Do non-UN peacekeeping operations work in conjunction with UN peacekeeping troops to reduce civilian casualties?

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Final Draft: May 2025

Abstract

During the last 30 years, UN peacekeeping operations (PKOs) are increasingly deployed in partnership with non-UN PKOs, the latter being supported by regional and international organizations or single states. Those partnerships are a response to more limited UN PKO deployments and the enhanced need for peacekeeping in conflict-plagued Africa. There is evidence that such partnerships may provide more successful peacekeeping outcomes, including curbing battlefield casualties. Our purpose is to provide an analysis of other effectiveness aspects of these joint operations. In particular, we find that such partnerships augment the effectiveness of UN troops in limiting one-sided violence (OSV) against civilians by government. The article also distinguishes the relative effectiveness of non-UN regional versus non-UN international PKOs in curbing OSV against civilians when paired with a UN PKO. The role played by the quality of non-UN troops in limiting OSV is also examined.

Keywords: non-UN and UN PKOs partnerships; peacekeeping protection against civilian casualties; one-sided violence (OSV); matching and nonrandom selection

Acknowledgements: The authors have profited from helpful comments from three anonymous reviewers on three earlier drafts.

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Introduction

Since the conclusion of the Cold War, intrastate conflicts threatened not only the host conflict-ridden countries, but also other near and far countries through conflict dispersion, refugee outflows, political unrest, trade disruption, and economic consequences.[1] To address and curb myriad negative externalities from intrastate wars, the international community responded with UN peacekeeping operations (PKOs). However, as the demand for UN peacekeeping grew greatly after 1990, non-UN PKOs, led by the North Atlantic Treaty Organization (NATO), the African Union (AU), the European Union (EU), Economic Community of West African States (ECOWAS), and some rich states (e.g., France), rose in number (Bara and Hultman 2020; Bellamy and Williams, 2005; Walter et al., 2021). Given limited UN peacekeeping deployments, partnerships between UN and non-UN PKOs have assumed enhanced prevalence and importance in recent years (Novosseloff and Sharland, 2019).

A key issue addressed here concerns the effectiveness of jointly deployed non-UN PKOs in bolstering the effectiveness of partnered UN PKOs in protecting against one-sided violence (OSV) targeting civilians. Civilian protection constitutes an essential measure of PKO effectiveness, recognized by the United Nations (2008) (also see Hultman et al., 2013). An essential related question here involves whether the quality of non-UN peacekeepers fosters UN troops' effectiveness in protecting against OSV targeting civilians. A somewhat similar concern involves whether regional PKOs (e.g., AU Mission in Somalia (AMISOM)) have a smaller relative impact than non-UN international PKOs (e.g., Operation Barkhane in Mali) in promoting UN troops' effectiveness in UN and non-UN partnerships owing to troop quality differences.

The growing importance of peacekeeping efforts forged between UN and non-UN

peacekeepers acting in partnership is represented by such joint operations as UNOCI and Operation Licorne in Côte d'Ivoire, MINUSCA and Operation Sangaris in Central African Republic (CAR), MONUC and Operation Artemis in the Democratic Republic of Congo (DRC), and many others. For example, combined UN and non-UN PKOs include joint missions in Chad, Liberia, Somalia, and elsewhere (Schumann and Bara, 2023).

Recent work has suggested that such partnerships may achieve better peacekeeping outcomes. In particular, Schumann and Bara (2023) showed that UN troops are made more effective in bringing down battlefield deaths in the presence of a non-UN PKO, and that non-UN troops are also made more effective in curbing battlefield deaths in the presence of a UN PKO. The complementarity between partnered UN and non-UN missions arises from non-UN PKOs' ability to curb adversarial combat and from UN PKOs' tools of coercion, inducement, and persuasion for nation building (Howard, 2019a; Schumann and Bara, 2023). UN multidimensional missions could support non-UN missions' efforts to quell violence through a division of labor where the non-UN peacekeepers provide the firepower against combatants, while the UN peacekeepers reintegrate rebels, supervise elections, promote the rule of law, offer humanitarian assistance, and supply stabilizing influences.

The primary purpose of the current study is to carry on the important analysis on the effectiveness of partnered UN and non-UN PKOs. The value-added of the current paper depends on showing how these partnership PKOs reduce government-induced OSV against civilians but not rebel-induced OSV against civilians. Additionally, the paper shows the importance of the quality of non-UN troops from alternative vantages (based on the contributing country or the type of non-UN PKO) in limiting government-induced OSV against civilians. For instance, we show that UN PKOs when paired with non-UN international PKOs are advantaged over a pairing with regional (African) PKOs in safeguarding civilians against host government violence. A host

of robustness tests support our results. Our findings with respect to safeguarding civilians through partnership PKOs is important because of the increased reliance on such missions and the pivotal role that safeguarding civilians plays in judging peacekeeping effectiveness.

Peacekeeping and peacekeeping effectiveness

Some early influential peacekeeping studies tied effectiveness to the ability of PKOs to keep the peace for an arbitrary time interval (see, e.g., Doyle and Sambanis, 2000, 2006). Subsequent survival analyses could gauge PKOs' effectiveness based not only on the missions' ability to maintain peace, but also on their ability to end conflict (e.g., Gilligan and Sergenti, 2008; Hultman et al., 2014; Kathman and Benson, 2019; Kim et al., 2020).

Another often-employed metric of peacekeeping effectiveness was based on limiting battle-related casualties after UN or non-UN PKO deployments (Hultman et al., 2014, 2019; Schumann and Bara, 2023). Alternatively, UN peacekeeping effectiveness was linked to reducing OSV against civilians, perpetrated by host governments or by rebels (e.g., Bara and Hultman, 2020; Bove and Ruggeri, 2019; Fjelde et al., 2019; Haass and Ansorg, 2018; Hultman, 2010; Kathman and Wood, 2016). The protection of civilians against OSV agrees with the UN Charter's goal to protect victims of conflict (United Nations, 2008). Even though the UN peacekeeping mandate is to curb both kinds of OSV against civilians, UN PKOs appeared more effective at protecting civilians from rebels than from governments, suggesting biased deployments (Fjelde et al., 2019).[2]

The most relevant literature for the current study concerns analyses on the efficacy of non-UN PKOs. Such studies are far fewer in number than those tied to UN peacekeeping effectiveness owing to data considerations and the much shorter time frame for non-UN peacekeeping (Bara and Hultman, 2020). The same measures of effectiveness in terms of

maintaining peace, ending conflict, or protecting lives were used to judge the effectiveness of non-UN peacekeeping. Initial studies uncovered scant evidence on non-UN peacekeeping effectiveness (see, e.g., Sambanis and Schulhofer-Wohl, 2007). Fortna (2004) showed that UN and non-UN PKOs *in aggregate* raised the duration of post-conflict peace; however, that study did not indicate that non-UN PKOs on their own significantly increased the interval of post-conflict peace.

The first empirical evidence in support of non-UN PKO effectiveness was that of Bara and Hultman (2020), which indicated that, when accounting for peacekeeping troops, police, and observers, UN PKOs and non-UN regional PKOs were, individually, effective in curbing OSV against civilians by governments during 1993–2016. By contrast, those authors only linked UN troops and police to reduced OSV by rebels. A noteworthy feature of Bara and Hultman (2020) was their interpolated monthly data on non-UN peacekeeping personnel. Utilizing that personnel data, Kim and Sandler (2022a) tied the four types of non-UN PKOs (observer, traditional peacekeeping, peacebuilding, and peace enforcement) to an ability to reduce OSV by governments or rebels. In so doing, they found that all four kinds of non-UN PKOs limited OSV by governments; however, only peace enforcement and peacebuilding non-UN operations reduced OSV by rebels. The latter finding was novel and represented the first instance in which non-UN peacekeeping protected civilians against rebel violence. In the case of non-UN PKOs, Kim and Sandler (2022b) uncovered robust reduction in OSV against civilians by governments when an instrument was employed to address endogeneity concerns from reversed causality. By contrast, Kim and Sandler (2022b) found that UN PKOs only limited OSV against civilians by rebels, consistent with Fjelde et al. (2019).

Schumann and Bara (2023) introduced a novel twist on the study of non-UN PKO effectiveness by investigating potential complementarity between jointly deployed UN troops

and non-UN PKOs in the same conflict. Among other issues, those authors asked whether partnerships between UN and non-UN PKOs were conducive to more effective peacekeeping. By examining some UN and non-UN interactive terms, they discovered that, in the presence of non-UN PKOs, UN troops were more effective in reducing battlefield deaths. There was, however, less evidence that UN PKOs equally improved the efficacy of non-UN troops in limiting battlefield deaths. In fact, under some circumstances, non-UN troops augmented battlefield carnage.

Theoretical considerations

In their various roles, UN peacekeepers are the first line of defense in protecting civilians from harm inflicted by the warring factions in an intrastate conflict. Civilian safeguards stem from UN peacekeepers imposing military or political costs on warring sides (Fjelde et al., 2019). Given their armaments, UN troops are better equipped than UN observers to protect civilians from OSV against civilians initiated by governments or rebels (Hultman et al., 2013). A larger number of deployed UN troops serves to raise the potential punishments that the troops can impose on those who inflict harm on civilians. Threatened retribution from UN troops is intended as a deterrent for OSV against civilians (see, e.g., Hultman et al, 2013, 2019; Kathman and Benson, 2019). UN troops are instrumental in demobilizing, disarming, and reintegrating rebels into society, actions that limit rebels' ability to harm civilians. Also, those UN troops can curtail government forces' engagement with rebels, which may result in civilian collateral harm. Deployed UN troops, especially in peace enforcement and peacebuilding operations, may also keep the host government from harming resident civilians. Moreover, UN troops are better suited than other UN peacekeeping personnel to promote the transition from conflict to peace and to forestall the transition from peace to conflict (Kim et al., 2020: 548). Both actions reduce

violence among combatants (battlefield violence) and civilian losses.

Multidimensional UN peacebuilding operations may promote peace by repairing conflict-ravaged institutions and infrastructure, thereby laying the foundation for sustained recovery. Peacebuilding and peace enforcement troops can train the conflict-ridden country's police, paramilitary personnel, and military to maintain law and order while safeguarding citizens' lives and property. Moreover, nation-building activities can promote efforts to enact a constitution and eventual elections that may ideally limit grievances and their associated violence, thereby bringing stability and promoting civilian safety. In two important contributions, Doyle and Sambanis (2000, 2006) provided empirical support on how large-scale UN peacebuilding operations bolstered peace, safety, stability, and prosperity after conflicts.

By analogy, larger non-UN troop deployments are also anticipated to reduce OSV against civilians as these troops raise conflict cost, provide greater firepower, bolster intelligence, separate hostile factions, and offer security guarantees (Kathman and Benson, 2019; Kim and Sandler, 2022a, 2022b). Non-UN PKOs' actions, which reduce conflict duration or augment peace intervals, curtail casualties to soldiers, rebels, and civilians. Such reduced casualties curb emerging grievances, thereby potentially limiting current and future violence to civilians. By providing greater buffers between hostile forces, larger non-UN regional and international PKO deployments reduce OSV against civilians by governments or rebels (Kim and Sandler, 2022a, 2022b). Non-UN PKOs may supply intelligence to the weaker side to engineer a stalemate that stops the bloodshed and encourages negotiations. Non-UN PKOs with their large share of troops relative to police and observers are generally well-positioned to safeguard civilians. In fact, the data in Bara and Hultman (2020: 354) indicated that non-UN PKOs contain a very small share of police and observers relative to troops.

Another OSV consideration concerns troop quality in terms of training, logistics,

intelligence, weaponry, experience, education, and command structure, reflected in the prorated value of a soldier. Haass and Ansorg (2018) showed that greater peacekeeping troops' quality improved their ability to reduce OSV against civilians from hostile forces. In the post-Cold War era, some large-scale, non-UN missions in Bosnia, Kosovo, Afghanistan, Iraq, and elsewhere consisted of NATO troops, which are high-quality forces (Haass and Ansorg, 2018). Non-UN international PKOs, consisting of superior (e.g., French, British, or US) troops, are anticipated to display formidable OSV safeguards for civilians. By contrast in recent years, UN PKOs draw lower-quality troops from member states willing to volunteer their forces for the low monthly remuneration offered by the United Nations, which is particularly true of the large number of African-drawn peacekeepers. In two contributions, Gaibulloev et al. (2009, 2015: 729–730) proxied the annual value of active highly remunerated military personnel (e.g., from Canada, France, Italy, and the United States) compared to some African and Asian active military personnel. Their calculation multiplied the annual defense budget of a country by the share of its budget spent on personnel. The resulting figure was then divided by the number of active military persons. This calculation displayed vastly different prorated values between NATO and African military personnel,[3] reflecting quality differences from training and weaponry as pointed out by Haass and Ansorg (2018) and Gaibulloev et al. (2009, 2015). The quality differences between UN and non-UN international PKOs imply that non-UN international PKOs have a comparative advantage in meeting the goal of protecting civilians; moreover, partnered UN and non-UN international PKOs can rely on the superior forces of the latter to protect civilians while the UN PKO focuses on nation-building to lay the foundation for a better functioning state.

A proxy for peacekeepers' quality can be related to the two kinds of non-UN PKOs – namely, non-UN international and non-UN regional PKOs. The former PKOs draw their peacekeepers from NATO, EU, France, the United Kingdom, and elsewhere (e.g., United States),

while the latter PKOs draw their peacekeepers from Africa in our empirical exercise. Better trained, equipped, and paid international peacekeepers are anticipated to result in enhanced peace-enforcing capabilities (see examples below) that promote complementarity between UN PKOs and non-UN international PKOs in curbing OSV against civilians when compared to potential complementarity between UN PKOs and non-UN regional (African) PKOs.

Schumann and Bara (2023) linked gains from peacekeeping partnerships to "a division of labor" between non-UN and UN PKOs, where non-UN PKOs rely on military and compellent force to persuade, reduce, and disarm rebel forces, while UN PKOs deploy more diverse personnel to engage in nation-building, mediation, and humanitarian relief to lay the foundation for peace and citizen protection (also, see Bara and Hultman, 2020; Howard, 2019a). As an example, Operation Artemis (a non-UN EU mission with French leadership in 2003) was deployed when the UN Mission in DRC (MONUC) could not maintain the peace in the province of Ituri during MONUC's nation-building tasks. In particular, Operation Artemis stabilized and restored peace to Bunia, the capital of Ituri, and its refugee camps, where over 5,000 civilians had died prior to Artemis' deployment (Tomolya, 2015). The UN Secretary-General requested the rapid deployment of a formidable non-UN force (Artemis) to secure vital infrastructure (e.g., the airport), quell violence, and safeguard civilians (Novosseloff and Sharland, 2019). By obtaining stability, Operation Artemis provided the necessary tranquility for MONUC to offer humanitarian efforts for displaced person in the refugee camps and to nation build to secure and maintain peace. In the DRC, Operation Artemis and MONUC formed a partnership with distinct tasks whose complementarity protected civilian lives.

Other instances where non-UN troops provided military might to further peacekeeping and/or nation-building efforts of a UN PKO involved Operation Licorne (French peacekeeping forces) and UN Operation in Côte d'Ivoire (UNOCI); IMATT (British and Australian troops) and

UN Mission in Sierra Leone (UNAMSIL); and Operation Barkhane (French and G5 Sahel countries non-UN PKO) and the UN mission in Mali (MINUSMA) (Novosseloff and Sharland, 2019). For each of these examples, there was a division of labor between the non-UN international PKO's might and the UN peace- and nation-building activities. Operation Barkhane, in particular, was geared to counterterrorism activities with a clear benefit of reduced OSV against civilians.

Yet another joint non-UN and UN PKO partnership involved the 3,000 troops of Operation Sangaris (French Special Forces) deployed in 2013 just prior to the UN Multidimensional Integrated Stabilization Mission in CAR (MINUSCA). When mandated in 2014, MINUSCA was aimed at stabilizing a conflict-plagued CAR by fostering political transition, protecting civilians, and promoting human rights. Operation Sangaris assisted MINUSCA to do its peace- and nation-building by bringing peace and, in so doing, saving civilian lives during 2014–2016 (Howard, 2019b). Once again, the partnered non-UN and UN PKOs used their relative comparative advantages to reduce civilian deaths, bring peace, and nation build. The firepower of the non-UN mission curbed civilian harm allowing the UN PKO to nation build by establishing courts, local police, the rule of law, and other tasks.

Earlier research on differences between UN and non-UN PKO contributions indicated that non-UN peacekeeping contributions are motivated by contributor-specific gains (trade benefits or greater foreign direct investment) in contrast to UN PKOs with their more purely public benefits from regional and global stability (Bove and Elia, 2011; Sandler, 2017). The different contributors' motivations may further foster complementarity from partnering peacekeeping missions, drawn from more varied support motives (also see Coleman and Nyblade, 2018).

Given our justifications for partnering PKOs' effectiveness in controlling civilian OSV,

we have the following three hypotheses:

H1: *Partnered PKOs with both UN and non-UN personnel are more effective than UN PKOs in limiting OSV civilian casualties.*

H2: *UN troops' enhanced effectiveness is greater for partnered non-UN international PKOs than for partnered non-UN regional PKOs owing to troop quality considerations.*

H3: *UN and non-UN troops in partnership are complementary in limiting civilian casualties, especially for higher quality non-UN troops.*

H1 concerns how the presence of a non-UN PKO bolsters the effectiveness of jointly deployed UN peacekeeping troops in safeguarding civilians from the two sources of OSV. For H2, we further distinguish the two types of non-UN PKOs' (i.e., international or regional) anticipated impact on the relative effectiveness of any partnered UN troops. With their better training, equipment, logistics, command structure, intelligence resources, and firepower, we hypothesize that non-UN international PKOs are better adept than non-UN regional PKOs to bolster UN troops effectiveness in safeguarding civilians. Many partnered UN and non-UN PKOs have firepower, a UN mandate, and nation-building capabilities that should have a larger impact in curbing government-induced OSV compared to rebel-induced OSV. For example, those partnered missions may exert political pressure on the host government to eliminate its share of OSV against civilians. Those political pressures stem from the UN peacekeeping mandate and that of the non-UN PKO, the latter of which is often sanctioned by the UN Security Council, to protect civilians. Such mandates are less likely to pressure the rebels politically who

generally do not accept international, let alone national, authority. By their nature, rebels are generally not anticipated to accept the rule of law that safeguards civilians. The partnership of both kinds of PKOs suggests that the host government may be inclined to accept the peacekeepers and to be bound by their effort to limit civilian casualties and achieve peace. Furthermore, an accepting host government may provide the partnered missions with its intelligence, local knowledge, and other resources to safeguard against OSV against civilians, By contrast, the need or presence for both kinds of missions is consistent with virulent rebel forces that pose significant threats to civilians, which may then reduce any demonstrated empirical effectiveness of peacekeeping troops in limiting OSV against civilians by rebels. Since expectations can differ between the influence of peacekeeping on the two types of OSV against civilians, we follow the literature and distinguish the effects of partnered PKOs in limiting OSV against civilian stemming from government and rebel actions.

H3 involves whether the two types of troops – UN and non-UN – reinforce one another's ability to protect civilians. Additionally, H3 indicates that troops' complementarity in safeguarding civilians is enhanced by higher quality non-UN troops, not necessarily proxied by international or regional distinction, that can better take advantage of superior training, logistics, intelligence, and weaponry.

In the empirical section, these hypotheses correspond to interactive terms involving alternative kinds of peacekeeping troops and/or the presence of alternative origins of non-UN peacekeepers.

Methods

Building on the research of Schumann and Bara (2023), our study further refines how the effectiveness of UN PKOs may depend on the presence, form, or quality of partnered non-UN

PKOs. The greatest distinction between our work and that of Schumann and Bara (2023) hinges on our focus on the influence that such PKO partnerships have on OSV against civilians. A second important distinction between our work and that of Schumann and Bara (2023) concerns how partnered non-UN troop quality, proxied in two ways (by troop contributor country and by the origin of non-UN PKOs), influences the complementarity of partnered PKOs in safeguarding civilians. We focus specifically on the sample where UN PKOs are deployed for two reasons. First, our goal is to identify the conditions under which non-UN PKOs improve the effectiveness of UN troops in protecting civilians. Therefore, for the baseline runs, our control group is not conflicts without any PKOs but conflicts with only UN PKOs. Second, restricting our sample in this way allows for the control of selection bias, which originates from UN PKOs' deployment decisions (Bara and Hultman, 2020; Haass and Ansorg, 2018; Schumann and Bara, 2023).

We concentrate on intrastate armed conflicts in Africa from 2000 to 2020 to evaluate how missions involving both UN PKOs and non-UN PKOs in the same conflict country limit OSV against civilians. Given that the majority of UN PKOs are in Africa since 2000, most recent PKO studies focused on African intrastate conflicts (e.g., Beardsley et al., 2019; Fjelde et al., 2019; Hultman et al., 2014; Schumann and Bara, 2023). Our sample period commences in 2000 owing to lack of data concerning the *identity* of non-UN troop-contributing countries prior to 2000, required to compute the quality of non-UN peacekeepers, which is an important ingredient of our study. The International Institute for Strategic Studies (IISS) (2001–2021) *The Military Balance* provides detailed information on non-UN personnel deployed by each contributor country but only after 1999. Thus, our sample period and primary data source for peacekeepers must necessarily differ from Bara and Hultman (2020).

Although armed conflicts may persist over time, conflicts may end, to be followed by a period of peace, before the conflict re-ignites. That means that there may be multiple transitions

from a state of conflict to a state of peace, and from a state of peace back to a state of conflict for the same intrastate war, where each state of conflict or peace is termed an episode (Kim et al., 2020).[4] To account for such multiple transitions, we set our unit of analysis as episode-month and identify a total of 28 episodes of conflict or peace across 20 conflicts in 12 countries from 2000 to 2020 in our empirical analysis. In online appendix Table A1**,** we list our sample's conflict location, time period, and mission type (i.e., non-UN and UN). For non-UN missions, we further distinguish international (I) from regional (R) missions.

In our empirical analysis, the two forms of OSVs are dependent variables. Considering the characteristics of count-dependent variables, we employ Poisson analysis with episode-based fixed effects (Cameron and Trivedi, 2009, 2013). There are three grounds why we apply Poisson, rather than Negative Binomial, with fixed effects analysis. First, Poisson regressions with fixed effects not only do not require an assumption about the mean-variance relationship but also allow for certain types of serial correlation, making the estimates robust to overdispersion (Guimarães, 2008; Wooldridge, 1999, 2018). Second, there may be an endogeneity issue due to unobservable episode-related variables that influence the dependent variable. To help control this concern, we include episode-based fixed effects. Third, fixed-effects Negative Binomial model may yield biased estimates due to incomplete control of fixed effects (Allison and Waterman, 2002; Wooldridge, 1999). The econometric estimator is:

$$OSV_{jt} = \phi(\cdot) = UNPKO_{jt-1} + Non-UNPKO_{jt-1} + Partnership_{jt-1} + \rho X_{jt} + \gamma Z_{jt-1} + \theta_j + \varepsilon_{jt} \quad (1)$$

where *j* and *t* represent episode and time, respectively, and $\phi(\cdot)$ refers to a Poisson link function. $UNPKO_{jt-1}$ and $Non-UNPKO_{jt-1}$ are independent variables related to lagged UN and non-UN PKOs measures during episode *j*. In particular, the former denotes UN troops or personnel, while the latter corresponds to alternative non-UN measures as indicated in the data section.

$Partnership_{jt-1}$ captures the interaction effects between UN and non-UN PKOs at time $t-1$ on OSV against civilians. X_{jt} and Z_{jt-1} represent matrices of contemporaneous and lagged control variables, respectively; ρ and γ denote vectors of corresponding coefficients. θ_j corresponds to the episode-fixed effects, and ε_{jt} indicates the error term.

As robustness checks, we conduct two additional tests. First, we use all sample conflicts when UN PKOs are deployed in our main model. In some PKO articles (e.g., Schumann and Bara, 2023), researchers utilized specific samples during the active conflict period, and some months after the episode's end date, typically 12 or 24 months. We follow that approach and include 24 post-conflict months in the robustness test (also, see Haass and Ansorg, 2018; Hultman et al., 2014; Kim and Sandler, 2022a). Second, our research examines the effectiveness of UN PKOs, accounting for whether non-UN PKOs are present or not. This implies that UN PKOs operate alone in some cases and alongside non-UN PKOs in others, while considering that non-UN PKOs are deployed nonrandomly. To address this potential selection bias, we create a matched dataset across groups where non-UN PKOs exist (treatment) and do not exist (control), based on one-to-one propensity-score matching analysis. The use of propensity-score matching to limit selection bias is now standard operating practice in the literature.[5] To estimate the likelihood of deploying a non-UN PKO, we use the logged number of battlefield deaths, OSV incidents from the previous 6 months, and episode duration to measure conflict intensity. Additionally, we include the population (logged), GDP (logged), and a state of peace as control variables. The mean bias reduces from 17.6% in the unmatched sample to 7.0% in the matched sample.

Data

African intrastate conflicts are drawn from the Uppsala Conflict Data Program/Peace Research Institute Oslo (UCDP/PRIO) Armed Conflict Dataset version 23.1 (Davies et al., 2023; Gleditsch et al., 2002). Data for two dependent variables for OSV by governments and OSV by rebel groups are drawn from UCDP Georeferenced Event Dataset (GED) version 23.1 (Sundberg and Melander, 2013). The OSV variables are measured by total fatalities.

Our main independent variables relate to UN and non-UN PKOs measures, lagged by one period. The UN personnel information is sourced from the International Peace Institute (IPI) (2024). We combine the numbers of troops and observers, referring to them as "troops" for simplicity. In addition, we apply log transformation to UN personnel, Ln (*UN PKOs Troops*), to mitigate the influence of outliers and to address skewness (see, e.g., Kathman and Benson, 2019; Kim and Sandler, 2022a, 2022b). For the same reason, the log transformation is also applied to non-UN troops, population, and GDP per capita. Four types of non-UN PKO variables are considered here to capture various partnership outcomes between UN and non-UN PKOs. First, we employ a binary variable – *Non-UN PKOs presence*$_{t-1}$ – which takes the value of 1 if a non-UN PKO was present at time $t-1$, and 0 otherwise. Second, we distinguish the presence of non-UN PKOs into two varieties at time $t-1$: namely, international missions (*Non-UN international PKOs presence*$_{t-1}$) and regional missions (*Non-UN regional PKOs presence*$_{t-1}$). Third, we calculate the average quality of personnel per peacekeeping operation, Ln (*Non-UN PKOs' troop quality*)$_{t-1}$, following the method of Haass and Ansorg (2018: 747) – see Equation (2) below. Fourth, while the quality of operations is important, we also believe that the capacity of the operation may hold significant value. That is, a larger force with relatively lower qualitative attributes may prove more effective than a smaller, high-quality operation. With this in mind, we include the lagged variable of troop capacity, Ln (*Non-UN PKOs' troop capacity*)$_{t-1}$, in the runs, which unlike the quality measure for mission *m* at time *t* does not normalize (divide) by the total

number of troops for mission *m*. Equations (2) and (3) represent the formulae used to measure troop quality and troop capacity, respectively, for a mission at time *t*:

$$\text{Troop quality}_{mt} = \frac{\sum_{i=1}^{n}\left(\text{military spending per personnel}_{it} \times \text{troops}_{imt}\right)}{\text{Total number of troops}_{mt}} \quad (2)$$

$$\text{Troop capacity}_{mt} = \sum_{i=1}^{n}\left(\text{military spending per personnel}_{it} \times \text{troops}_{imt}\right), \quad (3)$$

where *i* stands for the contributor country. We calculate the military spending per personnel of each donor country by dividing its military spending (Stockholm International Peace Research Institute (SIPRI), 2024) by the number of its military personnel (World Bank, 2024). $Troops_{imt}$ represents the number of non-UN PKO troops contributed by country *i* to mission *m* at time *t*. The number of personnel in non-UN PKOs is drawn from IISS (2001–2021), which did not distinguish among personnel types. Since the overwhelming share of non-UN personnel is troops, we refer to them as non-UN PKO troops (Bara and Hultman, 2020: 14).

We include several control variables. In particular, we account for country-specific factors in the host country, such as population [Ln $(Population)_{t-1}$] and GDP per capita [Ln (GDP per capita)$_{t-1}$]. Those variables are sourced from World Bank (2024). Additionally, to control the severity of conflict, we include a range of conflict-related variables from the UCDP/GED (Sundberg and Melander, 2013), which involve the lagged number of battlefield deaths, Ln $(battle\ deaths)_{t-1}$ and the number of months since the beginning of a conflict episode, $Duration\ of\ episodes_t$. Moreover, $Peace\ period_t$ is a binary variable that takes a value of 1 in a state of peace, and 0 in a state of conflict. Lagged OSV by governments and rebel groups, $OSV\ by\ government_{t-1}$ and $OSV\ by\ rebels_{t-1}$, are included as binary variables to account for the time dependency, taking a value of 1 for violence in the previous period, and 0 otherwise. We

also consider the ability of UN PKOs, using *Peace enforcement mission*$_{t-1}$, as a binary variable assuming a value of 1 for such a mission at time $t-1$, and 0 otherwise. Peace enforcement missions invoke Chapter VII of the UN Charter and typically deploy larger numbers of troops compared to other missions to protect civilians and end a conflict (Fortna, 2004, 2008; Kim et al., 2020). Furthermore, we consider the relationship between peacekeepers and local populations. Bove et al. (2020) and Bove and Ruggeri (2016; 2019) argued that, under some circumstances, greater distance between peacekeepers and the host conflict country's population results in higher levels of violence against civilians and more battle-related deaths. Therefore, we include religious and linguistic proximity variables – *religious distance* and *linguistic distance* – that measure the average proximity of religious and languages between contributor countries and the host country (Bove and Ruggeri, 2019; Spolaore and Wacziarg, 2016). In our study, those distances are applied to UN and non-UN contributor countries.

Table A2 in the online appendix describes the summary statistics for each variable used in the analysis.

Results

For the 2000–2020, we now examine whether partnership UN and non-UN PKOs to the same conflict country yields better outcomes in terms of curbing OSV against civilians than UN PKOs on their own. Table 1 contains eight models as listed in the columns' headings, with odd-number models corresponding to OSV against civilians by government and even-number models corresponding to OSV against civilians by rebels. Model 1 reveals that UN troops are not as effective against government-caused OSV against civilians when they are unaccompanied by a non-UN PKO. The latter joint effectiveness is captured by the negative interactive term in Model 1. On average, when non-UN PKOs are present, there is a negative relationship between

the (logged) number of UN troops and incidents of OSV by government. In terms of marginal effects, increasing the logged number of UN troops by one standard deviation (1.3) reduces the predicted number of government-caused OSV by 0.304 in the presence of non-UN PKOs. This result supports Hypothesis 1. With the number of government-induced OSV on the vertical axis, Figure 1 graphically illustrates the relationship with government-caused OSV across the full range of UN troops (logged) on the horizontal axis in the absent or presence of a non-UN PKO. When non-UN PKOs are absent, the number of predicted OSV events increases with the number of UN troops in the upper plot. Conversely, the predicted number of OSV remains consistently lower when UN and non-UN PKOs operate together, with OSV declining further as the number of UN troops increases.

[Table 1 and Figure 1 near here]

Importantly, the extent to which this collaboration impacts the effectiveness of UN troops varies by the quality of the non-UN PKO. Model 3 unpacks this phenomenon by distinguishing non-UN PKOs in terms of regional and international missions, which serves as a coarse measure of the quality of non-UN peacekeepers. By drawing its peacekeepers from outside Africa (e.g., NATO, EU, France, etc.), partnered non-UN international missions can enhance the effectiveness of UN troops in limiting OSV against civilians by government. According to expectations, Model 3 finds the anticipated enhanced complementarity between UN troops and non-UN international PKOs, thereby supporting Hypothesis 2. By contrast, Model 3 finds that UN troops increase government-induced OSV against civilians when the UN mission is paired with non-UN regional PKOs, but the influence is statistically insignificant. In terms of marginal predictions, a standard deviation increase in the logged number of UN troops reduces the number of government-induced OSV by 0.621 when international PKOs are present. Figure 2 visually demonstrates those contrasting effects, where the downward-sloping solid graph indicates the

negative (significant) relationship that UN troops have on government-induced OSV in the presence of non-UN international PKOs, and the upward-sloping dashed graph indicates the (insignificant) positive relationship that UN troops have on government-induced OSV in the presence of non-UN regional PKOs.

[Figure 2 near here]

As a further test of this quality-conditioned effect, Model 7 uses a continuous measure of non-UN PKO *capacity*, the military expenditure of troop-contributing countries (TCC) weighted by each contributor's number of troops. Again, the model finds that non-UN PKOs with more troops and more military expenditure raise the impact that UN troops have in limiting OSV by government. The significant coefficient for the interactive term of Model 7 supports Hypothesis 3. By contrast, Model 5, which uses the average military expenditure per personnel (normalized by the number of troops from each contributing country) to operationalize quality, does not show that troop quality augments the effectiveness of non-UN and UN PKOs cooperation in the same theater. The different findings of Models 5 and 7 underscore the relevance of brute force: i.e., the number of troops deployed matters. In the robustness tests, both the number of troops deployed and their average quality matter.

Models 2, 4, 6, and 8 examine OSV against civilians by rebels for partnership UN and non-UN peacekeeping. Contrary to our analysis of government-induced OSV, these models fail to produce evidence in support of a complementarity between UN troops and non-UN PKOs. The positive coefficients on the interaction terms in those four models do not reach statistical significance. Fjelde et al. (2019: 121) presented one possible – albeit unsubstantiated – explanation for such apparent inconsistencies with respect to outcome: "Governments respond to political costs at the country level, whereas rebels respond to military costs at the local level." Null findings with respect to rebel-induced OSV may be an artefact of analysing the

phenomenon at the conflict-episode level. Presently, there is no subnational data on the spatiotemporal distribution of non-UN peacekeeping bases and their strengths. Future micro-level investigations with subnational units may find the combined PKOs to bear fruit against rebel-perpetrated violence.

In Table A3 in the online appendix, we report Table 1 with all its controls. Only a few controls' coefficients are worth highlighting. Larger lagged populations augment government-induced OSV against civilians. Lagged battlefield deaths have an anticipated positive influence on the two types of OSVs as combat produces collateral casualties for civilians. Also, non-UN religious distance with the host country augments government-induced OSV civilian casualties, consistent with Bove et al. (2020) and Bove and Ruggeri (2019); but this is not the case for non-UN linguistic distance where the coefficient is generally insignificant. Finally, lagged OSV by government or rebels worsens today's carnage as expected with intensifying animosities.

Robustness

When we limit our observational period to active conflicts and up to 24 months thereafter, the quantitative models lend even stronger support to our theoretical argument as displayed in Table 2. Again, in the presence of non-UN PKOs, the models produce evidence of augmented UN troop effectiveness with respect to government-perpetrated OSV but not with respect to rebel-caused OSV against civilians.

[Table 2 near here]

For government-induced OSV, the coefficients on the interaction terms are larger in absolute value for the restricted sample in Table 2 (see Models 9, 11, 13, and 15) than for the full sample in corresponding models in Table 1, thus further supporting our Hypotheses. Moreover, the coefficients are now significant across both versions of the troop quality variable, supporting

Hypotheses 2 and 3. In terms of marginal effects, a standard deviation increase in the logged number of UN forces reduces the number of government-caused OSV by 0.992 casualties when international peacekeepers are present (Model 11). In Model 13, a standard deviation increase in the logged number of UN forces affects government-caused OSV against civilians by 0.565 casualties when the quality of non-UN PKOs troops is a standard deviation above the average. As with the earlier main models, the robustness models in Table 2 yield no evidence that UN and non-UN collaboration influences OSV by rebels – see Models 10, 12, 14, and 16. Table A4 in the online appendix provides the estimated robustness models with the complete set of controls. In terms of the controls' coefficients in Table A4, there is nothing to highlight beyond what was highlighted earlier for Table A3.

[Table 3 near here]

In Table 3, the estimates with the matched sample provide the strongest support for our theoretical complementarity arguments tied to the two hypotheses regarding government-caused OSV against civilians. Again, the estimated models produce no evidence with respect to non-UN PKOs bolstering the effectiveness of UN troops to limit rebel-induced OSV against civilians. In Models 17, 19, 21 and 23 the sizes of the coefficients on the interaction terms in absolute value are the largest of all models focusing on the complementarity or supportive nature of UN and non-UN PKOs in limiting OSV against civilians by government, considered here. In terms of predicted probabilities, Model 19 predicts that a standard deviation increase in the logged number of UN forces significantly reduces government-caused OSVs, with the effect varying based on the type of peacekeeping force. When international peacekeepers are present, the reduction is substantial, lowering government-associated OSV by 8.68 casualties. In contrast, with regional African PKOs, the casualty reduction is more modest at just 0.99 in Model 19. Similarly, a rise in the logged number of UN troops, paired with a standard deviation

improvement in the quality of non-UN peacekeepers, further decreases government-caused OSV against civilians by 4.737 casualties in Model 21. Table A5 in the online appendix presents the estimates for Table 3 with a full list of controls.

As a broader exercise, online appendix Table A6 shows the effects of non-UN and UN PKOs on OSVs for the *full* samples with and without the other kind of PKO present. For example, in Model 25, non-UN and UN PKOs operating alone are each found to be quite effective in reducing government-induced OSV against civilians at the 1 percent significance level. When non-UN PKOs are jointly present with UN PKOs, larger UN troop deployment limits the reduction in government-induced OSV against civilians, so that joint UN and non-UN PKOs results in a smaller marginal effect stemming from the positive interaction term. In the online appendix, Figure A1 shows that when the number of UN troops is low, the government commits fewer OSV incidents against civilians when both UN and non-UN PKOs are present. However, as the number of UN troops increases, government violence against civilians becomes smaller when only UN PKOs are present, compared to jointly partnered PKOs. Thus, Figure A1 shows that UN troops still have a *net* effect in reducing government-induced OSV against civilians when there are joint UN and non-UN PKOs. Similarly, non-UN PKOs exhibit a significant influence in reducing government-induced OSV against civilians on their own or in partnership with UN PKOs in Models 27 and 31.

Concluding remarks

A recent study by Schumann and Bara (2023) showed that UN peacekeeping troops were more effective in limiting battlefield deaths when coupled with a non-UN PKO in the same conflict theater. The current paper furthers their analysis of the effectiveness of paired UN and non-UN PKOs by showing that such partnerships limit government-caused civilian casualties during and

after intrastate conflicts. Our investigation finds that PKO partnerships between UN and non-UN missions are more effective in limiting OSVs against civilians by the government. This finding is particularly true when non-UN troops are of a high quality based either on the troop quality of the contributing country or the type of non-UN PKO. In the latter case, we find that a UN mission paired with a non-UN *international* PKO are superior in safeguarding civilians against the host government's violence, compared to a pairing with non-UN *regional* PKOs, staffed with African peacekeeping personnel. When we apply matching behavior to circumvent mission selection bias, all five interactive terms with UN and non-UN peacekeepers support the notion that partnered non-UN PKOs augment the ability to protect civilians against the host government. We do not uncover evidence that partnered UN and non-UN PKOs protect civilians against rebels.

Based on survival analysis, a possible extension would investigate the effectiveness of partnered PKOs to end an ongoing conflict or to maintain the peace once achieved. In addition, other measures could be employed to estimate peacekeeping effectiveness. Future research could examine these partnerships at the micro-level by comparing subnational variations in the deployment of each peacekeeping mission. Existing works found that OSV against civilians by government is contingent on strategic-level factors at the macro-level, while OSV against civilians by rebels is affected by tactical-level consideration at the micro-level (e.g., Fjelde et al., 2019). Studying partnerships at the local level could explain why we do not find the paired missions to curb OSV against civilians by rebels.

Our study has important policy implications. If the enhanced effectiveness of UN troops when paired with a non-UN PKO is conditional on the latter's military capabilities, then the United Nations should consider this when authorizing and sizing PKO deployments. Furthermore, given the low impact of non-UN regional PKOs, contributing African countries

should consider launching rigorous pre-deployment training programs before dispatching their troops to conflict zones. Those considerations are particularly pertinent to the contemporary peacekeeping context, where the United Nations has not been able to authorize any new UN PKO in the last decades. Our paper provides vital insights about how the United Nations should adapt to this new landscape in which the UN Security Council is increasingly reliant on non-UN PKOs to address conflicts.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Supplemental material

Supplemental material for this article is available online.

Notes

1. Murdoch and Sandler (2002, 2004) applied spatial econometrics to indicate that the negative consequences on economic growth from a civil war can disperse upward of 800 kilometers from the conflict-plagued country.
2. In recent years, analyses included other criteria of peacekeeping effectiveness, not based on conflict conclusion, peace maintenance, or OSV reduction. For example, for UN PKOs in Liberia, Mali, and the DRC, Bromley and von Uexkull (2025) found that local food security improved somewhat (also see Beardsley and Beardsley, 2023). Alternatively, for subnational data, Bove et al. (2022) demonstrated that UN peacekeeping in South Sudan bolstered economic recovery by mitigating the harmful local effects of conflict (also, see Blanton and Peksen, 2025).

3. Gaibulloev et al. (2009, 2015) was not motivated to show that some UN troop contributing countries tried to profit from their "cheap" peacekeepers. Coleman and Nyblade (2018) considered alternative reasons to profitability for African and other countries when volunteering peacekeepers at the relatively low price paid by the United Nations. Also, see Boutton and D'Orazio (2020) on the role that foreign aid may have played. Such considerations are, however, outside the scope of our exercise.
4. UCDP/PRIO Armed Conflict Dataset Codebook version 23.1 (Pettersson, 2023: 6) stated that, "An episode is defined as continuous conflict activity. Consequently, a new episode is coded whenever a conflict restarts after one or more year(s) of inactivity."
5. In the case of UN PKO selection bias, Gilligan and Sergenti (2008) were the first to employ matching or balancing to ameliorate such bias. Some subsequent articles using matching included Bara and Hultman (2020), Fjelde et al. (2019), and Kim and Sandler (2022a, 2022b).

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