Effect of Military operations on Nature and scale of violence or atrocities

Military interventions, counterinsurgency operations, and targeted strikes impact violence and conflict dynamics. The 15 quantitative studies find that while some interventions reduce insurgent attacks and casualties, others prolong conflicts or escalate violence. The effects vary based on strategy, actor bias, and local conditions.

Geographical region: Global, Middle East & North Africa, Latin America & Caribbean, South Asia, Europe & Central Asia, East Asia & Pacific

Effect: Small effect (g = -0.013)

Confidence in study findings: Low confidence

Short summary

Military interventions, counterinsurgency efforts, and targeted strikes impact the scale and nature of violence. Studies find that drone programs and airstrikes can reduce insurgent attacks, while biased interventions often prolong conflicts. Military aid increases paramilitary violence in some cases, while foreign aid and troop presence can lower casualties. Insurgent tactics shift in response to countermeasures, sometimes increasing civilian harm. While interventions by democratic states improve human rights over time, punitive counterinsurgency strategies may escalate violence. The effectiveness of military operations varies, with some reducing conflict intensity while others contribute to prolonged instability or targeted violence.

Long summary

The intervention

Any efforts that involve the use of a state's armed forces to prevent, de-escalate or resolve a violent conflict or atrocity. This could be operations where armed forces are engaged in combat and those that do not have primary objectives to engage in combat (i.e. the presence of armed forces in specific locations. this also includes cyberwarfare operations when delivered by a state's armed forces.

How the intervention is expected to work?

A state's armed forces, including military interventions, counterinsurgency efforts, and targeted programs such as drone strikes and airstrikes, are expected to have an effect on the nature and scale of violence and atrocities. These interventions may reduce insurgent activity, alter patterns of violence, or enhance security. However, their effectiveness may depend on factors like strategy, target selection, and local conditions, sometimes leading to unintended consequences such as prolonged conflict or increased civilian harm.

Evidence base

The cell holds 15 quantitative studies:

Of the 15 studies, 3 focus on global contexts, examining peacekeeping or intervention effects across multiple regions (Regan, 2002; Dimant, 2020; Papadogeorgou, 2020). Three studies focus on Sub-Saharan Africa (Allen, 2021; Blair, 2023; Steinert, 2019), while two studies explore Africa more broadly (Fielding, 2012; Dube, 2014). Southeast Asia, particularly Vietnam, is the focus of one study (Pham, 2013), while another examines South Asia, specifically Pakistan (Mir, 2019). The Western Balkans, focusing on Kosovo, is studied in one case (Postmus, 2023), and Eurasia, especially the post-Soviet states, is the focus of one study (Toft, 2012). Stellman (2011) focuses on East Asia & Pacific and South Asia. Lastly, one study investigates Latin America, specifically Chile (Floreani, 2021).

Evidence findings

Aerial bombing campaigns significantly increase collateral killings, with an estimated rise of approximately 30 civilian deaths per campaign year in the absence of Human Rights Organizations (HROs) (Allen, 2021). Border fortifications have altered insurgent tactics, leading to a shift from conventional, direct attacks to irregular, indirect fire tactics, such as mortars and rockets. Civilian victimization decreased in districts where insurgents shared identity ties with the local population (in-group areas). However, in mixed-identity districts, civilian harm increased as insurgents targeted out-group civilians to deter cooperation with government forces (Blair, 2023). Doubling U.S. military aid is associated with a 4.4 percentage point increase in anti-American terrorism in recipient countries, particularly in areas characterized by high corruption and exclusionary policies (Dimant, 2020).

In municipalities with military bases, U.S. military aid significantly increased paramilitary attacks without affecting guerrilla activity. During election years, aid was linked to heightened paramilitary homicides, especially in politically competitive areas, indicating targeted violence aimed at influencing electoral outcomes (Dube, 2014). Military aid with high fungibility was associated with increased violence against civilians (Fielding, 2012). Higher casualties correlated with lower household expenditures, underscoring the detrimental impact of violence on welfare. Foreign aid and troop presence were associated with increased household expenditures, therefore, pointing towards their association with lower casualties (Floreani, 2021).

The drone program in North Waziristan resulted in a monthly reduction of 9–13 insurgent attacks and 51–86 casualties. Before the program, the region experienced an average of 21 attacks and 100 casualties per month. Approximately 75% of the reduction in violence occurred during the program period without any strikes, while 25% was linked to the aggregated effects of individual strikes. In comparison, violence in control areas continued to increase or plateau, highlighting the program's unique impact (Mir, 2019). An increase in airstrikes was also found to alter insurgent violence patterns, with spatial distribution influenced by the prioritization of strike locations (Papadogeorgou, 2020). Moreover, a strong correlation was observed between the number of new radio messages broadcasted and a reduction in insurgent violence. Similarly, welfare engagements led to decreased insurgent activity within a 5000-meter radius of the engagements (Pham, 2013).

Military interventions were found to improve core human rights in conflict states over a five-year period, though conflict intensity negatively impacted these rights if escalated to war. Interventions by democracies were particularly effective in enhancing core rights (Postmus, 2023). However, military interventions also prolonged the expected duration of conflicts. While the probability of a conflict lasting 48 months is about 37% without intervention, it rises to 60% with intervention. Biased interventions, favoring either the opposition or the government, were found to decrease the likelihood of a conflict ending compared to neutral interventions (Regan, 2002). U.S. military training in India initially led to an increase of approximately two attacks per month, though violence declined towards the end of the training period, suggesting a potential stabilizing effect over time. In the Philippines, direct military interventions further decreased violence, with an estimated reduction of nearly six attacks per month. Joint military exercises, particularly Balikatan and operations in Carmen Town, had a significant impact in curbing

separatist violence, reinforcing the effectiveness of military cooperation in counterinsurgency efforts (Shellman, 2011).

Conflicts involving Pro-Government Militias (PGMs) showed a higher likelihood of recurrence compared to those without such involvement. Statistical simulations indicated a significant increase in the risk of renewed violence when PGMs were active (Steinert, 2019). A denial strategy employed by coercive counterinsurgents was most effective at containing insurgent violence, as it reduced the risk of violence spreading to new areas. Conversely, punitive strategies proved counterproductive, as they increased violence in contested areas without preventing its spread. Combining denial and punishment strategies, or taking no action, showed mixed effectiveness (Toft, 2012).

Finally, a VAR analysis of Turkey's military deterrence efforts against PKK militants revealed counterproductive outcomes. Incapacitation strategies failed to significantly reduce PKK violence and instead led to an increase in violent attacks, with an additional seven casualties observed in the sixth month following shocks to these efforts (Unal, 2022).

Included studies

Allen (2021) examines the unintended civilian deaths ("collateral killings") resulting from aerial bombings and explores how the presence of international non-governmental organizations (INGOs), particularly human rights organizations (HROs), can mitigate these effects.

The dataset combines information from the Uppsala Conflict Data Program (UCDP) and the International Military Intervention (IMI) project, spanning 1990–2006. The dependent variable is collateral civilian killings. Independent variables include the use of air power, the presence of ground troops, and HRO secretariat presence. Negative binomial regression models are used to estimate the impact of aerial bombing on collateral killings and the moderating effect of HROs.

Aerial bombing campaigns are found to significantly increase collateral killings, with an estimated rise of approximately 30 civilian deaths per campaign year in the absence of HROs. The presence of HROs reduces the positive effect of air strikes on civilian deaths, with three or more HRO secretariats causing a reduction in deaths. Conflict intensity positively correlates with higher civilian deaths.

The study is rated as medium as it is non-experimental and due to its partial description of the intervention.

Dube (2014) investigates how U.S. military aid to Colombia affects political violence, particularly paramilitary violence. The context is Colombia's long-standing civil conflict involving left-wing guerrillas and right-wing paramilitary groups, with U.S. aid aimed at counter-insurgency and counter-narcotics. The study focuses on aid allocated to Colombian military bases.

Using a difference-in-differences approach, the study compares municipalities with and without military bases from 1988 to 2005, exploiting variation from increases in U.S. military aid globally (excluding Latin America) as an instrument to address endogeneity. Conflict data includes over 21,000 violent events, capturing attacks by paramilitaries, guerrillas, and the military across 936 Colombian municipalities. Election years are also analyzed to observe shifts in violence tied to political cycles.

The findings show that in municipalities with military bases, U.S. military aid significantly increased paramilitary attacks but had no effect on guerrilla attacks. During election years, aid was linked to increased paramilitary homicides, particularly in politically competitive areas, suggesting targeted violence to influence political outcomes.

The study is rated low confidence due to the inadequate description of the evaluation question.

Fielding (2012) investigates the dynamics of violence against civilians during the Peruvian civil conflict (1980-2000), particularly focusing on the roles of the Peruvian government and insurgent groups, such as the Sendero Luminoso (SL) and the Movimiento Revolucionario Tupac Amaru (MRTA). It examines how different types of foreign aid and intervention influenced the levels of violence against civilians. The authors argue that while some forms of aid may reduce violence, others can exacerbate it, highlighting the complexity of foreign intervention in conflict settings. The research utilizes data from the Peruvian Truth and Reconciliation Commission (TRC), which documented nearly 70,000 deaths during the conflict, with a significant number of casualties being unarmed civilians. The sample consists of data collected from approximately 17,000 witnesses to violence, analysis focuses on monthly observations of violence, including the number of attacks initiated by government forces and insurgents, as well as civilian casualties resulting from these attacks. The study finds a strong cyclical relationship between government and insurgent violence, where increases in violence by one side often provoke retaliatory violence from the other. The analysis reveals that the type of foreign aid

provided to the Peruvian government significantly influenced the levels of violence against civilians. For instance, military aid with high fungibility was associated with increased violence against civilians, while development aid with low fungibility tended to have a mitigating effect.

The study is rated low confidence quantitative study as potential biases in reporting, particularly for rural events.

Floreani (2021) examines the relationship between conflict intensity and poverty in Afghanistan, focusing on the effects of foreign aid, troop presence, and casualties at the province level from 2007 to 2014.

The study employed ordinary least squares (OLS) and instrumental variables two-stage least squares (IV 2SLS) regression models, to examine the impact of conflict-related indicators (foreign aid, troop presence, and casualties) on household expenditures per capita in Afghanistan. The OLS models included household weights, with standard errors clustered at the province level to match the conflict indicators' measurement. To address potential endogeneity in foreign aid, IV 2SLS was applied using USAID aid flows as an instrument.

The findings show that foreign aid and troop presence were associated with increased household expenditures. The presence of Afghan troops, more locally engaged, showed a stronger positive impact on consumption than international forces.

Higher casualties correlated with lower household expenditures, underscoring the detrimental impact of violence on welfare. However, the combined effects of aid and troop presence often offset the negative impact of conflict on poverty.

The study is rated low confidence due to the inadequate description of the evaluation question and intervention.

Mir (2019) The study investigates the impact of the US drone program in Pakistan on insurgent violence from 2008 to 2011. The program involved sustained aerial surveillance, communication interception, intelligence analysis, and rapid drone strikes aimed at insurgent groups like Al-Qaeda and the Pakistani Taliban. The study employs a difference-in-differences approach, comparing monthly insurgent attacks and casualties in North Waziristan (treatment area) with other areas in FATA (control regions) before and after the drone program's implementation. It

uses geocoded data on violence, covering 32 tehsils (administrative units) in FATA, further stratified in the treatment region comprising 9 tehsils, while the control region included 23 tehsils.

The study documented the drone program was associated with a monthly reduction of 9–13 insurgent attacks and 51–86 casualties in North Waziristan. Before the program, the region experienced an average of 21 attacks and 100 casualties per month. Additionally, it showed that nearly 75 percent of the violence reduction is associated with the drone program period without any strikes, and about 25 percent is associated with aggregated effects of individual strikes. When violence compared to the control group it showed continued to increase or plateau in control areas, while it declined in North Waziristan, suggesting the program's unique impact.

The article is not found in EGM but can be rated as a medium-to-high confidence in its findings. It uses a robust empirical design and incorporates qualitative (e.g., interviews with officials and insurgents) and quantitative data.

Papadogeorgou (2020) investigates the causal effects of airstrikes on insurgent violence in Iraq, particularly during the period of the American military surge from February 2007 to July 2008. The researchers focus on two types of airstrike missions: close air support missions, which were primarily reactive to ongoing insurgent attacks, and pre-planned strikes against high-value targets. The study employs a spatio-temporal causal inference framework. The sample consists of airstrike data collected from the US Air Force, focusing on the locations and timings of airstrikes and insurgent attacks. The data includes both the airstrikes conducted and the insurgent violence reported in various locations. The study finds that the increase in airstrikes is associated with changes in insurgent violence patterns. The analysis suggests that the spatial pattern of insurgent attacks is influenced by the prioritization of airstrike locations.

The study should be rated as high and medium confidence study.

Pham (2013) measures the effectiveness of positive communications that counterinsurgents conduct as part of their information strategy to mobilize public support for the incumbent government in Afghanistan.

The study was designed as a quasi-experimental study. The study uses datasets of insurgent violence from international distributed unified reporting environment (INDURE) database for Zabul province from 2009 through 2011.

The study shows a strong correlation between the total number of new radio messages broadcasted per week and a reduction in insurgent violence throughout the province. Also there is a strong correlation between total welfare engagements conducted per week and a decrease in insurgent violence within a 5000-meter radius of the engagements.

The study is rated as medium confidence as it is designed as a non-experimental study design and has partially defined the interventions and outcomes in the study.

Postmus (2023) evaluate the impacts of third-party military interventions since the adoption of the Responsibility to Protect (R2P) doctrine in 2005, which justifies interventions to prevent violations of humanitarian and international human rights laws. The study examines how these interventions influence human rights practices in target states over a five-year period, focusing on "core rights" (e.g., right to life, freedom from torture) and "political rights and civil liberties" (e.g., freedom to participate in politics, religion, and unions).

Using a large-N quantitative approach with 852 cases from the Uppsala Conflict Data Program (UCDP) and the CIRI Human Rights Data Project, the researchers analyzed the relationship between interventions (independent variable) and human rights outcomes (dependent variables) via a Complex General Linear Model (CSGLM). Control variables included democracy status, GDP per capita, ethnic fragmentation, and conflict intensity.

Results indicate that military interventions improve core human rights in conflict states over five years, while conflict intensity negatively affects these rights if the conflict escalates to war. Conversely, interventions negatively impact political rights and civil liberties, with significant adverse effects from GDP per capita and conflict intensity. However, interventions by democracies positively affect both core and political rights. Across all models, conflict intensity remains a key factor reducing respect for core human rights.

The study is rated low confidence.

Regan (2002) examines the role of third-party interventions in the duration of intrastate conflicts. The author argues that interventions, which are a form of conflict management, would be expected to reduce the duration of civil conflicts. The study uses data on 150 civil conflicts during the period 1944-1999, of which 101 had outside interventions with a total of 1036 individual interventions. The outcome variable is the duration of the conflict in months. The predictor variables include characteristics of the conflicts, timing of interventions, type of interventions (military vs. economic), use of force, and whether the intervention was biased towards the government or opposition. Interventions that provoke opposing interventions and military/economic interventions increase the expected duration of conflicts. The probability of a conflict surviving to the 48th month is about 37% without an intervention, but about 60% with an intervention, suggesting that interventions contribute to longer conflicts until they become entrenched. The only aspect of the intervention strategy that reduces the likelihood of a conflict ending is if the intervention is biased in favor of either the opposition or the government, rather than a neutral intervention.

The study rated low confidence quantitative study as a small sample size, inadequate control of confounding factors, reliance on ex-post indicators, strong assumptions, and limitations in the study's methodology.

Steinert (2019) investigates the impact of pro-government militias (PGMs) on the recurrence of conflicts. PGMs are often used by governments as counterinsurgents during armed conflicts, deriving both material and non-material benefits from their involvement. These militias are typically excluded from peace negotiations and disarmament programs, which may incentivize them to disrupt post-conflict peace. The context of the study spans various global conflicts between 1981 and 2007, focusing on the role of PGMs in these settings.

The research employs a combination of statistical simulation, logistic regression models, and propensity score matching to analyze the effect of PGMs on conflict recurrence. The sample includes 121 conflict episodes with a five-year post-conflict observation window. The study identifies whether PGMs were active during these conflicts and if they participated in subsequent conflicts between the same actors.

The study finds that conflicts involving PGMs are more likely to recur compared to those without such involvement. The presence of PGMs increases the risk of conflict recurrence, as evidenced by statistical simulations showing a high probability of conflict relapse when PGMs

are active. The effect of PGM activities on post-conflict relapse remains statistically significant, with a notable increase in the risk of renewed violence.

The study is considered to have medium confidence as it is a non-experimental study.

Toft (2012) evaluates the effectiveness of different coercive counter-insurgency strategies in the North Caucasus, Russia. The strategies analyzed include denial, which manipulates the costs of expanding insurgent activity to new locations, and punishment, which manipulates the costs of sustained fighting in contested areas. The study also considers a combination of both strategies and a scenario where no action is taken.

The research employs a mathematical model of epidemics to formalize the logic of conflict diffusion and derive conditions under which state coercion might limit the spread of insurgent violence. The study uses a new dataset of insurgent and government violence in Russia's North Caucasus from 2000 to 2008. The sample includes 7,584 municipalities over 102 months, with a total of 773,568 observations.

The study finds that a denial strategy is most effective at containing insurgent violence, as it reduces the risk of violence spreading to new areas.

Punishment, on the other hand, is found to be counterproductive, as it increases the risk of continued violence in already contested areas and does little to prevent the spread of unrest.

The combination of denial and punishment, as well as taking no action, both lie somewhere in the middle in terms of effectiveness.

The study is rated as low confidence due to several methodological shortcomings such as there is little or no description of the evaluation question and the study does not report on attrition. Also the study is non-experimental.

Unal (2022) analysed Turkey's military deterrence efforts against the Kurdistan Workers' Party (PKK) from 1984 to 2018. The focus is on the incapacitation strategy, which involves neutralizing PKK members through military operations, with the aim of reducing PKK-induced violence. The context is Turkey's long-standing conflict with the PKK, which has been marked by both military and political dimensions, especially in light of regional developments such as the Syrian Civil War and the rise of the People's Protection Units (YPG).

The study employs a mixed-methods approach, combining quantitative and qualitative analyses. The quantitative component uses vector autoregressive (VAR) analysis to explore the relationship between incapacitation efforts and PKK violence over a 34-year period. Two datasets are utilized: the Global Terrorism Database (GTD) and an official government dataset, covering monthly data from May 1994 to December 2018. The qualitative analysis provides a longitudinal review of the conflict's phases and the strategic interactions between Turkey and the PKK.

The VAR analysis reveals that incapacitating PKK militants did not significantly reduce PKK violence. Instead, the strategy was found to be counterproductive in the short term, as it did not deter the PKK's ability to continue violent attacks.

The results indicate that the incapacitation efforts led to an increase in violence, with about seven more casualties observed in the sixth month following a shock to incapacitation efforts.

The study concludes that Turkey's eliminationist approach, aiming to annihilate the PKK, did not achieve the desired deterrent effect and suggests that a more strategic, politically integrated approach is necessary.

The study is considered to have medium confidence due to the absence of a power calculation.

Blair (2023) explores the impact of border fortification on insurgent violence and local support in transnational conflicts, using the case of Iraq. Border fortification aims to limit insurgent access to resources and sanctuaries from neighboring countries. However, by impeding cross-border support, fortified borders may also drive insurgents to shift tactics and seek local civilian cooperation to recoup lost resources.

The study uses microdata from Iraq's border fortifications built by the U.S. Army Corps of Engineers during Operation Iraqi Freedom, analyzing monthly violence data at the district level between 2004 and 2009. A difference-in-differences approach examines the effects of border fort construction on insurgent violence types and civilian victimization, contrasting districts with and without completed fortifications while accounting for pre-existing conflict trends and variation in nearby insurgent support networks.

Results show that border fortification led insurgents to shift from conventional, direct attacks to irregular, indirect fire tactics, such as mortars and rockets.

Also, fortification reduced civilian victimization in districts where insurgents shared identity ties with the local population (in-group areas). In mixed-identity districts, however, civilian harm increased, as insurgents targeted out-group civilians to deter cooperation with government forces.

The study is rated medium due to its non-experimental design.

Dimant (2020) examines how U.S. military aid may inadvertently increase anti-American terrorism through channels such as institutional degradation and social grievances in recipient countries, where increased aid may create resentment among excluded groups.

The study utilizes a large panel dataset with country-year observations (i.e., 173 countries from 1968 to 2014), applying an instrumental-variable approach to account for endogeneity. In here, U.S. military aid is instrumented with global aid trends (adjusted for regional aid distribution). The dependent variable, anti-American terrorism, is a binary measure indicating whether a country experienced at least one transnational terrorist attack against U.S. interests in a given year (coded as 1 if yes, 0 if no).

The results suggest that doubling U.S. military aid is associated with a 4.4 percentage point rise in anti-American terrorism in recipient countries, especially in areas with high corruption and exclusionary policies.

It was also found that aid often amplifies corruption and restricts political/economic access for marginalized groups, creating fertile conditions for anti-American sentiment.

The study is rated medium due to its non-experimental design and its partial description of the intervention.

Shellman (2011) examines the impact of U.S. military training in India (2002–2006) and U.S. diplomatic and military actions in the Philippines (1997–2006) on separatist violence. It investigates whether these interventions influenced the frequency of violent attacks by separatist groups and how different forms of U.S. engagement—military training, direct military actions, and diplomacy—affected conflict dynamics. The findings indicate that U.S. military training in India was associated with an increase in separatist violence, whereas U.S. diplomatic and military actions in the Philippines significantly reduced the number of separatist attacks.

While military assistance in India may have inadvertently fueled insurgency by strengthening rebel capabilities or provoking retaliation, diplomatic engagement and counterterrorism operations in the Philippines helped suppress separatist violence.

The study employs a quantitative approach, using negative binomial regression models to predict separatist attacks based on factors such as military training, government repression, economic conditions, and societal sentiment. To ensure balanced case comparisons, a genetic matching algorithm was applied, reducing selection bias and improving the validity of causal inferences. A counterfactual analysis was also conducted to estimate what would have happened in the absence of U.S. interventions. Additionally, time-series techniques such as Autoregressive Integrated Moving Average (ARIMA) and Zero-Inflated Negative Binomial (ZINB) models were used to assess the direct effects of military training, diplomatic initiatives, and military actions on separatist violence, allowing for a more precise measurement of their impact.

The findings reveal that U.S. military training in India initially led to an increase of approximately two attacks per month, though violence declined towards the end of the training period, suggesting a potential stabilizing effect over time. In contrast, U.S. diplomatic actions in the Philippines reduced separatist attacks by about four per month, while direct military interventions further decreased violence, with an estimated reduction of nearly six attacks per month. Joint military exercises, particularly Balikatan and operations in Carmen Town, had a significant impact in curbing separatist violence, reinforcing the effectiveness of military cooperation in counterinsurgency efforts. Sentiment analysis also showed that increased public support for separatists correlated with higher levels of violence, whereas stronger government support contributed to a decline in attacks. Overall, the study highlights the differential effects of military and diplomatic interventions, emphasizing the importance of strategic engagement in conflict-affected regions. The study is rated a high and medium confidence quantitative study.

Confidence assessment

This cell is rated medium confidence. (consistency unsure)

Other outcomes in this cell

- Human security/ Economic security
- Human security/ Physical security
- Human security/ Political security

Nature and scale of violence or atrocities

Military operations

Average Effect Size

-0.013