussen, and Gizelis 2016).[22] Compared to the incident in November 2012, the number of civilians victimized by the rebels during the August 2013 attack was nearly five times less. The formation of the FIB is unique in the history of peacekeeping, born out of necessity to deal with active conflict. But it also shows how violence against civilians resulting from high profile clashes between belligerents leads UN to deploy units in the areas.

H1a: Peacekeeping units at local level are more likely to get deployed in response to civilian atrocities after clashes.

However, three circumstances can prevent peacekeepers from deploying their units to areas that witnessed civilian violence: lack of resources, unclear mandate and the need for host-nation government consent.[23] First, logistical constraints largely restrict the operational capability to project troops to save civilian lives. There are numerous cases when peacekeepers are unable to react timely or otherwise to political violence, because they lack the necessary equipment to maneuver. During the inter-tribal violence of South Sudan in December 2012, for instance, UN peacekeepers in the region had information about pre-eminent inter-tribal violence in the remote regions of Pibor, but were unable to react effectively, mainly due to a lack of helicopters.[24] Due to lack of resources and the pervasive violence, the strategic deployment of peacekeepers to check all violence becomes difficult, if not impossible.[25]

Second, the first principle guiding civilian protection is that the primary responsibility to protect civilians is that of the government. This becomes confusing for peacekeepers during armed crises between government troops and rebel groups. Technically, this seems to suggest that peacekeepers cannot intervene when government troops are already present. Third, even when a

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[19] See Letter from the Group of Experts on the DRC to the Chair of the Security Council Committee, S/2012/843.

[20] The FIB consisted of military units from three countries from Southern African Development Community: South Africa, Tanzania and Malawi. Under the direct operational command of the MONUSCO Force Commander, its role was mainly to carry out offensive actions on its own or jointly with FARDC (See Special Report of the Secretary General on the Democratic Republic of the Congo and the Great Lakes Region, S/2013/119).

[21] http://www.nytimes.com/2013/11/06/world/africa/m23-rebels-democratic-republic-congo.html

[22] https://www.news24.com/Africa/News/Monusco-to-protect-civilians-in-Goma-20130822.

[23] Note that our purpose here is to assess the deployment of peacekeeping units in response to civilian violence, mainly to prevent future such atrocities. While assessing the immediate reaction is desirable, availability of data restricts our analysis to long-term deployments only. In other words, are peacekeepers likely to establish unit operating bases or increase the number of existing operational units in reaction to major one-sided violence?

[24] Small Arms Survey Report, 2012 Available http://www.smallarmssurveysudan.org/fileadmin/docs/issue-briefs/HSBA-IB21-Inter-tribal_violence_in_Jonglei.pdf [Accessed March 11, 2018]

[25] We agree that the best approach would be the strategic, by preventing violence from occurring in the first place, as argued by Costalli (2014, 377).

peacekeeping mandate is seemingly strong, consent and role of the host-nation government is crucial. For instance, decisions made by the Sudanese government are key for UN operations in Darfur. In the past, the government has expelled key UN personnel from the country[26] and UN troops have been denied access to areas where government troops operated (S/2009/592, p. 4). This again becomes a source of confusion when a government itself is responsible for violence against civilians, and therefore the following hypothesis.

H1b: Peacekeeping units at local level are less likely to get deployed in response to civilian atrocities by government forces.

Effect of Peacekeeping Deployment on Violence Against Civilians.

Civilians in conflict often become targets of violence. Belligerents in intra-state armed conflicts draw resources from the population as they compete over territory and population support (Balcells 2010; Kalyvas 2006). Even when belligerents agree to stop fighting, hostility and competition over resources tend to spike during political bargaining, such as elections or the drafting of a new constitution. This uncertainty and competition among former belligerent parties give way to opportunistic and pre-emptive attacks on opponent group members and alleged supporters. Belligerents may also use coercive force against civilians in their bid to mobilize them against the opponents (Wood, Kathman, and Gent 2012, 652).

     Deploying peacekeeping units in such contexts can lower the likelihood of violence in three ways. First, the presence of a third party in a conflict tends to lower mutual uncertainty and mistrust among belligerents. This comes from the belief that opponents are less likely to perpetrate unilateral violence under a third party's observance (Garfinkel and Skaperdas 2007; Walter 1997). Peacekeepers also provide a forum to coordinate and exchange information among belligerents (Ruggeri, Gizelis, and Dorussen 2013). Compared to regional or bilateral interventions, the UN's reputation as a neutral arbiter provides additional impetus in its role to lower mistrust. Therefore, while a higher level of mistrust about the opponent's intentions could lead to increases in uncertainty and incidents of pre-emptive strikes, the presence of peacekeepers can lower such mutual mistrust, thus helping to save civilian lives as a consequence of unintended armed escalations (Fortna 2008, 84, 86).

     Second, most peacekeeping missions today are mandated to protect civilians (Bellamy 2009). Since violent confrontation with peacekeepers is costly for a belligerent party, having a unit of peacekeepers near a settlement area or vulnerable places like internally displaced person (IDP) camps raises the risk of such costly encounters for armed groups that seek to target civilians. Anticipating this, civilians in conflict areas often come to nearby UN camps for shelter when being targeted by armed groups or when they are caught in the middle of an ongoing conflict. In May 2008, for instance, when heavy fighting started between the Sudanese Armed Forces and the Sudanese People's Liberation Army in Abyei, Sudan, many civilians who rushed to the nearby Zambian peacekeeping camp were offered sanctuary and later relocated to a safer place (S/2008/485, p. 6). This is *deterrence by default* since the mere positioning of peacekeepers can raise the cost for belligerents that target civilians, even when peacekeepers are not actively seeking

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[26] See "Sudan expels two UN officials, 2014" Available: https://www.aljazeera.com/news/africa/2014/12/sudan-expels-two-un-officials-20141225192742271467.html [Accessed January 10, 2018]

to challenge local fighters.[27] Further, the larger the size of troops deployed, the greater is the cost for belligerents.

Finally, the presence of peacekeepers not only poses physical costs for perpetrators of civilian violence, but their ability to monitor and report can also bring international condemnation. Former belligerent parties in a post-conflict country are usually rational actors with specific political goals, for whom international support is crucial. Especially when belligerents are signatories of peace agreements, the presence of UN peacekeepers and their roles in monitoring and identifying violent perpetrators can raise the cost for the parties (Fortna 2004; M. J. Gilligan and Sergenti 2008; Mullenbach 2005). In sum, these three reasons lead to expectations that the presence of UN peacekeepers in a region should lower violence against civilians.

The size of UN peacekeepers is also likely to impact the level of violence against civilians. As discussed above, monitoring functions of peacekeeping units raise reputational costs for violent perpetrators and peacekeeping troops routinely engage in military patrols to execute such functions. Larger units, therefore, are likely to be more effective in such roles as it ensures a sufficient number of troops are available to do such tasks, as well as guard the camps or provide reinforcement if required.

The availability of larger troop deployments and resources can also expand the monitoring reach, especially when investigating the aftermath of incidents like violent clashes or mass killings. UNAMID peacekeepers in Darfur, for instance, frequently conducted investigative and other types of patrols. Between 15 August and 1 October 2009 alone, UNAMID military personnel conducted 3,033 confidence-building patrols, 2,729 escort patrols, 1,031 night patrols, and 37 investigation patrols (S/2009/592).[28] Larger numbers of peacekeeping units therefore is helpful in expanding the frequency and monitoring coverage of UN operations. The above discussion suggests the following hypothesis:

H2: As the size of a deployed peacekeeping unit increases, the level of violent fatalities in the vicinity of the deployment is likely to be lower.

Research design

We test the above expectations by analyzing evidence from four peacekeeping missions: the UN African Union Missions in Darfur (UNAMID) from 2008 to 2016, The United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO) from 2011 to 2016, The United Nations Operation in Côte d'Ivoire (UNOCI) from 2006 to 2016, and The United Nation Mission in South Sudan (UNMISS) from 2011 to 2016. Three of these missions, UNAMID, UNMISS and MONUSCO, are in Sub-Saharan Africa and border each other,

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[27] The mandate on protection of civilians in peacekeeping missions is often unclear (Jose and Medie 2015; Nasu 2009). Peacekeepers may capitalize on this ambiguity and not actively seek to pursue armed elements or take timely actions in order to avoid costly confrontations. But both Pouligny (2006) and Autesserre (2010) find well-armed peacekeepers that demonstrate a willingness to engage local belligerents help to maintain peace.

[28] An example of such patrol is the monitoring task by UNAMID after the clash between rebel groups and the government in the village area of Korma, Northern Darfur in September 2009. After the clashes were over, UNAMID peacekeepers were denied access to the village by the Sudanese government for 11 days and later the monitoring teams reported the killings of 13 civilians in the clashes, displacement of nearly 31,000 civilians to nearby villages, and numerous other cases of sexual violence and human rights violation (Secretary General's quarterly report S/2009/592, p. 4).

while the third is in West Africa. Civilian protection mandate is common to all four missions, but the missions also differ in important ways. The four missions vary in terms of their conflict severity, geographical dispersion due to the size of the country, and the level of infrastructure development. For instance, when comparing the UNOCI mission to the other three, the former is relatively less severe in terms of violence, although the intensity increased around 2011 when President Gbagbo refused to relinquish power after being defeated in an election by the current President Ouattara. Additionally, since the infrastructure of the Ivory Coast, such as its road network, is better compared to Darfur, South Sudan or the DRC, it is relatively easier for peacekeepers to maneuver.[29] The commonality of responsibility to protect mandate along with variations across other aspects make these four cases ideal for studying the effect of UN troops at local level.

To test the local level effect of deployments, we use grid-cell year as the unit of analysis. The maps of four mission areas and divide them into 0.5 x 0.5 decimal-degree grid-cells using the PRIO-grid dataset. These grid-cells are quadratic square polygons on a two dimensional terrestrial plane, which is approximately 55x55 kilometers (Tollefsen, Strand, and Buhaug 2012), and the data in each grid-cell are at annual level. From 2006 to the end of 2016, there are 9884 grid-cell year observations.[30]

There are two main dependent variables in this study. First, to examine where peacekeepers get deployed, we use deployment level in each grid-cell year as the dependent variable. To indicate deployment level, we use count of operational peacekeeping units in a grid-cell rather than headcount of peacekeepers as done in some past studies (Hultman, Kathman, and Shannon 2013, 2014; Ruggeri, Dorussen, and Gizelis 2016). This is because the number of personnel in an area does not necessarily reflect the operational capability of peacekeepers. For instance, base headquarters tend to have more manpower, but mainly due to the presence of non-operational force enablers, such as logistic, medical or signal unit personnel, who will have little direct impact on civilian protection task. Instead, the capability to provide security in an area is often the function of deployable infantry or mechanized units that patrol the area. Therefore, for the purpose of this study, we use a count of company-sized units in a grid-cell as a measure of UN deployment. The data on peacekeeping deployments is generated from the UN Secretary General's quarterly reports available in UN digital archives. In the dataset of four missions, there are 76 grid-cell years with less than one company of peacekeepers deployed (1 or 2 platoons), 552 grid-cells years with 1-4 companies of peacekeepers, and 77 grid-cells with more than 4 companies of peacekeepers.

The second dependent variable for evaluating the effect of peacekeepers on civilian killings (H2) is the number of civilians killed in a grid-cell. The data on civilian fatalities come from the Armed Conflict and Location and Event Dataset (ACLED), which codes date, location and other characteristics of conflict events such as the information about actors, type of events, and the

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[29] According to CIA World Fact data, while the total length of paved road in Ivory Coast is 6502 km; South Sudan has only 192 km of paved road, DRC has 2792 km of paved road and Sudan has 4320 km. Yet, most roads in Sudan and DRC areas are in capital area, rather than in Darfur in Sudan and the North East region in DRC. Darfur alone is larger in area (493,180 sq km) compared Ivory Coast (322,463 sq km) and close to South Sudan (644,329 sq km). DRC is much larger (2.3 million sq km) and the road network in north and east region where majority of the peacekeepers are deployed is poor.

[30] There are grid-cells in the border of South Sudan and DRC, and, South Sudan and Darfur. In order to avoid double counting we removed 90 border grid-cells from DRC and 78 border grid-cells from Darfur, keeping only South Sudan grid-cells. There are no activities in DRC or the Darfur side of the border in Sudan, but there are activities and UN deployments in South Sudan.

number of fatalities (Raleigh et al. 2010). We aggregate the geocoded ACLED observations on fatalities for each grid-cell year, focusing mainly on the total number of civilians killed, but also filtering on one-sided killings by both the government and rebel groups.[31]

(FIGURE 2 here)

As an illustration of our dataset, Figure 2 shows the gridded map of Democratic Republic of Congo, which hosts the MONUSCO peacekeeping mission, one of the four peacekeeping missions in this study. It provides information such as geographical distribution of the peacekeeping units and the level of violence against civilians in each grid-cell in years 2011 to 2016. As evident in the figure, the level of violence against civilians seems increasing in recent years, despite the deployment of peacekeepers. In the following section, we provide the details of other variables used in the study and explain our findings on how peacekeeping troops influence the local level violence against civilians at local level.

Main Explanatory and Control Variables

Civilian killings (lagged) is the main explanatory variable for testing expectations about where peacekeepers get deployed (H1, H1a, H1b). To test whether peacekeepers are effective in protecting civilians (H2), we use a fixed effect model using the number of deployed companies in a grid-cell as the dependent variable and the number of civilians killed in the preceding year as the independent variable. Since we expect peacekeepers to respond differently to high profile clashes between government and rebel groups, we use a dummy variable *clash* and code it as 1 for a grid-cell year when there are more than 100 belligerents killed due to clashes and 0 otherwise. According to ACLED, 37 grid-cell years have such high profile clashes.[32]

We control for a number of other factors. First, population in a grid-cell can influence the deployment of peacekeepers since peacekeepers tend to get deployed in populated areas. Moreover, population of a grid-cell can also increase due to concentration of internally displaced personnel. But due to this, there may also be increase in civilian targeting. Yet, using standard grid-cell population is not useful as it is fixed and do not show annual change.[33] Instead, we use calibrated mean of nightlights from satellite images as a proxy for population in a grid-cell (Tollefsen, Strand, and Buhaug 2012).[34]

Second, drought intensity in a grid-cell can influence its economic activity and population. We use variable droughtcrop_spi from PRIO GRID dataset which uses standard precipitation index (SPI) during crop growing season to assess drought intensity. Its value in our dataset ranges from 0 to 0.8, with higher value indicating more intense drought level in a grid-cell year.

Third, distance to a nearest peacekeeping unit also shapes the likelihood of deployment in a grid-cell since it is logistically easier to deploy a peacekeeping unit if a grid-cell is closer to other deployment areas. Distance here is coded as the aerial distance in kilometers, measured from the

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[31] Fatalities due to clashes or the number of peacekeepers that were killed by belligerents is not included.

[32] Changing this threshold to 50 (75 grid-cells) or 10 (159 grid-cells) does not change the result substantively

[33] Moreover, such static measure gets rejected by fixed effect model.

[34] Past studies have used night lights to proxy population density (See Besley & Reynal-Querol, 2014; Sutton, 1997).

centroid of a grid-cell to the centroid of a closest grid-cell that has peacekeeping units. All three control variables mentioned above, nightlights, drought and distance to nearest unit are lagged by one year. Finally, we also control for mission-year dummy to account for the number of deployed units in a mission year. In other words, variables MONUSCO, UNMISS, UNAMID and UNOCI have unique dummies that increase every year by value of 1.

Results

Table 1 shows results from three statistical analyses. Model 1 looks at one-sided civilians killed by both government and rebel groups, whereas models 2 and 3 examine the effect of one-sided killings by government forces and rebel groups respectively. Since we expect peacekeepers to react differently to clashes, the main variable of interest in the models is the interaction term which indicates how clash and one-sided violence interact in influencing the deployment of UN peacekeepers in a grid-cell. Substantive results of the interaction terms from the models are presented in Figure 3. The y-axis in Figure 3 shows estimated number of companies deployed in a grid-cell in response to civilian deaths from violence. The x-axis in the figure shows the number of civilians killed by belligerents.

[Table 1 here]

[Figure 3 here]

The left-most panel in the figure shows that peacekeepers are more likely to get deployed in clash areas as the number of civilians killed by belligerents increase. On the contrary, in absence of a high-profile clash, they are less likely to get deployed even when one-sided civilian killings increase. We find a more interesting outcome, when separating government and rebel perpetrated atrocities.

As shown in the second panel, peacekeeping units are more likely to get deployed when a grid-cell has high profile clashes in the previous year and as more civilians get killed by the government forces. On average and controlling for all other variables, if a government forces kill around four hundred civilians in a grid-cell and if there were high profile clashes, then one peacekeeping company gets deployed in the area the following year. While peacekeepers might still conduct short term operations and patrols in an area, all else equal, the number it takes for one peacekeeping unit (company) to deploy and establish a longer term base is perplexingly high. Yet, this has to be seen in light of how peacekeepers respond, when there are high-level civilian violence by the government but no high profile clashes in the preceding year. The center panel of the figure suggests that peacekeepers are less likely to get deployed in a grid-cell in such circumstances. In fact, the negative slope of the non-clash line in the figure suggests that when a grid-cell has no clashes in the previous year, peacekeepers tend to deploy away from the grid-cell as government atrocities against civilians increase.

The pattern of deployment in response to rebel atrocities is slightly different, as shown in the right-most panel in Figure 3. Similar to response against government atrocities, peacekeepers are more likely to deploy when a grid-cell has increasing level of rebel violence against civilians, along with

high profile clashes.[35] But different than response against government atrocities, when there are no high profile clashes, we do not find decline in peacekeeping deployments as rebel atrocities against civilians increase. Overall, these findings indicate that peacekeepers are more likely to deploy their units to areas that experienced high profile clashes, where government or rebel atrocities against civilians are also high. However, what is more alarming is the finding that peacekeepers are less willing to deploy their troops to other areas when government troops are perpetrating violence against civilians. While the need to build and support host-nation government is understandable, evidence here suggests that the UN peacekeepers may be erring towards tolerating any level of government atrocities.

Does Deploying Peacekeepers Lower Civilian Killings?

To examine the impact of deployment on violence against civilians (H2), we look at the changes in deployment level in a grid-cell year and its degree of one-sided civilian killings by belligerents. The novel aspect of the deployment data in this study is that it is dynamic, as the deployment level in grid-cells varies on an annual basis. For any given year, the level of deployment is coded for the beginning of the year, while the level of civilian fatalities are aggregated for throughout the year. Because deployment precedes violent fatalities in each grid-cells, it avoid the need to lag the deployment variable in order to understand its effect on fatalities.

The result of the fixed effect models is presented in Table 2. Since we expect peacekeepers to respond differently to active conflicts, we interact change in the level of deployments with clash. We also control for a number of variables such as nightlights (lagged) and drought (lagged) as they both might influence the population of a grid-cell and their level of fatalities. As in the previous analysis, we also control for the mission dummies.

The main variable of interest in the table is the interaction term, the substantive effect of which is presented in Figure 4. From left to right the panels in the figure show how peacekeeping deployment affects the level of civilian fatalities committed by rebels and government forces combined, only by government forces, and only by rebel groups. The different effects on grid-cells with or without clash is also shown by the two lines in each panel.

As shown in the left-most panel, we find that peacekeepers are less effective in preventing civilian lives when there are clashes. In fact, we find that increasing the level of troops only increases one-sided violence against civilians. This is in line with our discussion earlier that peacekeepers are more hesitant to intervene in active armed conflicts, where government troops are taking the responsibility to fight against the rebels. The finding is in line with some of the earlier micro-level studies (Costalli 2014), but is in disagreement with country level study (Hultman, Kathman, and Shannon 2014). Rather than troop increases being the cause of more violence, we believe that troop increases are in response to anticipated clashes.

But looking at the left-most panel figure, we find that peacekeeping deployments are more effective in protecting civilians, when there are no such active armed conflicts. In absence of such clashes and all else is equal, deploying seven additional companies in a grid-cell can save nearly 100 lives on average.

We further split this aggregate result by examining the effect on government and rebel forces, which is shown in the center and right panel in Figure 4. Comparing the two panels, we find the behavioral outcome among the two actors slightly different. When there are clashes, both

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[35] The substantive effect of the rebel violence is not large, but it is distinctly greater than zero.

governments and rebels are likely to perpetrate violence against civilians, although government forces are slightly more likely to do so compared to the rebels. This is not surprising given their superiority of military capability and lethality compared to the rebels (Wood 2010). But when there are no clashes, we find that additional companies have greater restraining effect on government forces than on rebels.

Conclusion

The role of military peacekeepers in protecting civilian lives is an important aspect of peacebuilding. Our study shows that peacekeepers are effective in addressing the core mandate of protecting civilian lives at the local level in post-conflict environments. Both government and rebel groups are less likely to harm civilians in areas where peacekeepers have deployed. This is a welcome finding. But our study also exposes a potential weakness of current peacekeeping operations. Compared to their response against rebel violence, peacekeepers are less likely to respond when government troops perpetrate one-sided violence against civilians. We argue that such movements arise primarily because the key responsibility of protecting civilians, according to peacekeeping mandates, falls on the host-nation government, and the need for consent from the host-nation likely complicates deployment decisions. This presents an important question about the sustainability of post-conflict peace after peacekeeping missions. If peacekeeping nurtures illiberal regimes, then can it actually foster long-term peace and reconciliation?

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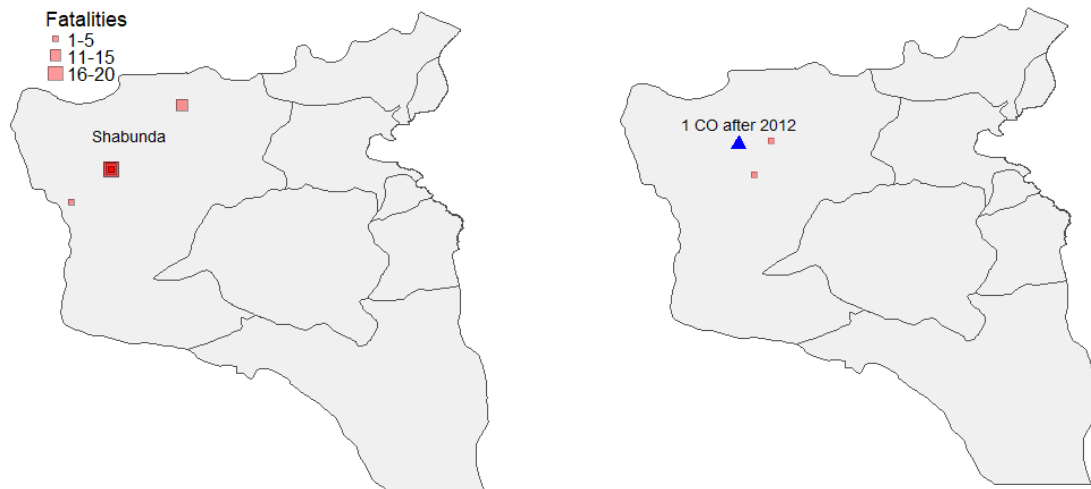Gilligan, Michael J, and Ernest J Sergenti. 2008. "Do UN Interventions Cause Peace? Using

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Figure 1 Violence against civilians in Shabunda territory of South Kivu, DR Congo

Note: Figure above shows violence against civilians in Shabunda territory of South Kivu province (map) in DR Congo according to ACLED dataset. For clarity, it does not show the level of violence in South Kivu's other territories. The left panel shows 70 civilian fatalities by various rebel groups from 2009-2012 (63 civilian fatalities in years 2011-2012). The right panel shows the reduction in violence against civilians in years 2013-2017 (total 5), since the deployment of a peacekeeping Company in the region.

Figure 2 UN deployment and civilian fatalities in Democratic Republic of Congo
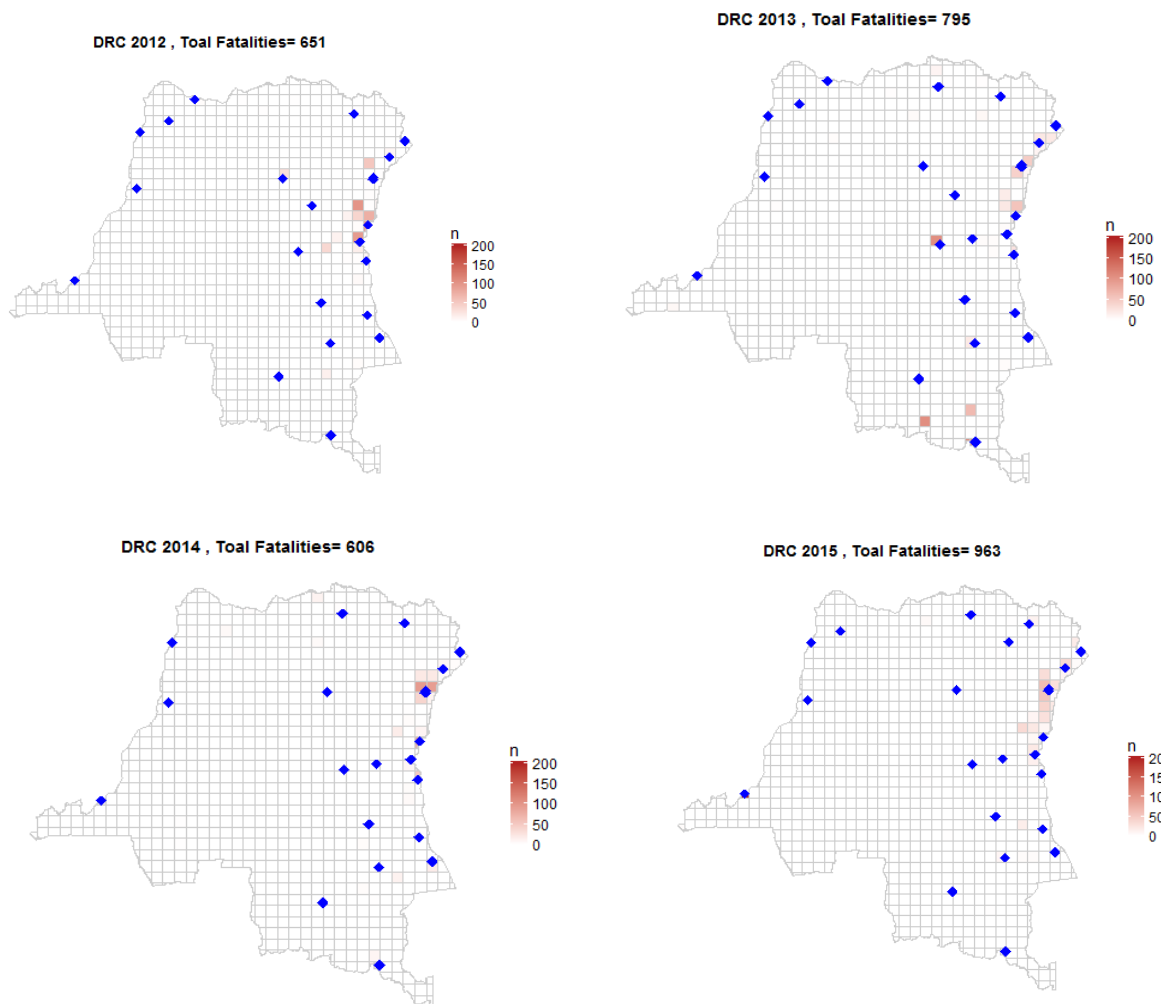
Table 1 Effect of civilian fatalities (preceding year) on the likelihood of peacekeeper deployment in a grid-cell

VARIABLES	(1)	(2)	(3)
All fatalities (lagged)	-0.001**		
	(0.000)		
Fatalities by gov (lagged)		-0.001***	
		(0.000)	
Fatalities by rebels (lagged)			0.001
			(0.000)
Clash	0.052	-0.303***	0.147*
	(0.084)	(0.103)	(0.077)
Clashes X All fatalities	0.001***		
	(0.000)		
Clashes X By Government		0.004***	
		(0.000)	
Clashes X By Rebels			0.001*
			(0.000)
(Control Vars)			
Distance to nearest Peacekeeping unit (lagged)	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)
Drought (lagged)	0.083	0.097	0.085
	(0.076)	(0.076)	(0.076)
Night lights (lagged)	1.421	1.386	1.437
	(0.879)	(0.875)	(0.879)
MONUSCO	-0.005	-0.005	-0.005
	(0.004)	(0.004)	(0.004)
UNMISS	0.034***	0.034***	0.035***
	(0.007)	(0.007)	(0.007)
UNAMID	0.007*	0.006	0.006*
	0.005	0.005	0.005
UNOCI	(0.004)	(0.004)	(0.004)
	-0.006	-0.006	-0.006
Constant	-0.300**	-0.294**	-0.307**
	(0.123)	(0.122)	(0.123)
Observations	8,452	8,452	8,452
R-squared	0.016	0.023	0.015
Number of gid	1,426	1,426	1,426

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 3 Civilian killings (Previous year) & deployment of UN peacekeeping units
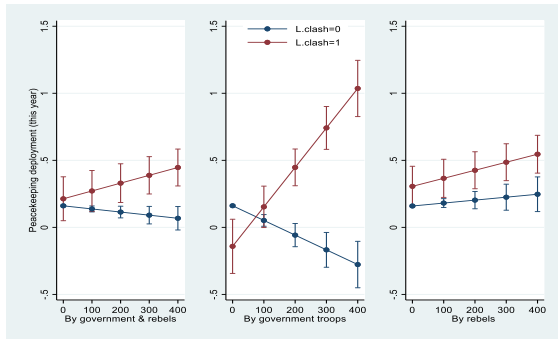
Table 2 Effect of peacekeeping deployment on civilian fatalities

VARIABLES	(1) All Fatalities	(2) By government	(3) By rebels
Peacekeeping unit change	-14.794***	-9.045***	-5.223***
	(1.909)	(0.938)	(1.531)
Clash	76.980***	42.591***	52.980***
	(3.994)	(1.963)	(3.203)
Change X Clash	22.845***	16.887***	8.894***
	(4.076)	(2.003)	(3.269)
Night lights (lagged)	12.514	-0.211	-0.440
	(126.249)	(62.057)	(101.250)
Drought (lagged)	-6.586	2.105	-5.621
	(10.935)	(5.375)	(8.770)
MONUSCO	-0.236	-0.070	-0.078
	(0.510)	(0.251)	(0.409)
UNMISS	-4.460***	-0.685	-4.513***
	(0.997)	(0.490)	(0.799)
UNAMID	1.455***	1.040***	0.656
	(0.563)	(0.277)	(0.451)
UNOCI	-0.078	0.018	-0.044
	(0.542)	(0.266)	(0.435)
Constant	71.122***	10.912	70.346***
	(17.144)	(8.427)	(13.749)
Observations	8,452	8,452	8,452
R-squared	0.062	0.083	0.042
Number of gid	1,426	1,426	1,426

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 4 Effect of change in deployment (compared to past year) on
One-sided killings