Protection Through Presence: UN Peacekeeping and the Costs of Targeting Civilians

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Abstract Are UN peacekeepers effective in protecting civilians from violence? Existing studies examine this issue at the country level, thereby making it difficult to isolate the effect of peacekeepers and to assess the actual mechanism at work. We provide the first comprehensive evaluation of UN peacekeeping success in protecting civilians at the subnational level. We argue that peacekeepers through their sizable local presence can increase the political and military costs for warring actors to engage in civilian targeting. Since peacekeepers' access to civilian populations rests on government consent, peacekeepers will primarily be effective in imposing these costs on rebel groups, but less so for government actors. To test these conjectures we combine new monthly data on the location of peacekeepers with data on the location and timing of civilian killings in Africa. Our findings suggest that local peacekeeping presence enhances the effectiveness of civilian protection against rebel abuse, but that UN peacekeeping struggles to protect civilians from government forces.

The nature of UN peacekeeping has undergone a dramatic shift in recent decades. Many missions are now deployed to ongoing conflicts with robust mandates to protect civilians, reflecting a strong overall trend within UN peacekeeping toward making civilian protection their key imperative.[1] These operations, however, face tremendous challenges in fulfilling their mandates, and there are large subnational variations in where peacekeepers are deployed and how successful they are in addressing violence on the ground. Many missions struggle to cover all areas where civilians are at risk. Even with a sizeable peacekeeping force, large areas with grave security concerns often remain outside the reach of international forces. The United Nations–

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1. Bellamy 2009; Holt and Taylor 2009.

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African Union Mission in Darfur (UNAMID), for example, has been criticized for its limited presence beyond headquarters and inability to patrol the vast region, challenging the mission's ability to shield civilians from attacks.[2] Most mission mandates also include caveats specifying that peacekeepers should protect civilians "within capabilities and areas of deployment."[3] To advance our understanding of peacekeeping's impact on violence against civilians it is therefore necessary to go beyond the country level and examine the question with subnational data where the dynamics of violence unfold.

A sizeable local presence is critical for the ability of peacekeepers to protect civilians from armed actors. Peacekeepers on the ground can monitor and report ongoing violations, which could heighten the political costs of targeting civilians through international condemnations and even arrests. Local presence also raises the military costs of targeting civilians because it represents a credible threat of military counteraction. Yet, whereas local deployment is critical for peacekeepers' ability to shape the local incentive structure for civilian victimization, effective protection also hinges upon getting access to civilian populations. Because the peacekeepers depend on government consent for such access, we argue that peacekeepers will be better positioned to credibly impose costs on rebel groups compared to governments.

Testing these conjectures, we provide the first systematic cross-national study of UN peacekeeping's local effectiveness in protecting civilians. Existing research suggests that peacekeeping operations reduce violence against civilians when they are sizeable[4] and diverse in their composition.[5] However, these studies examine peacekeeping at the country level, thereby aggregating across subnational locations with large variation in where peacekeepers are deployed and one-sided violence occurs. To improve our ability to isolate the effect of peacekeepers and pass a clearer verdict on the actual mechanism through which peacekeeping works, we introduce new geographically and temporally disaggregated data on the strength of local peacekeeping deployment across all UN missions to Africa with a civilian-protection mandate between 2000 and 2011. We combine this with geo-referenced event data on violence against civilians at the monthly level.[6]

Our results show that UN peacekeepers do deploy to areas that have experienced civilian atrocities but we find no discernable effect of peacekeeping troops on the risk of one-sided violence generally. However, when making a distinction between violence by rebel and government actors, our results show that the more peacekeeping forces deployed to a location, the less likely that rebel groups will carry out attacks in these areas. We do not find the same encouraging results for the government side: local peacekeeping deployment does not decrease the risk of abuse by government actors. To account for the fact that peacekeepers are not deployed at random, we take several steps to ensure robust

2. See, for example, Human Rights Watch 2014.
3. Holt and Taylor 2009, 40.
4. Hultman, Kathman, and Shannon 2013; Kathman and Wood 2016.
5. Bove and Ruggeri 2016.
6. Sundberg and Melander 2013.

inference, including matching techniques and the estimation of a recursive bivariate probit model. One concern with identifying a local effect is that peacekeeping presence merely displaces violence to increase the vulnerability of civilians at risk in the surrounding areas. Importantly, we find no evidence for such dynamics.

Our statistical results thus add important nuance to the existing literature by suggesting a more complex relationship between peacekeepers and civilian protection. The finding that local protection mainly works through peacekeepers' ability to impose costs on rebel groups diverges from country-level results that peacekeepers also reduce government-perpetrated atrocities. One interpretation is that the UN's ability to curb government violence primarily works through political pressure in the national arena and strategic deterrence, rather than through local-level mechanisms of monitoring and tactical deterrence. The interaction between peacekeepers and rebel groups seems instead to be more localized, with rebels being more sensitive to the local threat of military costs and less able than government forces to shape the patterns of local peacekeeping deployment. These findings imply that peacekeeping missions need to develop different strategies for tackling violence against civilians by governments and rebel groups respectively. The UN should strive for a flexible approach to redeployment within countries, base deployment decisions on careful analyses of the threat to the civilian population by rebel actors, and devise policies for better dealing with governments that resist deployments to certain areas.

Previous Research

Many studies agree that UN peacekeeping is generally good at achieving what it was initially designed to do—keep the peace between warring actors in the aftermath of armed conflict.[7] As UN peacekeepers are increasingly deployed to situations of ongoing conflict, scholars have begun to also assess the effectiveness of UN peacekeeping in mitigating conflict in various ways. Some studies find that peacekeepers are effective in reducing violence on the battlefield[8] and in containing the spread of armed conflict, both within countries[9] and across borders.[10] Peacekeepers have also been found to reduce conflict duration locally in their area of deployment.[11] Meanwhile, other studies question the ability of UN peacekeepers to effectively end violent conflict or reduce the severity of violence.[12]

Increasingly, civilian protection has become a core component of UN peacekeeping. Yet, empirical evidence is still limited regarding the UN's ability to protect civilians from direct and deliberate violence by government and armed groups. Lisa

7. Doyle and Sambanis 2006; Fortna 2008; Gilligan and Sergenti 2008.
8. Hultman, Kathman, and Shannon 2014.
9. Beardsley and Gleditsch 2015.
10. Beardsley 2011.
11. Ruggeri, Dorussen, and Gizelis 2017.
12. Doyle and Sambanis 2006; Gilligan and Sergenti 2008; Costalli 2014.

Hultman, Jacob Kathman, and Megan Shannon provide country-level evidence that larger UN peacekeeping missions are effective in reducing violence against the civilian population in civil wars.[13] Vincenzo Bove and Andrea Ruggeri find that missions that are more diverse in their composition are better at protecting civilians.[14] Yet, in one of the few existing subnational studies to date, Stefano Costalli concludes that despite deploying to the areas where violence occurred, peacekeepers were not effective in reducing conflict violence, including violence against civilians. This more pessimistic result may stem from peculiarities relating to the Bosnian case, or it may testify to a more general mismatch between the country-level findings and the local dynamics of peacekeeping protection.[15]

The question about the effectiveness of UN peacekeeping in protecting civilians from abuse by armed actors is thus in no way settled. Most strikingly, the systematic studies that deal specifically with UN peacekeeping across a larger number of cases rely exclusively on country-level aggregates of troop deployments and civilian casualties. While national-level processes, such as negotiations, are important for influencing the warring parties' willingness to alter their behavior,[16] many of the processes driving violence against civilians play out at the local level. Civilian protection is thus to a great extent a story of local dynamics, and necessitates an analysis that explicitly recognizes the local deployment patterns of peacekeeping. Peacekeepers who remain in urban centers or close to their own headquarters seem poorly suited for deterring aggressive warring actors and shielding civilians from violence. To understand UN peacekeeping effectiveness in preventing civilian victimization we need to know if peacekeepers are deployed to areas at risk of civilian atrocities and whether peacekeepers are effective in reducing violence in the areas where they operate.

Local Dynamics and the Costs of Civilian Targeting

How can peacekeepers protect civilians from violence? We assume that governments and rebel groups tend to target civilians strategically to improve their (relative) position. The purpose is often to influence the preferences and behavior of the population: to induce or deter support, or to weaken the adversary.[17] Some studies also highlight the link between violence and resource extraction, tolerated or even ordered by the leadership, or carried out by the rank and file.[18] These complex

13. Hultman, Kathman, and Shannon 2013; see also Kathman and Wood 2016.
14. Bove and Ruggeri 2016.
15. The UN mission in Bosnia did not have an explicit mandate to protect civilians. The failure to prevent the massacre in Srebrenica is likely one of the reasons the Security Council began to mandate protection of civilians in 1999. It has also been questioned whether the mission in Bosnia had the necessary capacity to respond to violence in a credible way. Costalli 2014, 378.
16. See Fortna 2008.
17. For example, Balcells 2010; Fjelde and Hultman 2014; Kalyvas 2006; Valentino, Huth, and Balch-Lindsay 2004; Wood 2010.
18. Azam 2006; Humphreys and Weinstein 2006; Weinstein 2007.

drivers of one-sided violence mean that the challenge that peacekeepers face in protecting civilian populations is multifaceted. Regardless of the exact purpose this violence serves for the warring actors, it is generally considered a cheap tactic, requiring less advanced weapons and involving a lower risk for the perpetrator, compared to interaction with an armed enemy. Since violence against civilians is often instrumental, its desirability can also be manipulated by increasing the costs. We argue that to increase the costs of civilian targeting, peacekeepers must be deployed to locations where civilians are at risk.

There are two types of costs that warring actors risk incurring in the presence of peacekeepers. First, by threatening to respond to violence with the use of force, peacekeepers can impose *military* costs on warring actors who attack civilians. Second, through monitoring and reporting routines, peacekeepers can impose *political* costs on violent actors in the form of condemnations and even prosecution by the international community. In short, the physical presence of a large number of peacekeepers deters violence against civilians by making such behavior costlier for warring actors.

When peacekeepers are present, the *military* costs of targeting civilians are higher since such violence may entail a military response by the peacekeeping unit. Military presence and patrolling can increase the costs of violence through both deterrence, that is, preventing violence from being carried out, and enforcement—the actual application of force to end ongoing violence.[19] Both could be at work where peacekeepers are able to protect civilians. Where peacekeeper presence signals willingness to defend civilians through the use of force, armed actors are more likely to be deterred from targeting civilians also in future interaction.

Protection mandates authorize peacekeepers to take necessary action to shield civilians under imminent threat of physical violence. These missions come with Chapter VII mandates that enable robust action to protect civilians. The most common approach to protection is through patrols and increased presence in areas where civilians are at risk.[20] Sometimes more directed actions are taken. For example, in February 2005 the UN mission in the Democratic Republic of the Congo (DRC)—in response to civilians being threatened by a militia group—chose to conduct a cordon-and-search operation that led to the disarmament of 116 militia soldiers.[21] In March 2004 in Liberia, the UN mission intervened and arrested over thirty rebel fighters who were caught looting and using firearms in a village.[22] These two examples illustrate how peacekeepers can respond to civilian targeting, despite the different forms and causes of violence, through their local presence and ability to respond immediately with military or police activity.

In the presence of peacekeepers, warring actors who target civilians will need to consider the risk of military engagement with peacekeeping forces. As Page Fortna

19. Ruggeri, Dorussen, and Gizelis 2017.
20. Holt and Taylor 2009, 201–202.
21. United Nations 2005, 4.
22. United Nations 2004a, 3.

points out, peacekeeping forces may serve as deterrence to violence by increasing the costs of aggression.[23] These costs could entail both fighting costly battles with the peacekeeping forces and being subject to disarmament or arrest. This represents a real risk to the belligerents when peacekeepers have a mandate to protect civilians and consequently have the option of resorting to force. Thus, in their strategic calculations of whether to engage in such behavior, armed actors must factor in the risk of military confrontation with peacekeeping forces. Peacekeepers are often stationed in locations where civilians seek protection and safety from violence, such as religious compounds, refugee camps, schools, or UN bases, and thus enforce a physical barrier between civilians and warring actors that significantly raise the cost of any attacks. When peacekeepers regularly patrol areas where armed actors operate or where civilians seek refuge, the peacekeeping force de facto becomes an additional contender for armed actors who consider civilian targeting.

Peacekeeping presence furthermore increases the *political* costs of targeting civilians since monitoring and reporting of warring actors' human rights violations may lead to international shaming and even prosecution against individual perpetrators. Most missions report regularly on human rights abuses, and these are brought to the attention of the Security Council through the reports of the Secretary-General. Through local presence, peacekeepers are able to monitor the behavior of armed actors in the area and investigate abuses that occur. For example, following an air attack on a village by the Sudanese armed forces that claimed a number of civilian casualties, the UN mission in Darfur initiated investigations on the ground.[24]

The effectiveness of naming-and-shaming efforts in reducing state terror has been debated in the literature. While some question the terror-reducing effects of shaming,[25] other studies find that naming and shaming by the United Nations or transnational advocacy networks reduce the severity of state-sponsored murder.[26] There is also evidence that the peaceful effect of naming and shaming is stronger in the presence of peacekeepers.[27] If actors target civilians for strategic or tactical gains, the incentives for doing so should be reduced if there is a risk of those abuses being brought to light with potential political repercussions. Whereas political costs immediately seem more salient for governments who depend on recognition in the interaction with other states, it may also apply to nonstate actors. Many rebel groups choose to comply with international law precisely because they seek political legitimacy or international support for strategic reasons.[28] These actors are also likely to consider shaming campaigns to be costly because they may reduce future support from both international and domestic audiences. However, even actors who are not primarily concerned with legitimacy may be deterred by the threat of prosecution.

23. Fortna 2008, 87.
24. United Nations 2008, 2.
25. Hafner-Burton 2008.
26. Krain 2012; DeMeritt 2012.
27. Burgoon et al. 2015.
28. Jo 2015; Stanton 2016.

The International Criminal Court (ICC) nowadays constitutes a real threat to perpetrators.[29] Patrolling, monitoring, and reporting activities by peacekeepers can serve to make this threat credible by drawing attention to atrocities and by providing the ICC with valuable information. This means that peacekeeping presence has the ability to increase the costs for violence, regardless of whether such violence is primarily carried out for strategic reasons or whether it is carried out for private gains.

Although we are not able to empirically separate between the impositions of military or political costs, and believe both may be at work but more or less salient depending on context, we still expect both costs to be positively associated with the number of peacekeepers deployed. The Brahimi Report emphasizes the importance of moving beyond a symbolic presence and posing a "credible deterrent threat" by, for example, providing forces that are larger and better equipped.[30] This may be more important for military costs. According to Andrea Ruggeri, Han Dorussen, and Ismene Gizelis, monitoring does not require a large presence to achieve local conflict prevention between armed actors.[31] Yet monitoring the interaction of armed actors vis-à-vis the civilian population is still likely to require a substantial number of troops to be successful. Gathering information in high-risk areas where actors target civilians requires patrols by sizeable armed units. Peacekeepers primarily increase those costs in their immediate surroundings, which means that local presence is crucial. Geographic concentration of troops in large bases may stabilize the situation in the surrounding area while at the same time leaving large parts of the conflict zone unmonitored. With a sizeable local presence across areas where warring actors operate and civilians are at risk, peacekeepers are able to increase the military and political costs of targeting civilians. Based on this argument we propose the following hypothesis:

H1: The more peacekeeping forces deployed to a location, the lower the likelihood of violence against civilians.

The impact of peacekeeping may not be the same for government and rebel behavior. Peacekeeping protection hinges critically on access to civilian populations, yet their ability to reach all areas of the country will depend on the government. Since consent is one of the key principles of peacekeeping, host governments de facto have the power to veto UN access to particular areas. As recognized in the UN principles of peacekeeping, consent to a mission by the warring parties "does not necessarily imply or guarantee that there will also be consent at the *local* level."[32] Peacekeeping missions are at times faced with an unwilling or even hostile host

29. Jo and Simmons 2016.

30. United Nations 2000, 9. See also studies on the importance of peacekeeping capacity and mission size. Hultman, Kathman, and Shannon 2013; Ruggeri, Gizelis, and Dorussen 2013.

31. Ruggeri, Dorussen, and Gizelis 2017.

32. Principles of UN Peacekeeping, retrieved from <https://peacekeeping.un.org/en/principles-of-peacekeeping> Accessed 2 July 2018. Italics added. See also Tull 2013, 185.

government that restricts peacekeepers' freedom of movement,[33] which in turn also constrains the peacekeepers' ability to protect civilians where they are at risk.

Scholars and practitioners alike increasingly recognize that peacekeepers face obstacles to their ability to move around freely and deploy to the areas where violence occurs.[34] For instance, Aicha Al-Basri, former spokesperson for the peacekeeping mission in Darfur (UNAMID), notes that the Khartoum government has repeatedly denied the peacekeeping forces access to restive areas.[35] There are also reports of the Sudanese authorities on several instances barring the peacekeepers from making inquiries into reports of Sudanese bombing campaigns.[36] This suggests that government actors to some degree can escape the costs of targeting civilians by allowing the peacekeepers to deploy only to areas of their choice. The fact that peacekeepers have to rely on continued consent further means that they may be more hesitant to interfere militarily when they observe violence against civilians by state actors. The peacekeeping mission in DRC has at times found itself in the troublesome position of having to collaborate with government forces even though they were known to abuse the civilian population.[37]

While the question of consent may also cause problems in the interaction with rebel groups, their consent may not be as critical.[38] Nonstate actors cannot in the same way resist deployments of peacekeepers and are thus likely to be sensitive to both the political and the military costs of targeting civilians as peacekeepers are able to move into rebel-held areas. While rebel actors could seek to thwart deployments by challenging the peacekeepers militarily, they would then have to face the military costs of such a confrontation. In sum, while peacekeepers generally should be able to impose military and political costs on state actors, peacekeeping is likely to be a weaker tool against government forces than rebel groups. To evaluate this empirically, we specify separate hypotheses for rebel and government actors respectively.

H2a: The more peacekeeping forces deployed to a location, the lower the likelihood of violence against civilians by rebel groups.

H2b: More peacekeeping forces deployed to a location will not influence the likelihood of violence against civilians by governments.

33. Piccolino and Karlsrud 2011, 450.
34. Johnstone 2011; Tull 2013.
35. "Sudan: Could the UN's Biggest Peacekeeping Mission Leave Darfur?" *Daily Maverick*, 21 April 2016.
36. Colum Lynch, "They Just Stood Watching," *Foreign Policy*, 7 April 2014.
37. Holt and Taylor 2009.
38. Tull 2013, 185.

Research Design

To examine the effects of peacekeeping at the local level we employ a disaggregated research design that allows us to capture fine-grained variations in the subnational patterns of UN peacekeeping deployment across space and over time. For this purpose, we have collected new data on subnational deployment of peacekeepers in Africa.[39] Since our main interest concerns the ability of peacekeepers to protect civilians, we focus our analysis on countries that saw the deployment of UN missions with an explicit mandate to protect civilians in the period 2000–2011. Our data set includes the following countries (with UN missions in parentheses): Burundi (ONUB), Central African Republic (MINURCAT), Chad (MINURCAT), Democratic Republic of Congo (MONUC, MONUSCO), Ivory Coast (UNOCI), Liberia (UNMIL), Sierra Leone (UNAMSIL), South Sudan (UNMISS), and Sudan (UNMIS, UNAMID, UNISFA). For our statistical analysis, we include the country from the month the mission was established, or the month the mission received a protection mandate from the Security Council, and follow the missions until the end of 2011, or until the mission ends (see Table A1 in the appendix).

To construct our units of analysis we rely on a spatial grid structure that divides the countries into cells that are 0.5×0.5 degrees (approximately 55×55 km at the Equator).[40] This spatial resolution allows us to analyze the effect of peacekeeping presence on the behavior of the warring parties in their areas of deployment. In contrast to, for example, conflict zones, the grid structure provides a unit of observation that is not itself endogenous to conflict processes. Meanwhile, aggregation beyond the single event reduces the influence of measurement error in the dependent variable. Armed actors are likely to respond swiftly to shifts in their tactical environment and we expect peacekeepers' deployment to have immediate effects on the likelihood of civilian victimization. To recognize the temporal dynamics of both troop deployment and levels of violence, we use monthly observations of the grid cells as our units of analysis.[41] We include all grid cells in the countries with a UN mission, thereby observing all locations at risk of violence against civilians and with a chance of receiving peacekeepers. With this specification, the data set includes a total of 217,823 observations.

Dependent Variables

Our dependent variables capture whether direct and deliberate attacks on civilians occur in a grid cell in a given month, using data from the UCDP Geo-referenced

39. With this geographical scope, we exclude only two protection missions in the same period: MINUSTAH in Haiti and UNIFIL in Lebanon. In both these countries the armed conflict, including systematic violence against civilians, ended the same year as the peacekeeping missions received a protection mandate.

40. The spatial grid structure and several of our control variables are taken from PRIO-GRID version 2.0. Tollefsen, Strand, and Buhaug 2012.

41. In our sample, we have 10,407 monthly observations with peacekeepers deployed in the cell; of those 3,564 are months where the number of peacekeepers changed from the month before.

Event Data set v.5.0.[42] In UCDP GED all cases where one-sided violence by an armed actor reaches an annual twenty-five-fatality threshold are recorded as separate events and provided with a geographical reference in the form of a latitude/longitude coordinate and a date.[43] This allows us to examine the local covariates of violence against civilians. The expectation that peacekeepers should be able to eliminate every single incident of one-sided violence is, in our view, too restrictive. At the same time, we want to put the theory to a hard test and operationalize protection of civilians as reducing violence to very low levels. Therefore, our dependent variables are coded as dichotomous variables, marking those cases where five or more civilians were killed in a given grid cell in a given month.[44] We construct three versions of the dependent variable, OSV where we pool all the data and do not discriminate between type of perpetrator, and OSV REB and OSV GOV where we separate between rebel and government actors (to evaluate H2a and 2b).[45]

Independent Variable

To examine the impact of peacekeepers, we create a variable #TROOPS IN CELL that records the number of peacekeeping troops deployed to the grid cell for each given month. The information comes from a new geo-referenced data set on the location of peacekeepers for all peacekeeping missions with protection mandates in African civil wars between 2000 and 2011, collected for this study. The data are based on UN deployment maps of the peacekeeping missions, obtained via the mission reports of the Secretary-General and the UN Library in New York.[46] The maps contain information about the location of deployment, as well as their type and strength. Each deployment location in these maps has been given spatial coordinates, using the National Geospatial-Intelligence Agency. For many mission periods, these maps are updated on a monthly basis. When they are updated less frequently, we have imputed values based on the most recent available data. The data for our eleven missions are collected from a total of 192 maps. The UN maps do not directly report the number of troops, but they do provide information about the number of battalions,

42. Sundberg and Melander 2013.

43. For more information on the geo-referenced event data see the UCDP GED codebook. Croicu and Sundberg 2015. For information on data collection and coding procedures of the one-sided violence data, see Eck and Hultman 2007.

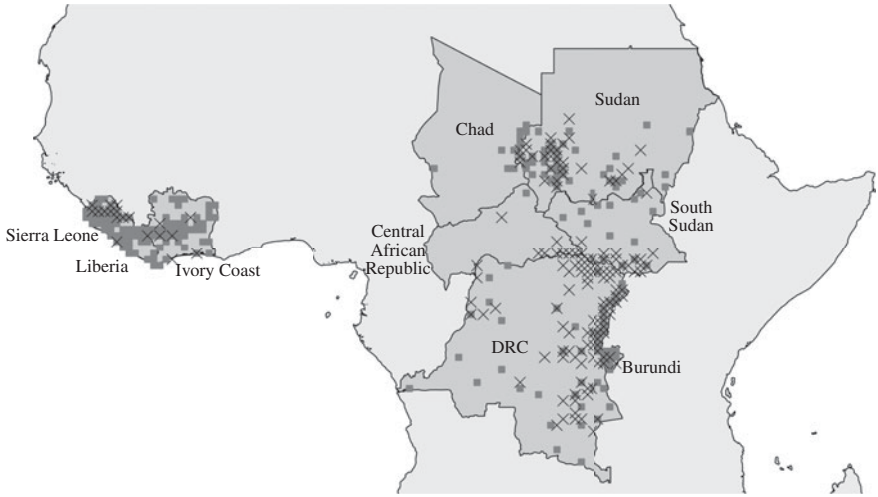
44. A dichotomous coding of occurrence rather than a count of events or fatalities also reduces the influence of measurement error in our dependent variable, stemming, for example, from reporting bias. Weidman 2016. Since the exact numbers of civilian fatalities may be underreported by UCDP GED we are more confident that a dummy coding is comparable across units. In Appendix Table A11 we show robustness to using ten civilians killed.

45. Some nonstate actors recorded by UCDP GED have close operational ties to the government. Since our theoretical argument highlights different impact of peacekeeping presence for government and rebel actors, we record the violence carried out by known pro-government militias as government violence.

46. Our data collection approach resembles that of Ruggeri, Dorussen, and Gizelis 2017. Both efforts rely on UN deployment maps, but whereas their data set covers UN missions in Sub-Saharan Africa for the years 1989–2006, our data set goes up to 2011. For years with temporal overlap, the troop-strength measures in the two data sets are correlated by 0.85. Remaining differences seem to stem from different strategies for calculating exact troop-strength numbers and for extrapolating values in between maps.

companies, and platoons at each location. Based on information about the standard size of these units, we have generated estimates of the number of troops.[47]

Figure 1 summarizes peacekeeping presence and one-sided violence by location for the entire time period. Of the 2,387 spatial units in our data set, 214 see peacekeeping forces deployed and 159 experience one-sided violence with at least five people killed in one month at some point during the period from January 2000 to December 2011. The lowest number of deployed troops (for the non-zero observations) in our data is ten and the maximum is 5,500. The average number in locations with deployment is 522 and the standard deviation is 664. In the statistical analyses, the variable is rescaled so that one unit corresponds to 100 troops.



Notes: The figure shows the countries included in the analysis in darker gray. Dark gray squares represent grid cells where peacekeepers are present. Crosses mark grid cells with one-sided violence (>5 fatalities/month).

FIGURE 1. *Location of peacekeepers and one-sided violence, 2000–2011*

Control Variables

We control for a range of potentially confounding variables. Both civilian targeting and peacekeeping deployment may be affected by population density, type of terrain, and degree of accessibility. To account for these dynamics, we include three control variables at the cell level: POPULATION, the percentage of MOUNTAINOUS TERRAIN, and DISTANCE TO CITY.[48] Violence against civilians is often related to military

47. These numbers are based on NATO and UN standard military unit numbers, that is, 650 troops per battalion, 150 troops per company, and 35 troops per platoon.

48. Population is measured as population/grid-cell size, using data from Gridded Population of the World, v.3. CIESIN and CIAT 2005. Mountainous terrain gives the proportion of mountainous terrain within each

dynamics and these may also influence peacekeeping presence. We therefore include a count variable of BATTLE DEATHS in the grid cell the previous month.

The disaggregated unit of analysis makes it important to control for both temporal and spatial dependence. We include decay functions for time since past recorded one-sided violence in the cell, using a half-life parameter of four months. To account for spatial dependence we include SPATIAL LAG OSV, which takes the value of 1 if acts of civilian targeting occurred in the first-order neighboring cells the previous month.[49] Finally, to account for potential diffusion effects from peacekeeping presence, we include #TROOPS IN NEIGH. CELLS, which is a count of the total number of peacekeeping troops in the first-order neighboring grid. In the robustness section we introduce a number of additional control variables, for example, related to PKO country-level characteristics, alongside alternative operationalizations of our independent and dependent variables. Summary statistics for our variables appear in Table 1.

TABLE 1. *Summary statistics*

Variable	*N*	*Mean*	*Std. Dev.*	*Min*	*Max*
#TROOPS IN CELL (IN HUNDREDS)	217,823	0.247	1.822	0	55
PK PRESENCE	217,823	0.048	0.213	0	1
ONE-SIDED VIOLENCE (OSV)	217,823	0.002	0.045	0	1
OSV REB	217,823	0.0014	0.038	0	1
OSV GOV	217,823	0.0006	0.025	0	1
POPULATION (LOG)	217,823	10.308	1.359	4.744	14.520
DISTANCE TO CITY (LOG)	217,823	6.123	0.620	4.075	8.665
MOUNTAINOUS TERRAIN	217,202	0.086	0.196	0	1
DECAY FUNCTION OSV	217,823	0.016	0.101	0	1
DECAY FUNCTION OSV REB	217,823	0.010	0.083	0	1
DECAY FUNCTION OSV GOV	217,823	0.007	0.067	0	1
DURATION OF THE PKO	217,823	54.242	38.058	1	143
P5 TROOPS IN PKO	217,823	0.430	0.495	0	1
TOTAL SIZE OF PKO[1]	215,922	5.111	1.440	0.030	8.667
#TROOPS IN NEIGH. CELLS (IN HUNDREDS)	217,823	1.700	6.226	0	89.700
SPATIAL LAG OSV	217,823	0.025	0.156	0	1
BATTLE DEATHS	217,823	0.059	3.344	0	731
INVERSE DISTANCE TROOPS	208,924	0.058	0.217	0.001	1
OSV 3 MONTHS	210,662	0.259	8.763	0	1364
OSV GOV 3 MONTHS	210,662	0.063	2.961	0	550
OSV REB 3 MONTHS	210,662	0.196	8.164	0	1364
DISTANCE TO CAPITAL (LOG)	217,823	6.492	0.742	1.644	7.555
PKO UN AFRICA (IN TEN THOUSANDS)	217,823	5.528	1.767	0.568	7.594
DIST. TO CAP. * AFRICA UN PKO	217,823	35.67	11.86	1.863	57.37

[1] TOTAL SIZE OF PKO is measured as the natural log of the total number of peacekeepers in the country, divided by the population (denoted in 1,000,000).

cell. Blyth et al. 2002. Distance to city measures the transportation time from the cell to the nearest major urban center with more than 50,000 inhabitants. Population and distance to city are log-transformed. The variables are from PRIO-GRID version 2.0. Tollefsen, Strand, and Buhaug 2012; Tollefsen et al. 2015.

49. Based on data from the UCDP GED. Sundberg and Melander 2013.

Nonrandom Deployment of Peacekeepers

The deployment of peacekeepers is not a random process and potential selection effects may confound an analysis of peacekeeping effectiveness. Several country-level studies suggest that peacekeepers tend to be sent to cases with higher conflict intensity or more civilian casualties,[50] and a recent subnational analysis suggests that such patterns are also manifest at the local level.[51] Since peacekeepers are deployed in the hardest cases, we are thus likely to underestimate any effect of peacekeeping on violence against civilians. Having said this, understanding and accounting for this selection effect is important for analyzing the impact of peacekeeping on civilian targeting. In our robustness section we elaborate on three steps we have taken to ensure more robust inference regarding the causal impact of peacekeeping on local protection. First, we examine whether our results hold when accounting for longer-term trends in our dependent variable to make sure that there is no strategic selection of peacekeepers into areas where violence is already on the decline. Second, we use matching techniques to create a more balanced data set to ensure that our results are not caused by systematic differences between the areas that see peacekeeping deployment and those that do not (in particular differences that may be correlated with lower levels of violence against civilians). Third, we estimate a two-stage simultaneous equation model with an instrumental variable that accounts for correlation in the error terms in the process of peacekeeping deployment and the process of civilian victimization.

All three approaches are designed to account for the broader issue of nonrandom deployment of peacekeepers in a statistical framework where we are primarily concerned with the effect that peacekeepers have on local protection. In addition, we also explore the question of peacekeeping deployment in a more direct manner. We examine whether peacekeepers are deployed to the areas with the highest risk of civilian targeting, or if peacekeepers tend to shy away from these areas. First, we look at how violence influences the likelihood that peacekeepers are first deployed to an area. If there is violence against civilians in the cell or in the first-order neighboring cells, we see the onset of local peacekeeping within one month in forty-eight instances; within three months there are ninety-nine new deployments; and within six months there are a total of 157 new deployments. So whereas the reaction is not instantaneous, the UN does seem to deploy to areas where violence occurs. At the same time, in our data there are 157 locations that experience violence against civilians at some point and where peacekeepers are never deployed. These patterns verify the picture presented by many mission reports. For example, MONUC in DRC reported that the needs were larger than

50. Fortna 2008; Gilligan and Stedman 2003; Hultman 2013; Melander 2009.
51. Ruggeri, Dorussen, and Gizelis 2016.

their capacity, forcing the mission to focus on certain strategic areas of operation, selecting hard cases, but leaving other areas unmonitored.[52]

Next, we examine deployment patterns more systematically, by estimating logit models with the onset of local peacekeeping deployment as our dependent variable and OSV 3 MONTHS as our independent variable, which summarizes one-sided violence for the preceding three months.[53] We also explore whether the peacekeeping deployments are driven by civil war battle deaths. In our models, we control for a range of potential confounding variables that may be associated both with deployment and civilian targeting.[54]

TABLE 2. *Determinants of peacekeeping deployment, logit models*

	(1)PK onset	*(2)PK onset*
OSV 3 MONTHS	0.003	
	(0.001)**	
OSV GOV 3 MONTHS		−0.008
		(0.013)
OSV REB 3 MONTHS		0.003
		(0.001)**
POPULATION_{log}	0.115	0.113
	(0.099)	(0.099)
MOUNTAINOUS TERRAIN	0.691	0.688
	(0.332)**	(0.332)**
$\text{DISTANCE TO CITY}_{log}$	−1.423	−1.423
	(0.189)***	(0.189)***
$\text{BATTLE DEATHS}_{t-1}$	−0.006	−0.006
	(0.008)	(0.008)
$\text{SPATIAL LAG OSV}_{t-1}$	−0.358	−0.349
	(0.341)	(0.339)
$\#\text{TROOPS IN NEIGH. CELLS}_{t-1}$	0.051	0.051
	(0.006)***	(0.006)***
DECAY FUNCTION PK ONSET	2.332	2.412
	(0.413)***	(0.436)***
Constant	0.195	0.212
	(1.999)	(1.997)
N	200,153	200,153

Note: Robust standard errors in parentheses clustered on cell. *$p < .1$; **$p < .05$; ***$p < .01$.

In Table 2, Model 1, we examine whether peacekeeping deployment is shaped by previous levels of violence against civilians: the coefficient for civilian targeting is

52. United Nations 2004b, 21.

53. The variable PEACEKEEPING ONSET is coded 1 for all cells where the peacekeepers are present for the first time in at least three months. For corresponding models with PEACEKEEPING PRESENCE as the dependent variable, see Appendix Table A3.

54. See Ruggeri, Dorussen, and Gizelis 2016.

positive and statistically significant at the 95 percent level.[55] In Model 2, we distinguish between one-sided violence by government and rebel actors since our discussion suggests that the deployment mechanisms may look different when peacekeepers are more constrained in intervening against government abuses. The results support these conjectures. Whereas the coefficient for one-sided violence by rebel actors is positive and significant at the 95 percent level, the coefficient for one-sided violence by government actors is not precisely estimated.

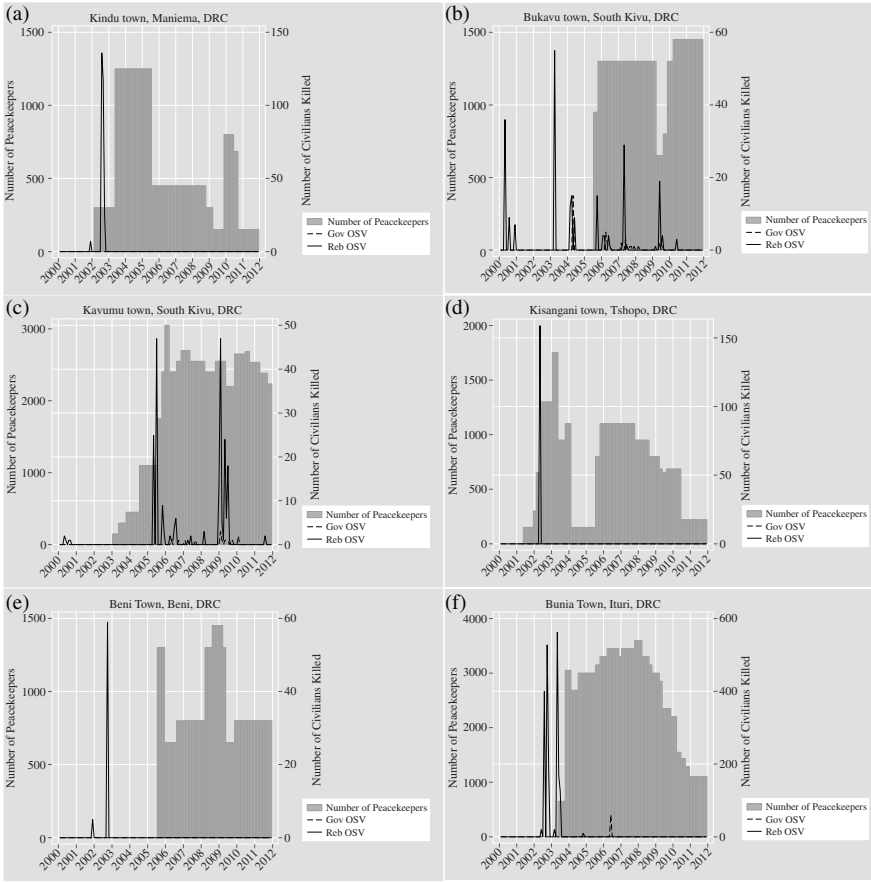
The evidence for a relationship between battle intensity and peacekeeping deployment is generally weaker; the battle-intensity variable is not statistically significant in any of the models. Our analysis thus indicates that violence against civilians increases the likelihood of peacekeeping deployment—particularly where nonstate actors target civilians—so that peacekeepers are indeed faced with hard cases of civilian protection. A look at summary statistics for our control variables, where we compare cases with and without peacekeeping deployment, is also in line with this picture (see Appendix Table A2a). If anything, this should bias *against* finding a strong protection effect of local peacekeeping deployment on civilian targeting in our subsequent analysis of peacekeeping effectiveness.

The Local Effects of Peacekeeping

With more knowledge of local deployment patterns, we now turn to the empirical assessment of our hypotheses on peacekeeping's effect on civilian protection. Before presenting general patterns, we visually examine the correlation between peacekeeping size and the level of violence against civilians in six locations in the Democratic Republic of Congo (DRC). The UN missions in DRC (MONUC and MONUSCO) have received much critique for not being able to bring violence to a halt. Figures 2a to 2f show troop presence in the six locations that saw the largest peacekeeping presence (at least 1,200 peacekeepers present at some point in time during the period from January 2000 to December 2011), as well as the occurrence of one-sided violence (by either state or nonstate actors).[56] In five out of six locations, the graphs suggest that violence declines following an increase in peacekeepers. Hence, for the cases where peacekeepers have been deployed with large forces, we discern a trend with fewer civilian casualties coinciding with the increase in local peacekeeping. These graphs also show that high spikes in violence against civilians are usually followed by an increase in peacekeeping presence, although not instantaneously. However, to test whether these trends reflect a more general relationship, we turn to statistical analysis.

55. We have also added variables that summarize the intensity of one-sided violence and battle violence in the cell in the six-month period prior to peacekeeping deployment to the country. Here we find that local deployment is driven both by higher prevalence of one-sided violence, as well more intense battle violence (see Appendix Table A2b).

56. Figures 2 to 4 were generated using the graphic schemes plotting and plotplain. Bischof 2017.



FIGURES 2a–f. *One-sided violence and peacekeeping presence in the Democratic Republic of Congo*

In Table 3 we report the results from our analyses of the relationship between the number of peacekeeping troops in a cell and the occurrence of violence against civilians. Model 3 shows the result from a logit model with OSV as the dependent variable, controlling for a range of potential local confounders, with robust standard errors clustered at the cell level. The coefficient for peacekeeping troops (#TROOPS IN CELL) is negative, but not statistically significant. Hence, there is no discernable effect of peacekeeping troops on the risk of one-sided violence.

Next, we evaluate our hypotheses that make a distinction between violence carried out by rebel and government actors. The results reported in Model 4 suggest that peacekeepers are effective in curbing civilian targeting by rebels: when assessed in relation to OSV REB, the coefficient for the size of peacekeeping deployment is negative and statistically significant at the 95 percent confidence level. Based on this model, we estimate

TABLE 3. *Effect of peacekeeping troops on the risk of one-sided violence, logit models*

	(3)OSV	*(4)OSV Reb*	*(5)OSV Gov*	*(6)OSV Reb*	*(7)OSV Gov*
#TROOPS IN CELL$_{t-1}$	−0.005	−0.024	−0.012	−0.023	−0.011
	(0.013)	(0.011)**	(0.033)	(0.010)**	(0.027)
POPULATION$_{log}$	−0.007	−0.052	0.153	−0.034	0.145
	(0.068)	(0.070)	(0.154)	(0.077)	(0.172)
MOUNTAINOUS TERRAIN	1.162	1.375	0.431	1.420	0.493
	(0.254)***	(0.269)***	(0.562)	(0.279)***	(0.569)
DISTANCE TO CITY$_{log}$	−0.658	−0.687	−0.654	−0.626	−0.829
	(0.142)***	(0.176)***	(0.244)***	(0.189)***	(0.267)***
BATTLE DEATHS$_{t-1}$	0.002	−0.001	0.004	−0.001	0.008
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)**
SPATIAL LAG OSV$_{t-1}$	1.349	1.523	0.751	1.626	0.860
	(0.162)***	(0.208)***	(0.377)**	(0.216)***	(0.402)*
#TROOPS IN NEIGH. CELLS$_{t-1}$	−0.007	−0.011	−0.007	−0.014	−0.010
	(0.005)	(0.006)*	(0.011)	(0.006)**	(0.011)
DECAY FUNCTION OSV	4.025				
	(0.188)***				
DECAY FUNCTION OSV GOV		0.245	4.012	0.173	3.925
		(0.259)	(0.399)***	(0.267)	(0.461)***
DECAY FUNCTION OSV REB		4.335	1.323	4.387	1.259
		(0.230)***	(0.534)**	(0.238)***	(0.593)**
OSV REB CHANGE				−0.001	
				(0.002)	
OSV GOV CHANGE					0.032
					(0.020)
Constant	−3.211	−2.972	−5.740	−3.560	−4.735
	(1.352)**	(1.533)*	(2.890)**	(1.642)**	(3.151)
N	217,202	217,202	217,202	198,162	198,162

Note: Robust standard errors in parentheses clustered on cell. *$p < .1$; **$p < .05$; ***$p < .01$.

substantive effects for an average scenario in a location with one-sided violence in the recent but not immediate past, with violence ongoing in the neighborhood but without peacekeepers nearby.[57] Figure 3 shows how the monthly predicted probability of one-sided violence by rebels is affected by the number of PKO troops. While the overall risk of violence is small in any monthly observation of such small units, the relative decrease is noticeable: the likelihood of violence is reduced by half when going from 0 to 3,000 troops. We also estimate the impact in a high-risk scenario for a location with a substantially higher baseline risk of one-sided violence: when moving from 0 to 1,500 troops in such a scenario, the monthly risk of rebel targeting of civilians decreases from 29 to 22 percent, and with 3,000 troops the risk is down to 17 percent.[58] This supports our

57. The spatial lag is set to 1, number of troops in neighboring cells to 0, temporal decay function for OSV indicates violence at t-3, and all remaining control variables at their mean value. Probabilities are estimated using the Spost commands. Long and Freese 2014.

58. In the high-risk scenario, we specify a case with one-sided violence in the near past, as well as in the surrounding areas (spatial lag set to 1), fifty battle deaths in the same area, a mountainous area close to a large city, population at the mean, and with 3,000 peacekeepers in adjacent cells (since high-risk areas are likely to have peacekeepers in the vicinity).

argument that a stronger peacekeeping presence at the local level also reduces the risk of rebel-perpetrated civilian victimization in substantial terms.

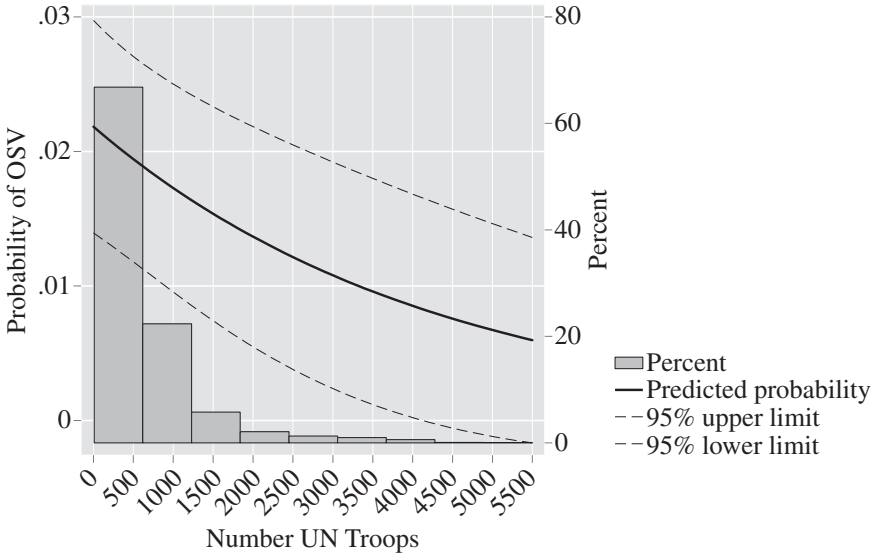


FIGURE 3. *Predicted probabilities of one-sided violence as peacekeeping troops changes*

When we look at government violence (OSV GOV) in Model 5, the coefficient is negative, but not statistically significant. This suggests peacekeeping troops exercise a more heterogeneous effect on government, compared to rebel behavior. The results thus support our argument that peacekeeping is effective in reducing the risk of civilian victimization at the hands of rebel actors, but less so when it comes to protection from government abuse. This finding is particularly interesting in light of recent country-level evidence suggesting that increasing the number of peacekeepers reduces violence against civilians by state and nonstate actors alike.[59] One interpretation of these diverging findings is that at the local level, the government's ability to veto peacekeeping deployment makes them less sensitive to the costs imposed by peacekeepers locally. At the national level, the presence of a UN mission can still put sufficient pressure on the government to precipitate a change of government strategy that leads to an overall decline in patterns of violence. Since the imposition of military costs should be a less prevalent mechanism for civilian protection at national level, this suggests that governments are particularly sensitive to political costs associated with targeting civilians in the presence of peacekeepers. With regard to the rebel side, a sizeable local deployment has a clearly discernable effect on reducing the risk of civilian targeting. As we noted in the theory section, we believe that rebel groups are particularly sensitive to the military costs

59. Hultman, Kathman, and Shannon 2013.

that may be associated with targeting civilians in the local presence of peacekeepers. Peacekeeping may thus work through different mechanisms in shaping government and rebel behavior toward the civilian population. Governments respond to political costs at the country level, whereas rebels respond to military costs at the local level.

With regard to the control variables, we find evidence that civilian targeting is correlated across space and time. Both the spatial lag and the decay functions of time since past one-sided violence are positive and significant across most models (although government violence does not seem to spur rebel violence). Battle deaths, however, do not seem to be a strong predictor of when or where civilian targeting occurs. We find that mountainous terrain increases the risk of one-sided violence, particularly for nonstate actors, and that risk is greater closer to major urban centers. The spatial lag of peacekeepers is consistently negative, but in line with our overall results significant (at the 90% level or better) for only OSV REB. Troops in the neighboring cells hence also seem to have a dampening effect on civilian victimization, which is what we should expect from peacekeepers patrolling. However, the coefficient is smaller than for troops in the cell, indicating that local troops have a greater impact on rebel abuse than troops in the surrounding area.

Is the negative association between peacekeepers and civilian fatalities a result of peacekeepers avoiding areas that see a high risk of civilian victimization? Our analysis of peacekeeping deployment instead suggests that a prioritization works in the opposite direction: peacekeepers are deployed to areas with a high baseline risk of one-sided violence. Yet, nonrandom deployment patterns imply that any correlation between peacekeepers and a reduction in one-sided violence may relate to underlying differences between the locations that see deployment and those that do not, rather than to the effectiveness of peacekeeping per se. We take three steps to ensure more robust inference regarding the effect on peacekeeping deployment: (1) controlling for long-term time trends in our dependent variable to account for an endogenous process of peacekeeping selection into peaceful locations; (2) matching methods to account for peacekeeping selection related to observable variables, and (3) estimating a bivariate probit model with an instrumental variable.

To begin with, it is conceivable that peacekeepers are deployed to secure stability in areas where the rate of violence is already trending toward peace, which by extension would lead to a spurious correlation between peacekeepers and lower levels of civilian abuse. To account for this possibility, we include control variables capturing long-term time trends in our dependent variable. The variables OSV REB CHANGE, and OSV GOV CHANGE compare the average level of violence in the previous four-month period to the preceding four-month period. The variables are constructed as moving averages and separate between rebel and government violence. As Table 3, Model 6 and 7 indicate, our findings remain the same.

Second, we implement Propensity Score Matching to account for the nonrandom deployment of peacekeepers.[60] Matching is helpful to reduce imbalances in our

60. Leuven and Sianesi 2003.

observed data that arise if the locations that see peacekeeping deployment are very different from those that do not, and thereby provides a more robust inference regarding the effect of our treatment across more comparable units.[61] The most important covariates to include in the matching are those that may be related to our treatment variable (peacekeeping deployment), whereas we avoid covariates that may be affected by treatment assignment to reduce the risk of post-treatment bias when estimating the effect. Based on these considerations we match on the cell-specific PREDEPLOYMENT OSV, which records the intensity (in fatalities) of violence against civilians in the cell in the six months *prior* to the deployment of the protection mission (coded 0 if there is no such violence). Similarly, the variable PREDEPLOYMENT BATTLE DEATHS records the intensity of civil war violence occurring in the cell in the six months *prior* to the deployment of the protection mission (coded 0 if there is no such violence). We also match on POPULATION, MOUNTAINOUS TERRAIN, and DISTANCE TO CITY. We believe these covariates may significantly shape the process of peacekeeping deployment, while also being related to the risk of violence against civilians. Finally, we match on country dummies as a way to account for some of the unobserved heterogeneity across the missions themselves and the contexts in which they intervene. We obtain our sample using one-to-one nearest-neighbor matching with replacement.

After this preprocessing of the data, we are left with 20,446 observations and a substantially more balanced data set: the mean bias drops from 44.4 in the unmatched sample to 6.3 in the matched sample. Figure 4 shows the standardized percent bias reduction for each variable. The bias is significantly reduced for important variables: differences in predeployment violence, distance to city, terrain, and population size. However, the matching sample also comes at some cost. While we retain the vast majority of our observations with PKO deployment (10,223 of our 10,407), we retain only 87 of the 309 observations where civilian targeting by rebel actors occurs, and 51 out of 137 observations where government actors are the perpetrators of violence. Finding good matches in such a large-*N* data set with a rare event as the outcome variable is a challenge. The results from our matched data set should thus be seen as one of several efforts to examine the relationship between peacekeepers and civilian victimization.

In Table 4, Model 8 we regress OSV REB on #TROOPS IN CELL, and include the same controls used in our main model to adjust for any remaining imbalance in these covariates within the matched sample. The coefficient for #TROOPS IN CELL is negative and significant at the 95 percent confidence level; it is also larger compared to Table 3, suggesting the effect may even have been underestimated in the nonmatched sample. This lends further evidence to support the claim that the effect of peacekeeping troops cannot simply be attributed to a nonrandom deployment of peacekeepers to areas that see a lower risk of civilian targeting to begin with. Table 4, Model 9 reports the effect on government violence (OSV GOV). The coefficient is negative but not statistically significant, which suggests that peacekeeping troops are not effective in protecting civilians from government violence.

61. See, for example, Gilligan and Sergenti 2008.

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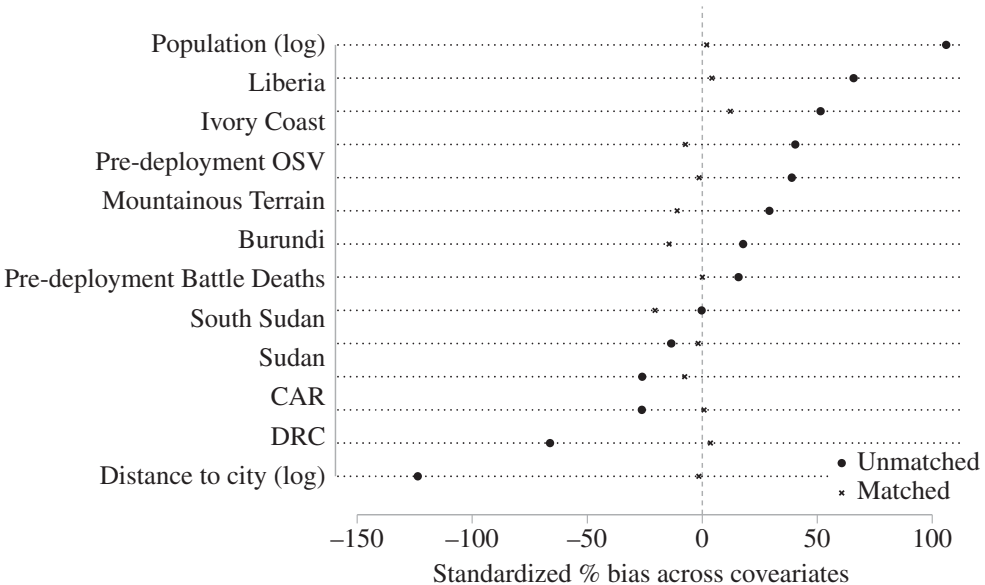

FIGURE 4. *Standardized percent bias in matched compared to unmatched sample*

TABLE 4. *Effect of peacekeeping troops on the risk of one-sided violence, logit models, matched sample*

	(8)OSV Reb	*(9)OSV Gov*
#TROOPS IN $CELL_{t-1}$	−0.066	−0.005
	(0.032)**	(0.051)
$POPULATION_{log}$	−0.035	0.715
	(0.250)	(0.391)*
MOUNTAINOUS TERRAIN	−0.859	−1.213
	(1.018)	(0.898)
DISTANCE TO $CITY_{log}$	−1.260	1.490
	(0.923)	(0.496)***
BATTLE $DEATHS_{t-1}$	0.002	0.019
	(0.008)	(0.003)***
SPATIAL LAG OSV_{t-1}	−0.347	0.635
	(0.629)	(0.279)**
#TROOPS IN NEIGH. $CELLS_{t-1}$	−0.014	−0.006
	(0.013)	(0.014)
DECAY FUNCTION OSV GOV	3.322	2.705
	(1.015)***	(1.977)
DECAY FUNCTION OSV REB	4.284	2.886
	(0.680)***	(1.033)***
Constant	1.558	−23.443
	(6.903)	(4.423)***
N	20,446	20,446

Note: Robust standard errors in parentheses clustered on cell. *$p < .1$; **$p < .05$; ***$p < .01$.

Whereas matching enhances confidence in our results, it can account for selection related to only observable covariates. But peacekeeping deployment and lower levels of violence against civilians may also be correlated as a result of processes that are difficult to capture with quantitative data, for example, local ceasefire agreements guaranteeing temporary civilian safe havens under PKO protection. As a way to account for correlation in the error terms between the process of peacekeeping deployment and the process of civilian victimization, we estimate recursive bivariate probit models with two simultaneous equations.[62] Since the bivariate probit model does not allow for continuous variables, we dichotomize our peacekeeping variable and use PK PRESENCE as the outcome in our first equation. The outcome in the second equation is our dichotomous indicator of one-sided violence (looking at rebels and government actors in two separate models). Following Ruggeri, Dorussen, and Gizelis we include an instrument in the first stage.[63] To identify a source of variation in the probability of local deployment that is exogenous to the risk of violence against civilians in the grid cell any given month, they propose an interaction term between the total number of peacekeepers in Africa (AFRICA UN PKO) and distance to capital (DISTANCE TO CAPITAL). The results are reported in Table 5, Model 10 and 11. As expected, the instrument has a positive and significant

62. See Maddala 1983.

63. Ruggeri, Dorussen, and Gizelis 2017. For a similar approach see, for example, Wucherpfennig, Hunziker, and Cederman 2016.

effect on peacekeeping presence. Furthermore, the rho is significant in both models, confirming the appropriateness of estimating this as a two-stage process. The findings show that, even when accounting for the nonrandom selection of peacekeepers to a location, their presence has a negative and significant effect on reducing the risk of violence against civilians by rebel actors. In line with previous result we find no significant effect for government actors.

TABLE 5. *Peacekeeping presence and the risk of one-sided violence, recursive bivariate probit*

	(10)PK Presence OSV Reb		*(11)PK Presence OSV Gov*	
PK PRESENCE		−0.757		−0.240
		(0.328)**		(0.228)
POPULATION_{log}	0.153	0.011	0.153	0.038
	(0.050)***	(0.029)	(0.050)***	(0.042)
MOUNTAINOUS TERRAIN	0.173	0.521	0.174	0.210
	(0.210)	(0.106)***	(0.210)	(0.155)
$\text{DISTANCE TO CITY}_{log}$	−0.616	−0.298	−0.617	−0.245
	(0.109)***	(0.084)***	(0.109)***	(0.072)***
$\text{BATTLE DEATHS}_{t-1}$	−0.001	−0.000	−0.001	0.002
	(0.001)	(0.001)	(0.001)	(0.002)
$\text{SPATIAL LAG OSV}_{t-1}$	−0.266	0.539	−0.274	0.249
	(0.084)***	(0.085)***	(0.085)***	(0.113)**
$\#\text{TROOPS IN NEIGH. CELLS}_{t-1}$	0.044	0.007	0.044	0.003
	(0.004)***	(0.006)	(0.004)***	(0.004)
DECAY FUNCTION OSV GOV	0.967	0.377	0.970	1.547
	(0.178)***	(0.171)**	(0.178)***	(0.145)***
DECAY FUNCTION OSV REB	0.633	1.743	0.634	0.581
	(0.227)***	(0.092)***	(0.229)***	(0.177)***
AFRICA UN PKO	−0.313		−0.314	
	(0.108)***		(0.108)***	
DISTANCE TO CAPITAL	−0.458		−0.456	
	(0.108)***		(0.109)***	
DIST. TO CAP.* AFR. UN PKO	0.067		0.068	
	(0.017)***		(0.017)***	
Constant	2.274	−1.583	2.273	−2.377
	(1.249)*	(0.624)**	(1.253)*	(0.801)***
N		217,202		217,202
Log Likelihood		−30096.067		−29428.51
P		0.554		0.246
		(0.243)**		(0.115)**

Note: Robust standard errors in parentheses clustered on cell. *$p < .1$; **$p < .05$; ***$p < .01$.

In contrast to other models, the significant coefficient in our recursive bivariate probit model relates to a dichotomous indicator of peacekeeping presence, rather than troop size. Hence, whereas our results generally indicate that a larger presence of local peacekeeping forces is associated with a lower risk of civilian targeting by rebel actors, this result suggests that even when we disregard the size of the local presence we can observe a significant effect on local protection. We have made an effort to discern whether there are threshold effects in the number of troops required for effective protection. Doing so, we return to our more naive models, which do not account for the nonrandom deployment of peacekeepers. In these models, a mere presence indicator

does not have any significant effect (not reported here). Instead, when iteratively recoding the size of the local troop deployment variable with various cut-off points, it is only at the level of 400 troops where local deployment renders a statistically significant effect on the risk of one-sided violence by rebel actors (see appendix Table A5). Our control for mere presence in this specification is positive and significant. Taken together, this suggests that selection into the most violence-prone places possibly confounds the impact of peacekeepers where troop size is small, which biases against finding significant effects at lower thresholds.

The main results and the robustness tests present compelling evidence that a local peacekeeping force helps deter armed actors, particularly on the rebel side, from engaging in violence against civilians. However, by focusing on what happens in the cell we may disregard displacement effects: when peacekeepers arrive, armed actors might relocate for strategic reasons and attack civilians elsewhere. Generally, the results from Table 3 do not support such contentions since the coefficient for #TROOPS IN NEIGH. CELL is negative (and significant for rebel violence). But displacement effects may manifest themselves across longer distances. As robustness, we therefore include an alternative operationalization taking the inverted distance in kilometers to the most proximate peacekeeping deployment in the country in a given month.[64] The results, reported in Appendix Table A6, Model 1, do not suggest displacement effects: whereas the result for troop presence in the cell remains significant, the coefficient for INVERSE DISTANCE TROOPS is not. We explore the potential for displacement more directly in two ways. First, we estimate the effect of troops in neighboring cells on the risk of violence against civilians only for locations where no peacekeepers are present at the location. We find no evidence that nearby troops increase the risk of violence (see Appendix Table A6, Model 2). Second, we estimate the effect of troops at a location (at t-1 and t-2) on the risk of violence against civilians in neighboring cells. Again, we find no evidence that peacekeeping deployment increases the risk of one-sided violence in the vicinity (see Appendix Table A6, Models 3 and 4).

Robustness

We report a number of additional robustness checks of our main findings in the appendix.[65] First, we re-estimate our main result in Model 4, Table 3 using instead a conditional logit model with cell-fixed effects.[66] This allows us to control for time-invariant, unobserved heterogeneity across our units, for example, related to ethnic geography or state penetration and administrative reach. If these factors influence the risk of civilian victimization as well as peacekeeping deployment, this would

64. The variable is introduced at t-1 to account for the temporal process of displacement. Ward and Gleditsch 2008.

65. We focus the robustness tests on our finding concerning nonstate actors. Our findings related to government violence are not statistically significant with any robustness tests.

66. The results are also robust to adding country-fixed effects (see Appendix Table A7, Model 2).

bias our results. As we report in Appendix Table A7, Model 1, the coefficient for #TROOPS IN CELL remains negative and statistically significant at the 95 percent confidence level. The fixed-effects model examines the determinants of within-panel variability in civilian targeting, conditional on the panel ever experiencing such violence. The negative and significant estimate thus brings confidence that our results are not simply caused by cross-cell variation, but that the deployment of peacekeepers leads to a reduction in the probability of civilian targeting in their area of operation. We have also ensured that our results are robust to accounting for time trends in our data. We are particularly concerned with how the UN has interpreted and implemented the protection mandate in peacekeeping operations over time. Our results are robust to including a measure of the time since the UN civilian protection mandate was first introduced in 1999 (see Appendix Table A7, Model 3).

In Appendix Table A8, Model 1, we rerun our main models from Table 3, but include three additional control variables that account for potentially important mission-specific characteristics: TOTAL SIZE OF PKO;[67] P5 TROOPS IN PKO;[68] and the DURATION OF PKO MISSION. When accounting for local presence, we find no significant effect of the size of the peacekeeping operation in the country. The coefficient for P5 participation in the mission is negative and statistically significant, suggesting an additional local effect of high-profile missions. We do not find any significant effect of the duration of the PKO on civilian protection and thus no indication that missions improve over time in their ability to reduce violence against civilians.[69] Importantly, the introduction of these variables does not influence our main result. Hence, the local effect of peacekeeping we discern is not merely a reflection of a sizeable or sustained peacekeeping force at the country level.[70]

Conclusion

The protection of civilians is a major challenge for many peacekeeping operations. While political expectations of what peacekeepers should achieve are high, resources are often limited and missions do not have the capacity to operate in all areas where civilians are at risk. This raises two important questions. How do peacekeepers

67. The variable is measured as the natural log of the total number of troops divided by population (denoted in 1,000,000), using data from Kathman 2013 and UN 2014 (the National Accounts Main Aggregates Database). Using a simple count of the number of troops does not significantly alter our main findings.

68. P5 TROOPS IN PKO is a dummy capturing the presence of peacekeeping troops in the country from at least one of the five permanent members (P5) of the UN Security Council.

69. Howard 2008.

70. We have also controlled for GCPPC (the cell-equivalent to GDP per capita), whether an ethno-political group that is excluded from political power resides in the cell, the presence of natural resources, and the military capacity of the warring actors (results and discussions are provided in Appendix Table A8). The appendix also reports additional robustness pertaining to the estimation of rare events (Table A9); dropping events with less precise geographical precision (Table A10); alternative thresholds in our dependent variable (Table A11); and local PKO interest (Table A12).

respond to violence against civilians when they allocate their limited resources within missions? Are peacekeepers effective in protecting the civilian population in their areas of operation? We offer important insights into these questions by analyzing new data on the location of peacekeepers and violence against civilians across a number of UN missions.

Our findings suggest that peacekeepers deploy to areas with a recent history of violence against civilians, particularly where rebel actors operate.[71] Despite the fact that peacekeepers seem to select the hardest cases, the presence of peacekeepers reduces the risk of violence against civilians by rebel actors. Peacekeepers are, however, less effective in hindering government violence. One interpretation of this finding is that the reliance on government consent makes peacekeepers less effective and perhaps also less willing to impose military and political costs on government actors in the areas of their deployment. This result diverges from previous studies that report evidence at the country level on peacekeepers reducing the risk of violence by government actors. Jointly, it indicates that the influence of peacekeeping forces may work through different mechanisms for state and nonstate actors. The national arena is important for affecting government violence, whereas local protection is more effective against rebel perpetrators. We do not find any evidence for a displacement effect. Hence, we have no reason to believe that peacekeepers only push violence against civilians to surrounding areas where peacekeepers are not present.

Our disaggregated analysis also points toward additional limitations in the UN's *modus operandi* that may hamper successful protection of civilians. First, the UN deploys to only some of all areas where armed actors target civilians. The majority of locations where violence against civilians occurs—even in these countries where a peacekeeping mission is deployed—never see peacekeepers. Second, our data indicate that it often takes time until peacekeepers deploy to areas where civilians are deliberately targeted. This delayed response may signal a lack of resolve and capacity to protect civilians at the local level. In sum, while strong local presence enhances the effectiveness of civilian protection, UN peacekeeping struggles to credibly protect civilians from government forces and to respond to violence against civilians in a timely manner.

Patterns of local peacekeeping deployment is a variable that is subject to policy intervention. Hence, evidence pointing so strongly in the direction of peacekeeping efficacy should be useful information for those who craft policies in these areas, and those who advise them. Given the constraints on the supply side of peacekeepers, our findings also provide novel insights on how peacekeeping works. If the UN wants to protect civilians, it has to be ready to prioritize areas where the risk of violence is the highest. Even if the UN on average is more likely to deploy to areas where civilians are at risk, there are many areas that are left completely unattended. In these areas, violence is allowed to continue without the interference of blue helmets.

71. Our findings diverge from those of Powers, Reeder, and Townsen 2015 who find that peacekeepers deploy to conflict areas, but not to where civilians are killed. Yet, samples differ: we include more cases and focus on missions with a protection mandate.

This means that the greatest challenge for UN peacekeeping is not primarily a military challenge of finding effective ways of dealing with violence, but rather a political challenge of gathering the willpower to take necessary action.

Supplementary Material

Supplementary material for this article is available at <https://doi.org/10.1017/S0020818318000346>.

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