Protection through Presence:

UN Peacekeeping and the Costs of Targeting Civilians[1]

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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. This article provides the first comprehensive evaluation of UN peacekeeping success in protecting civilians at the sub-national 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.

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Introduction

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 towards making civilian protection their key imperative.[2] These operations, however, face tremendous challenges in fulfilling their mandates, and there are large sub-national variations in where peacekeepers are deployed and how successful they are in addressing violence on the ground. Indeed, 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. UNAMID in Darfur, 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.[3] Most mission mandates also include caveats specifying that peacekeepers should protect civilians "within capabilities and areas of deployment".[4] To advance our understanding of the impact of peacekeeping on violence against civilians it is therefore necessary to go beyond the country level and examine the question with sub-national data where the dynamics of violence unfold.

We argue that 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,

[2] Bellamy 2009; Holt and Taylor 2009.

[3] See for example Human Rights Watch 2014.

[4] Holt and Taylor 2009, 40.

whereas local deployment is critical for the ability of peacekeepers 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 the local effectiveness of UN peacekeeping in protecting civilians. Existing research suggests that peacekeeping operations reduce violence against civilians when they are sizeable[5] and diverse in their composition.[6] However, these studies examine peacekeeping at the country level, thereby aggregating across sub-national 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.[7]

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

[5] Hultman, Kathman, and Shannon 2013; Kathman and Wood 2016.

[6] Bove and Ruggeri 2016.

[7] Sundberg and Melander 2013.

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 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 ability of the UN 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 generally is good at achieving what it was initially designed to do – keep the peace between warring actors in the aftermath of armed conflict.[8] As UN peacekeepers are increasingly deployed to situations of ongoing conflict, scholars have begun to assess also the effectiveness of UN peacekeeping in mitigating conflict in various ways. Some studies find that peacekeepers are effective in reducing violence on the battlefield[9] and in containing the spread of armed conflict, both within countries[10] and across borders.[11] Peacekeepers have also been found to reduce conflict duration locally in their area of deployment.[12] Meanwhile, other studies question the ability of UN peacekeepers to effectively end violent conflict or reduce the severity of violence.[13]

Increasingly, civilian protection has become a core component of UN peacekeeping. Yet, empirical evidence is still limited regarding the ability of the UN to protect civilians from direct and deliberate violence by government and armed groups. Lisa 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.[14] Vincenzo Bove and Andrea Ruggeri find that missions that are more diverse in their composition are better at protecting civilians.[15] Yet, in one of the few existing sub-national studies to date, Stefano Costalli concludes that despite deploying to the areas

[8] Doyle and Sambanis 2006; Fortna 2008; Gilligan and Sergenti 2008.

[9] Hultman, Kathman, and Shannon 2014.

[10] Beardsley and Gleditsch 2015.

[11] Beardsley 2011.

[12] Ruggeri, Dorussen, and Gizelis 2017.

[13] Doyle and Sambanis 2006; Gilligan and Sergenti 2008; Costalli 2014.

[14] Hultman, Kathman, and Shannon 2013; see also Kathman and Wood 2016.

[15] Bove and Ruggeri 2016.

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.[16]

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 willingness of the warring parties to alter their behavior,[17] 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 that remain in urban centers or close to their own headquarter 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 if peacekeepers are effective in reducing violence in the areas where they operate. In the following section, we develop our argument about the local dynamics of civilian protection in peacekeeping operations.

Local Dynamics and the Costs of Civilian Targeting

[16] Note, however, that 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.

[17] C.f. Fortna 2008.

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.[18] 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.[19] These complex drivers of one-sided violence mean that the challenge that peacekeepers face in protecting civilian populations is multi-faceted. Yet, 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 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 that 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. We develop this argument below.

When peacekeepers are present, the *military* costs of targeting civilians are higher

[18] E.g. Balcells 2010; Fjelde and Hultman 2014; Kalyvas 2006; Valentino, Huth, and Balch-Lindsay 2004; Wood 2010.

[19] Azam 2006; Humphreys and Weinstein 2006; Weinstein 2007.

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, i.e. preventing violence from being carried out, and enforcement, i.e. the actual application of force to end ongoing violence.[20] 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.[21] 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.[22] In March 2004 in Liberia, the UN mission intervened and arrested over 30 rebel fighters who were caught looting and using firearms in a village.[23] 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 pointed out by Page

[20] Ruggeri, Dorussen, and Gizelis 2017.

[21] Holt and Taylor 2009, 201–202.

[22] United Nations 2005, 4.

[23] United Nations 2004a, 3.

Fortna, peacekeeping forces may serve as deterrence to violence by increasing the costs of aggression.[24] 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 that 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.[25]

[24] Fortna 2008, 87.

[25] United Nations 2008, 2.

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,[26] other studies find that naming and shaming by the United Nations or transnational advocacy networks reduce the severity of state-sponsored murder.[27] There is also evidence that the peaceful effect of naming and shaming is stronger in the presence of peacekeepers.[28] 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 non-state actors. Many rebel groups choose to comply with international law precisely because they seek political legitimacy or international support for strategic reasons.[29] Also these actors are likely to consider shaming campaigns to be costly, as they may reduce future support from both international and domestic audiences. However, even actors that are not primarily concerned with legitimacy may be deterred by the threat of prosecution. The International Criminal Court (ICC) nowadays constitutes a real threat to perpetrators.[30] 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.

[26] Hafner-Burton 2008.

[27] Krain 2012; DeMeritt 2012.

[28] Burgoon et al. 2015.

[29] Jo 2015; Stanton 2016.

[30] Jo and Simmons 2016.

Although we are not able to empirically separate between the impositions of military or political costs, and believe both may be at work but be 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.[31] This may seem more important for military costs. Indeed, according to Andrea Ruggeri, Han Dorussen, and Ismene Gizelis, monitoring does not require a large presence to achieve local conflict prevention between armed actors.[32] 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.

[31] 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.

[32] Ruggeri, Dorussen, and Gizelis 2017.

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".[33] Peacekeeping missions are at times faced with an unwilling or even hostile host government that restricts the freedom of movement of peacekeepers,[34] which in turn also constrains the peacekeepers' ability to protect civilians where they are at risk.

It is increasingly recognized that peacekeepers face obstacles to their ability to move around freely and deploy to the areas where violence occurs.[35] For instance, Al-Basri, former spokesperson for the peacekeeping mission in Darfur (UNAMID), notes that the Khartoum government repeatedly has denied the peacekeeping forces access to insecure areas.[36] There are also reports of the Sudanese authorities on several instances barring the peacekeepers from making inquiries into reports of Sudanese bombing campaigns.[37] This suggests that government actors to some degree can escape the costs of targeting civilians by only allowing the peacekeepers to deploy 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.

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[33] *Principles of UN Peacekeeping.* http://www.un.org/en/peacekeeping/operations/principles.shtml Accessed 17 May 2016. Italics added. See also Tull 2013, 185.

[34] Piccolino and Karlsrud 2011, 450.

[35] Tull 2013; Johnstone 2011.

[36] Daily Maverick "Sudan: Could the UN's biggest peacekeeping mission leave Darfur?" 21 April 2016.

[37] Lynch, Colum. "They Just Stood Watching" Foreignpolicy.com. 7 April 2014.

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.[38]

While the question of consent may cause problems also in the interaction with rebel groups, their consent may not be as critical.[39] Non-state 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. In order 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.

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 sub-national patterns

[38] Holt and Taylor 2009.

[39] Tull 2013, 185.

of UN peacekeeping deployment across space and over time. For this purpose, we have collected new data on subnational deployment of peacekeepers in Africa.[40] 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 dataset 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 Appendix).

To construct our units of analysis we rely on a spatial grid structure that divides the above countries into cells that are 0.5×0.5 degrees (approximately 55x55 km at the Equator).[41] 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 deployment of peacekeepers to have immediate effects on the likelihood of civilian victimization. To

[40] With this geographical scope, we only exclude 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.

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

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.[42] 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 dataset 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 Event Dataset v.5.0.[43] In UCDP GED all cases where one-sided violence by an armed actor reaches an annual 25 fatality threshold are recorded as separate events and provided with a geographical reference in the form of a latitude/longitude coordinate and a date.[44] 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.[45] We construct three

[42] 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.

[43] Sundberg and Melander 2013.

[44] 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.

[45] 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. C.f. Weidman

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 Hypotheses 2a and 2b).[46]

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 dataset 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.[47] 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

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 10 civilians killed.

[46] Some non-state 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.

[47] Our data collection approach resembles that of Ruggeri, Dorussen, and Gizelis 2017. Both efforts rely on UN deployment maps, but whereas their dataset covers UN missions in Sub-Saharan Africa for the years 1989-2006, our dataset goes up to 2011. For years with temporal overlap, the troop strength measures in the two datasets 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.

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, 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.[48]

Figure 1 summarizes peacekeeping presence and one-sided violence by location for the entire time period. Of the 2387 spatial units in our dataset, 214 see peacekeeping forces deployed and 159 experience one-sided violence with at least 5 people killed in one month at some point during the period January 2000–December 2011. The lowest number of deployed troops (for the non-zero observations) in our data is 10 and the maximum is 5500. 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.

[Figure 1 about here]

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.*[49]

[48] These numbers are based on NATO and UN standard military unit numbers, i.e. 650 troops per battalion, 150 troops per company, and 35 troops per platoon.

[49] 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 cell. Blyth et al. 2002. Distance to city measures the transportation time from the cell to the nearest major

Violence against civilians is often related to military 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.[50] 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 are presented in Table 1.

[Table 1 about here]

Non-random 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,[51] and a recent sub-national analysis suggests that such patterns are also

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.

[50] Based on data from the UCDP GED. Sundberg and Melander 2013.

[51] Fortna 2008; Gilligan and Stedman 2003; Melander 2009; Hultman 2013.

manifest at the local level.[52] 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 dataset to ensure that our results are not due to 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 account 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 non-random 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 48 instances; within three months there are 99 new

[52] Ruggeri, Dorussen, and Gizelis 2016.

deployments; and within six months there are a total of 157 new deployments. Hence, 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 their capacity, forcing the mission to focus on certain strategic areas of operation, selecting hard cases, but leaving other areas unmonitored.[53]

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.[54] We also explore if 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.[55]

[Table 2 about here]

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 positive and

[53] United Nations 2004b, 21.

[54] 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 the Appendix Table A3.

[55] C.f. Ruggeri, Dorussen, and Gizelis 2016.

statistically significant at the 95% level.[56] 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 as 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% 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 non-state 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 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 the effect of peacekeeping 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

[56] We have also added variables that summarize the intensity of one-sided violence and battle violence in the cell in the 6-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).

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-f show troop presence in the six locations that saw the largest peacekeeping presence (at least 1200 peacekeepers present at some point in time during the period January 2000 to December 2011), as well as the occurrence of one-sided violence (by either state or non-state actors).[57] 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 seem to 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 usually are followed by an increase in peacekeeping presence, although not instantaneous. However, in order to test whether these trends reflect a more general relationship, we turn to statistical analysis.

[Figures 2a-f about here]

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

[57] Figures 2-4 were generated using the graphic schemes plotting and plotplain. Bischof 2017.

peacekeepers are effective in curbing civilian targeting by rebels: when regressed on *OSV Reb* the coefficient for the size of peacekeeping deployment is negative and statistically significant at the 95% confidence level. Based on this model, we estimate substantive effects for an average scenario for a location with one-sided violence in the recent but not immediate past, with violence ongoing in the neighborhood, but without peacekeepers nearby.[58] 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 3000 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 1500 troops in such a scenario, the monthly risk of rebel targeting civilians decreases from 29 to 22 percent, and with 3000 troops the risk is down to 17 percent.[59] This supports our argument that a stronger peacekeeping presence at the local level reduces the risk of rebel perpetrated civilian victimization also in substantial terms.

[Table 3 about here]

[Figure 3 about here]

[58] 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.

[59] 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), 50 battle deaths in the same area, a mountainous area close to a large city, population at the mean, and with 3000 peacekeepers in adjacent cells (since high-risk areas are likely to have peacekeepers in the vicinity).

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 non-state actors alike.[60] 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 noted in the theory section, we believe that rebel groups are particularly sensitive to the military costs 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 towards the civilian population. Governments respond to political costs at the country level, whereas rebels respond to military costs at the local level.

[60] Hultman, Kathman, and Shannon 2013.

Before discussing the robustness of our results, we briefly comment on the results for the control variables. First, 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 non-state 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 only significant (at the 90% level or better) for *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 rather suggests that a prioritization works in the opposite direction: peacekeepers are deployed to areas with a high baseline risk of one-sided violence. Yet, non-random 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: i) controlling for long-term time-trends in our dependent variable to account for an endogenous process of peacekeeping selection into peaceful locations; ii) matching methods to account for peacekeeping selection related to observable variables, and iii) 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 towards 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 4-month period, to the preceding 4-month period. The variables are constructed as moving averages and separate between rebel and government violence. As shown in Table 3, Model 6 and 7 our findings remain the same.

Second, we implement Propensity Score Matching to account for the non-random deployment of peacekeepers.[61] Matching is helpful to reduce imbalances in our 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.[62] 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 *Pre-deployment OSV,* which records the intensity (in fatalities) of violence against civilians in the cell in the 6 months *prior* to the deployment of the protection mission (coded 0 if there is no such violence). Similarly, the variable *Pre-deployment Battle Deaths* records the intensity of civil war violence occurring in the cell in the 6 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*.

[61] Leuven and Sianesi 2003.

[62] See for example Gilligan and Sergenti 2008.

As already discussed, 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 pre-processing of the data, we are left with 20,446 observations and a substantially more balanced dataset: the mean bias drops from 44.4 in the un-matched 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 pre-deployment 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 only retain 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 dataset with a rare event as the outcome variable is a challenge. The results from our matched dataset should thus be seen as one of several efforts to examine the relationship between peacekeepers and civilian victimization.

[Figure 4 about here]

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% confidence level; it is also larger compared to Table 3, suggesting the effect may even have been underestimated in the non-matched sample. This lends further evidence to support the claim that the effect of peacekeeping troops cannot simply be attributed to a

non-random 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.

[Table 4 about here]

Whereas matching enhances confidence in our results, it can only account for selection related to observable covariates. Yet, peacekeeping deployment and lower levels of violence against civilians may also be correlated due to 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.[63] 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 (2017) we include an instrument in the first stage.[64] 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 effect on peacekeeping

[63] See Maddala 1983.

[64] For a similar approach see, for example, Wucherpfennig, Hunziker, and Cederman 2016.

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 non-random 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 about here]

Note that 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 suggest 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 naïve models, which do not account for the non-random 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 local troop deployment variable with various cutoff points, it is only at the level 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 confound the impact of peacekeepers where troop size is small, which bias 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. Yet, by focusing on what happens in the cell we may disregard displacement effects: when peacekeepers arrive, armed actors may 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). Displacement effects may, however, 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.[65] The results, reported in Appendix, Table A6, Model 1, do not suggest displacement effects: whereas the result for troop presence in 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 proceed to discuss a number of additional robustness checks of our main findings, which we report in the Appendix.[66] First, we re-estimate our main result in Model 4, Table

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

[66] We focus the robustness tests on our finding concerning non-state actors. Our findings related to

3 using instead a conditional logit model with cell-fixed effects.[67] 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 bias our results. As reported in Appendix, Table A7, Model 1, the coefficient for *#Troops in Cell* remains negative and statistically significant at the 95% 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 is 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*[68]*; P5 Troops in PKO*[69]*;* and the *Duration of PKO Mission*. When accounting for local presence, we find no significant effect of the size of the

government violence are not statistically significant with any robustness tests.

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

[68] 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.

[69] *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.

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.[70] 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.[71]

Conclusions

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 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? This article offers important insights into these questions by analyzing new data on the location of peacekeepers and violence against civilians across a number of UN missions.

[70] C.f. Howard 2008.

[71] 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).

Our findings suggest that peacekeepers deploy to areas with a recent history of violence against civilians, particularly where rebel actors operate.[72] 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 that peacekeepers reduce the risk of violence by government actors. Jointly, it indicates that the influence of peacekeeping forces may work through different mechanisms for state and non-state 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 towards additional limitations in the UN's *modus operandi* that may hamper successful protection of civilians. First, the UN only deploys to 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

[72] 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.

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 that craft policies in these areas, and those that advise them. Given the constraints on the supply side of peacekeepers, our findings are also important since they 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. 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.

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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[†]	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

[†] 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).

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)*
$Distance\ to\ City_{log}$	-1.423	-1.423
	(0.189)**	(0.189)**
$Battle\ Deaths_{t-1}$	-0.006	-0.006
	(0.008)	(0.008)
$Spatial\ Lag\ OSV_{t-1}$	-0.358	-0.349
	(0.341)	(0.339)
$\#Troops\ in\ Neigh.\ Cells_{t-1}$	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.
+ $p<0.1$; * $p<0.05$; ** $p<0.01$

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<0.1; * p<0.05; ** p<0.01

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

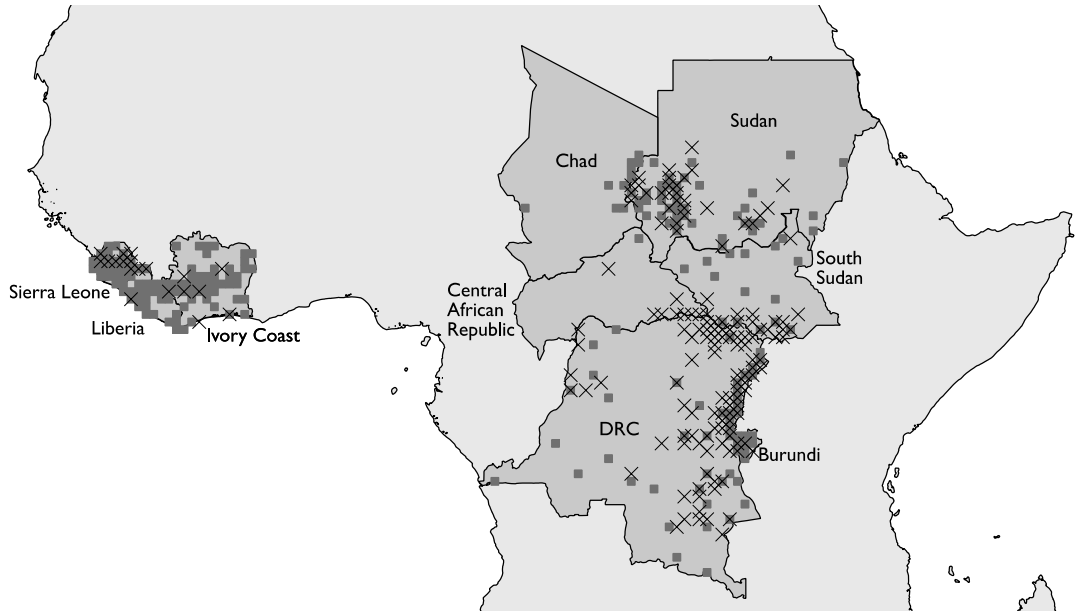
Note: robust standard errors in parentheses clustered on cell. + $p<0.1$; * $p<0.05$; ** $p<0.01$

TABLE 5: Peacekeeping Presence and the Risk of One-sided Violence, Recursive Bivariate Probit

	(10)		*(11)*	
	PK Presence	*OSV Reb*	*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)
$Distance\ to\ City_{log}$	-0.616	-0.298	-0.617	-0.245
	(0.109)**	(0.084)**	(0.109)**	(0.072)**
$Battle\ Deaths_{t-1}$	-0.001	-0.000	-0.001	0.002
	(0.001)	(0.001)	(0.001)	(0.002)
Spatial Lag OSV_{t-1}	-0.266	0.539	-0.274	0.249
	(0.084)**	(0.085)**	(0.085)**	(0.113)*
#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. + $p<0.1$; * $p<0.05$; ** $p<0.01$.

FIGURE 1. Location of Peacekeepers and One-sided Violence, 2000–2011



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

FIGURES 2a–f: One-sided Violence and Peacekeeping Presence in the Democratic Republic of Congo

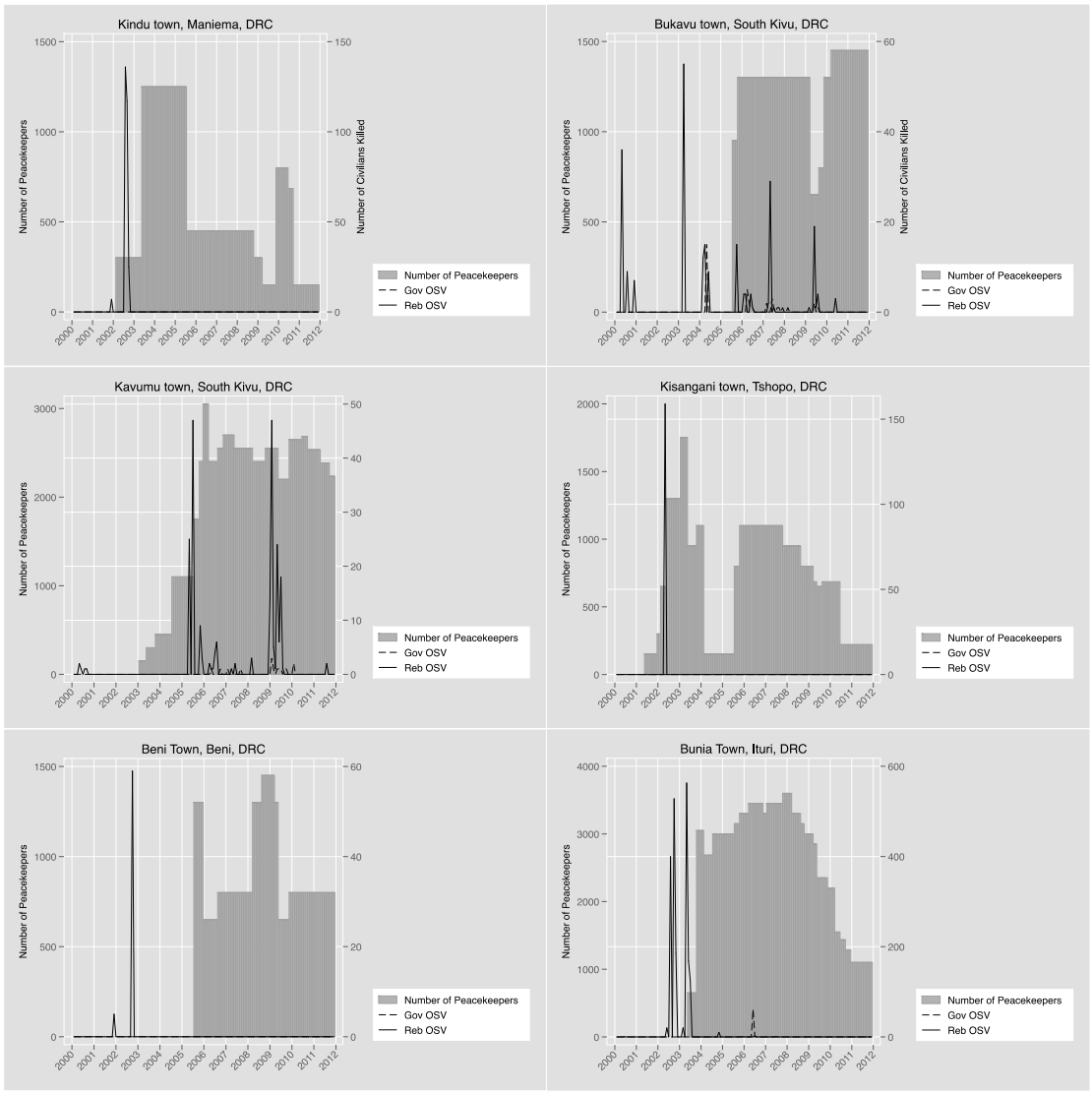


FIGURE 3: Predicted Probabilities of One-Sided Violence as Peacekeeping Troops Changes

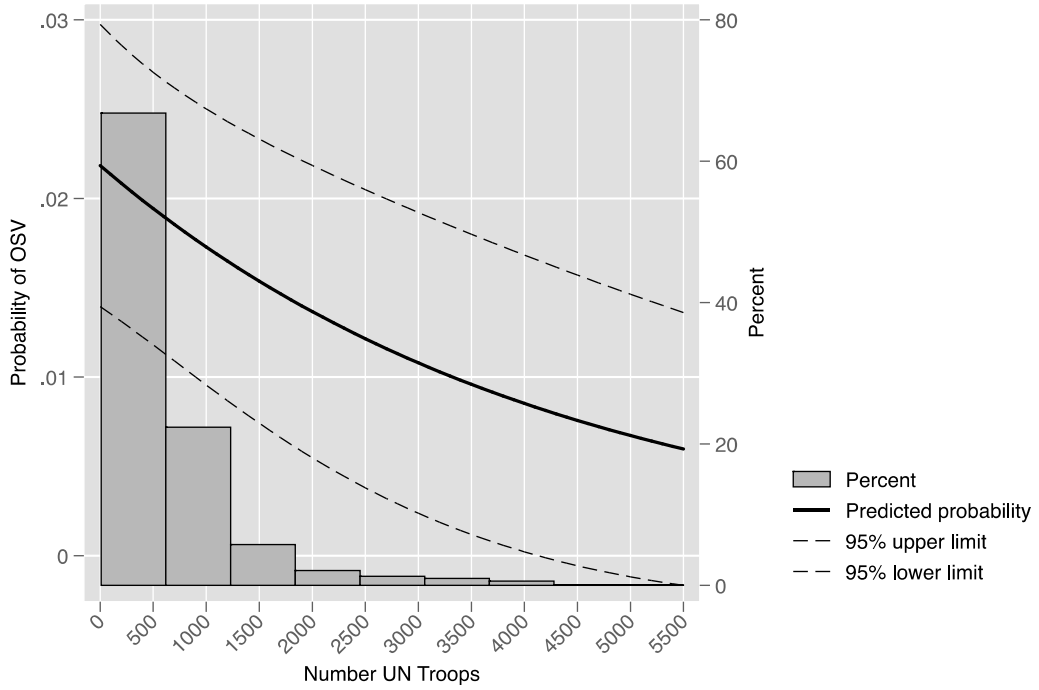


FIGURE 4: Standardized percent bias in matched compared to unmatched sample