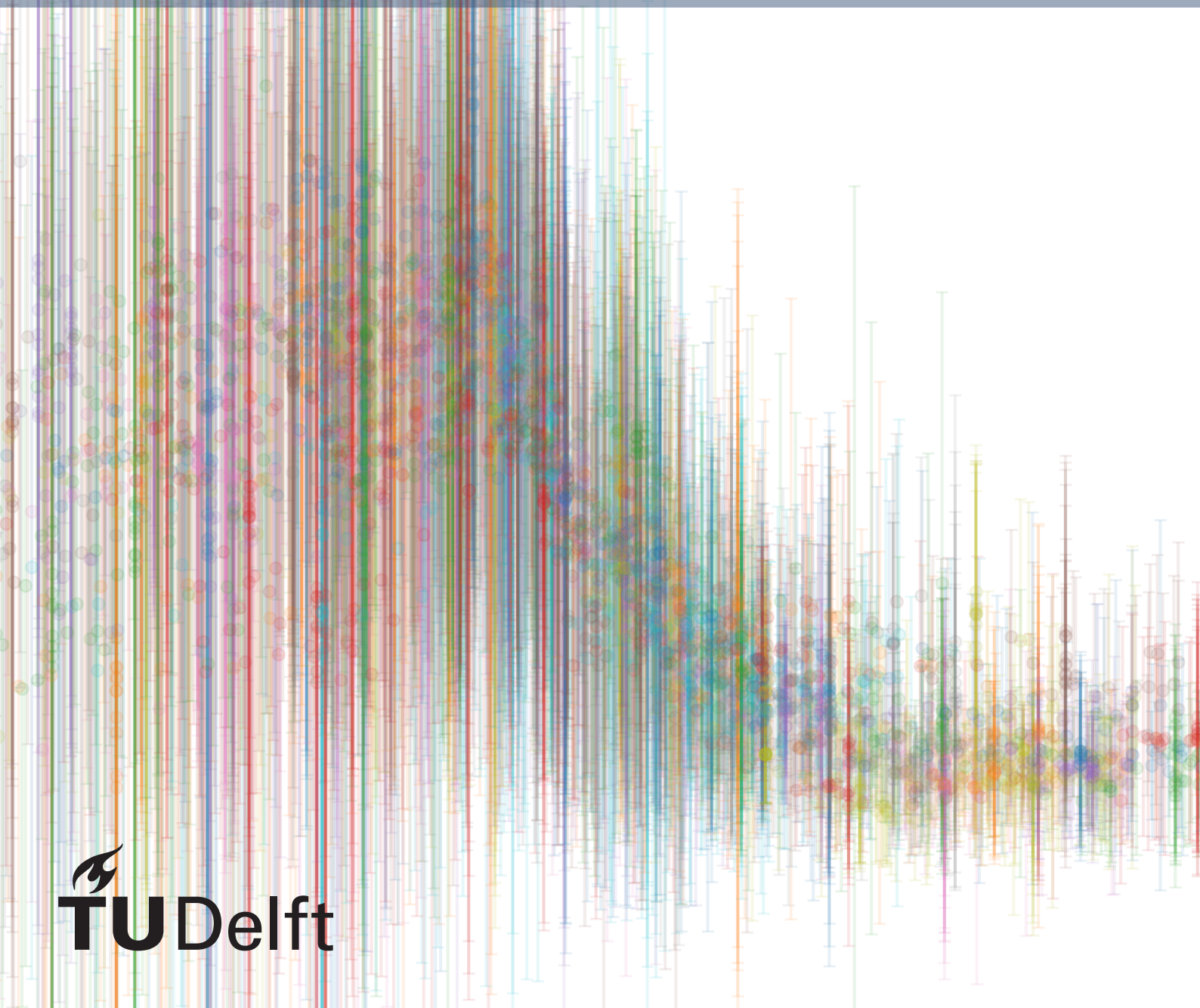
No Bang for Buck

Exploring the Heterogeneous Relationships Between Official Development Assistance and Intrastate Conflict Casualties

EPA2942: Master Thesis

Emma Bokel



TU Delft

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by

Emma Bokel

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Preface

In medicine, we can test whether a treatment works by giving it to some patients and withholding it from others. In policy, we often don't have this luxury. We cannot randomly assign foreign aid to some fragile countries and leave others alone to see what happens. Still, decisions about where and how to allocate billions of dollars in ODA need to be made every year, with incomplete evidence of what actually works. This thesis is an attempt to get a little closer to that evidence.

Using a self-made panel dataset of 156 countries spanning 1989 to 2022, for 86 distinct indicators, it examines how Official Development Assistance is associated with intrastate conflict casualties. To do so, it combines two techniques from different fields to ask not only whether ODA reduces conflict on average, but also under what conditions, by comparing countries with similar characteristics but different ODA levels.

The most exciting moment of this project came when I visualised the Causal Forest results. Clear patterns emerged from the data: the importance of political stability, the role of project fragmentation, and the difference between bilateral and multilateral channels in fragile settings. Translating that into a coherent written argument proved to be a humbling reminder that making a model run and explaining what it means are two very different skills.

None of this would have been possible without the support of several people I would like to thank. I would like to begin by thanking Jesse Kommandeur, who has been a mentor to me since I first arrived at HCSS in July 2024. Jesse created the space for me to write this thesis at HCSS, guided me through the content, gave me lots of feedback, and also supported me on a personal level throughout the process. I could not have asked for a better person to have in my corner. My deepest academic thanks go to Dr. Yilin Huang, my first supervisor. Yilin invested an extraordinary amount of time and energy into this thesis. Her sharpness, work ethic, and kindness were the qualities I was looking for in a supervisor, why I asked her, and exactly what I got. I am incredibly grateful and honoured for everything she contributed. I would also like to thank Prof.mr.dr. Hans de Bruijn, whose lectures first made me realise I wanted him on my committee. His ability to cut straight to what matters most and his willingness to help moved this thesis forward. To everyone at HCSS, especially those sitting in the Datalab: thank you for listening to me talk about this thesis constantly and for being super supportive of it. Finally, to my parents, for the endless encouraging phone calls; to my EPA friends for asking good questions, offering good answers, and understanding what I was going through without having to explain it; and to my friends abroad, for listening and cheering me on regardless of the distance.

Emma Bokel
Delft, May 2026

Summary

Between 1989 and 2022, an estimated 3.4 million people died as a result of intrastate conflict, with 76% of those deaths occurring in low-income countries, making it a leading cause of humanitarian suffering and economic decline. Official Development Assistance (ODA) is frequently used to promote stability and development in conflict-affected states, yet the extent to which it actually reduces violence remains difficult to quantify. Numerous studies show cases in which ODA worsened conflict rather than reducing it, yet stopping ODA for the countries that need it most seems cruel. This thesis investigates the association between ODA and intrastate conflict-related casualties in recipient countries using a data-driven approach.

The analysis draws on custom-made a panel dataset of ODA-eligible countries spanning 1989 to 2022, combining ODA data from the OECD's Creditor Reporting System, conflict casualty data from the Uppsala Conflict Data Programme's Event Dataset, and a broad set of country-level indicators derived from three established frameworks: the OECD States of Fragility Framework, the World Bank Country Policy and Institutional Assessment, and the Composite Index of Absorptive Capacity. Nine distinct forms of ODA are examined, including total, bilateral, multilateral, and purpose-specific categories targeting construction, government and civil society, and conflict, peace and security.

Two data analysis methods are used. A Dynamic Panel Generalised Method of Moments (GMM) model estimates which forms of ODA and country-level indicators are statistically associated with changes in conflict deaths, while accounting for endogeneity, the problem that countries experiencing more conflict also tend to receive more ODA, making standard correlations misleading. This long-established and widely used method in the social sciences is supplemented by a Causal Forest model. This moves beyond average effects, which are criticised for yielding conclusions that are too general to estimate heterogeneous treatment effects. These heterogeneous treatment effects identify the conditions under which different forms of ODA are associated with increases or decreases in casualties.

After combining and analysing over 5,000 country-year observations across 156 countries, 34 years, and 76 country-level indicators, both methods converge on the same overarching finding: ODA, on average, does not reliably reduce intrastate conflict deaths. The main predictor of conflict deaths in any given year is the level of deaths in the previous year, by far. This reflects the self-reinforcing nature of intrastate violence, as the literature calls it, the conflict trap. None of the nine forms of ODA consistently breaks this cycle. In the Panel GMM, only multilateral ODA reaches statistical significance among the ODA variables, but rather than being associated with fewer conflict deaths, it is associated with more.

The causal forest average treatment effects are small in magnitude and cluster near zero for most ODA types. These averages, however, conceal the heterogeneity. The newer Causal Forest technique identifies four main conditions that shape ODA's relationship with conflict. First, political stability is the most consistently important factor: below a threshold of approximately −0.2 on the World Bank's Political Stability and Absence of Violence/Terrorism index, ODA effects are mostly harmful and unpredictable, while above this threshold they become more muted and stable. This pattern is consistent with the mechanisms of predation and sabotage identified in the literature: in politically unstable contexts, armed groups are more likely to seize ODA resources or attack providers perceived as partisan. Second, while aid fragmentation is known to limit developmental returns, it appears to reduce conflict: countries receiving more, smaller projects experience more predictable and less harmful ODA effects, likely because dispersed aid is a less attractive target for predation or sabotage. This may be due to dispersed ODA presenting less attractive targets for predation than large, concentrated inflows. Third, the choice of delivery channel matters in fragile settings: bilateral ODA is associated with higher casualties in politically unstable countries, whereas multilateral ODA is not, possibly because multilateral channels are less susceptible to geopolitical perceptions and provide greater stability against sudden aid shocks. Fourth, the purpose of ODA matters: the impact of purpose-specific ODA is substantially

larger than for aggregate ODA, though the results for ODA with the purposes of conflict, peace and security, and construction are inconclusive due to the reactive nature of their allocation, which makes causal identification difficult.

Five policy implications follow from these findings. First, since ODA in high-conflict environments carries substantial risk of worsening violence through predation and sabotage, detailed local assessments should precede any disbursement decision, as country-level indicators alone are insufficient to determine whether aid is safe to deliver. These assessments should cover whether aid resources could be targeted for predation, whether delivery could be perceived as politically aligned with a conflict party, and whether the security situation permits effective oversight. Second, since political stability is the most important moderator of ODA's effects, it should be treated as a precondition for scaling up bilateral ODA: for most ODA-recipient countries, the political conditions needed for bilateral ODA to be absorbed safely have not yet been met, meaning that increasing volumes prematurely risks fuelling rather than reducing conflict. Third, since bilateral ODA is associated with increased casualties in politically unstable settings while multilateral ODA is not, aid in fragile contexts should be channelled through multilateral institutions, which are less susceptible to geopolitical perceptions and more resilient to aid shocks. Fourth, since conflict is persistent and ODA rarely breaks this cycle once violence is entrenched, prevention should be prioritised over de-escalation. Fifth, since these findings are based on country-level aggregates that cannot capture subnational variation, local power dynamics, or cultural factors, they should inform but not replace context-specific, project-level analysis.

The thesis also provides policy recommendations tailored to three different levels of political stability and violence. For stable countries, the priory of ODA should be development rather than minimising conflict. For moderately stable countries, policymakers should assess whether ODA is the right tool, thoroughly research local circumstances, distribute ODA evenly, and consider multilateral aid channels. For unstable countries, policymakers should prioritise policy alternatives. If ODA is still chosen, they must conduct thorough local research first, opt for multilateral ODA rather than bilateral, focus on small projects, and target regions that are already relatively stable.

This thesis contributes to the aid effectiveness literature by moving beyond typical methods that do not account for endogeneity or average-country effects, which draw conclusions for all countries. By combining an established econometric method with a modern statistical approach that combines machine learning and causal inference to reveal the conditions under which foreign ODA may mitigate or exacerbate intrastate conflict. Future research should move toward subnational and project-level analysis and be complemented by qualitative methods, as local power dynamics, cultural norms, and community-level perceptions cannot be measured.

Contents

Abbreviations

Abbreviation	Definition
AR(1)	Autoregressive Test of Order 1
AR(2)	Autoregressive Test of Order 2
ATE	Average Treatment Effect
CATE	Conditional Average Treatment Effect
CIAC	Composite Index of Absorptive Capacity
CPIA	Country Policy and Institutional Assessment
CSO	Civil Society Organisation
DAC	Development Assistance Committee
DPT	Diphtheria-Pertussis-Tetanus
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GED	Georeferenced Event Dataset
NGO	Non-Governmental Organisation
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
(Panel) GMM	(Panel) Generalised Method of Moments
UCDP	Uppsala Conflict Data Program

1

Introduction

Intrastate conflicts continue to claim lives and ruin economies, especially in the world's poorest countries. Official Development Assistance (ODA), an official form of foreign aid, is a tool used by international actors to promote economic development. Despite its prominence, the effects of ODA on intrastate conflict remain poorly understood. This thesis examines this relationship using a data-driven approach.

1.1. Background and Rationale

The relationship between ODA and conflict is both contested and consequential. Decades of debate over ODA's effectiveness have yielded little consensus, with scholars disagreeing not only on whether aid achieves its intended goals, but also on whether it may actively cause harm (Pham & Pham, 2022). At the same time, intrastate conflicts, which have become the dominant form of armed violence since the Cold War (Öztürk, 2024), remain stubbornly persistent, carrying devastating human and economic costs that are routinely underestimated (Rohner & Thoenig, 2021). How ODA interacts with conflict matters for policy decisions that directly impact human lives.

1.1.1. The Evolution of the ODA Effectiveness Debate

ODA has long been a subject of debate, with shifting perspectives on its ability to promote development, its unintended consequences, and growing scepticism over the extent to which these perspectives can be assessed in a generalisable manner.

Until the 90s, most criticisms of ODA focused on economic development, questioning whether it delivered on its promises of positive economic impacts (Petřík, 2008). During the late 90s, however, governmental and non-governmental aid agencies began to realise that foreign aid had unintended consequences. One of the things the development community recognised was that aid does not invariably stop conflict; instead, appropriate aid can diminish the risk of conflict, and inappropriate aid can fuel it (Boyce, 2000). For example, during the civil war in Tajikistan, Save the Children helped the Garmi people in 1994 and 1995, who were suffering the most from the civil war. The Kulyabi, who had taken less damage, were not aided. The Kulyabi resented the aid community for strengthening the enemy, thereby increasing tensions (Anderson, 1999). The war only officially ended in 1997 (Lynch, 2001). The more recent Tigray civil war in Ethiopia exhibited a similar pattern. The war was between the Ethiopian federal government and the Tigray regional government from 2021 to 2022. The federal government imposed a de facto humanitarian-aid blockade on the Tigray region, severely restricting ODA deliveries (Gebregziabher et al., 2022), which became a point of contention between the two parties (Felix Kwame Yeboah, 2022).

In the mid-2000s, the debate on the effects of ODA gained mainstream attention in the news and in books, with two scholars, Jeffrey Sachs and William Easterly, engaging in a heated public debate. Sachs, the proponent of ODA, made a moral case for it, arguing that ODA is needed to build capital and break the poverty trap and financing gap. He provided examples of ODA successes, such as the green

revolution in Asia and the eradication of Polio (Issaka, 2015). Easterly, on the other hand, argued that ODA fails because its implementation is neither accountable nor responsive to the people served, and that it creates perverse incentives for bureaucrats. Since then, more inconclusive and contradictory studies have followed (Issaka, 2015).

The challenges of assessing ODA's effectiveness have led to more narrowly scoped studies that examine specific countries, aid projects, or unintended side effects. A relatively recent overview of aid effectiveness concludes that the effects of aid allocation "rely not only on the *forms of aid*, but also on the recipient countries' *circumstances*" (Pham & Pham, 2022). Factors such as institutional quality, political stability, the macroeconomic environment, and absorptive capacity affect ODA's ability to promote economic growth (Pham & Pham, 2022).

1.1.2. Persistence of Intrastate Conflicts in Aid-Recipient States

Though the human and economic tolls of intrastate conflicts may seem intuitive, the costs of increasing conflicts are often underestimated. Unlike interstate wars, which have, as of 2024, declined globally since World War II, the number of *intrastate* conflicts has risen due to a decrease in terminations rather than an increase in new wars (Öztürk, 2024). These conflicts carry high human costs, including direct deaths from fighting and indirect deaths caused by disrupted health services, disease, and food shortages (Rohner & Thoenig, 2021). Since the Cold War, intrastate conflicts have been the most deadly type of conflict, especially in low-income countries (Herre, 2024). From 1989 to 2022, the timespan used for this thesis, an estimated 3.4 million people died due to intrastate violence, 76% of which happened in low-income countries.[1] Beyond fatalities, they also result in other forms of harm such as displacements and sexual violence (Rohner & Thoenig, 2021).

In addition to human costs, there are economic costs, as Rohner and Thoenig (2021) explains. Estimates here include an 18% permanent decrease in output for civil wars or a 15% loss in GDP for an average 7-year war. In addition to these tangible costs, there are intangible economic opportunity costs, such as public and private spending on border security and military readiness. The consequences of these wars are horrendous and must be minimised.

1.2. Definitions

As the concepts of ODA effectiveness and intrastate conflict are defined differently across contexts, this thesis uses the following definitions:

According to Short (2022), an intrastate conflict is any armed conflict within a state in which at most one government actor is involved. While UCDP applies a minimum threshold of 25 battle-related deaths for an event to be classified as a conflict (Uppsala Conflict Data Program, 2024), this thesis requires greater granularity for its quantitative analysis. Therefore, it does not adopt this threshold. Intrastate conflict is thus defined here as *any lethal armed confrontation occurring within a state that involves no more than one national government actor*.

ODA is the formalised term for foreign aid (Teutem & Arriagada, 2025). The OECD defines ODA as official flows from governments or their agencies to developing countries that are primarily aimed at promoting economic development and welfare, are concessional in character, and meet specific grant-element thresholds depending on the recipient and loan type ("ODA definition and coverage", 2025). Therefore, in this thesis, ODA is defined as *concessional official flows from governments or agencies to developing countries that are primarily intended to promote economic development and welfare and meet OECD eligibility criteria.*

The effectiveness of the ODA can be understood as its achievement of a given objective. Although these objectives vary across donors and contexts, the literature traditionally evaluates the effectiveness of ODA in terms of economic development and welfare outcomes (Morrissey, 2002). This aligns with ODA's official goal of promoting economic development and welfare. Building on this literature, the empirical analysis in this thesis examines whether ODA can also be effective in minimising local intrastate conflict. Therefore, in this thesis, ODA effectiveness is defined as *the extent to which ODA achieves its intended objective, specifically whether it contributes to reducing fatalities in local intrastate*

[1] Statistics based on UCDP GED data and calculated according to the intrastate conflict definition in 1.2

conflict.

1.3. Research Gap

The debate over ODA's effectiveness has produced a large body of research, yet the specific question of how ODA influences intrastate conflict across different contexts remains unclear. Existing studies tend to approach the topic from a qualitative perspective, and those that do use quantitative methods face significant methodological challenges, as described below.

Quantitative methods rely on strict assumptions to ensure mathematical validity, yet these assumptions are often violated in real-world data. Country-level datasets frequently suffer from missing data and measurement error. A particular concern is endogeneity, in which independent variables are also correlated with the dependent variable (reverse causality), leading to biased estimates (Cooper et al., 2020). For example, countries experiencing intrastate conflict are more likely to receive ODA, making certain methods used in previous studies unsuitable: e.g., Auto Regressive Distributed Lag models (Asaleye & Strydom, 2023; Yu et al., 2024), Binary Time-Series Cross-Section Models (McLauchlin, 2023), Panel Vector Error Correction Models (Asaleye & Strydom, 2023), and Maximum likelihood logistic functions for rare event data (Mousseau, 2021).

This thesis addresses the gap by combining Panel Generalised Method of Moments (Panel GMM) with causal forests for quantitative analysis of ODA and intrastate conflict. Panel GMM is an established solution for addressing endogeneity in dynamic panel data, and similar studies have applied it before: one examined how foreign aid impacts growth (Hongli & Vitenu-Sackey, 2023), one examined how FDI impacts conflict (Garriga & Phillips, 2014), and one examined how foreign aid impacts terrorism (Shahzad et al., 2020). While instrumental variables offer an alternative solution (Shahzad et al., 2020), they require the independent variable to be modelled, a task beyond the scope of this thesis. Panel GMM, however, can only measure average effects and does not capture the heterogeneous treatment effects that reveal the conditions under which ODA can increase or decrease conflict. The analysis is therefore supplemented by Causal Forests (Wager & Athey, 2018), a method introduced in 2018 and since improved (Rehill, 2025), which estimates how ODA's effects vary across different country contexts.

1.4. Research Objectives and Questions

The objective of this thesis is to empirically examine the relationship between ODA and intrastate conflicts. It provides a data-driven perspective on how ODA is associated with conflict outcomes and how this relationship varies across recipient-country contexts and ODA forms. By adopting a quantitative approach, this study seeks to identify the conditions under which foreign aid may mitigate or exacerbate intrastate conflict.

This thesis investigates the relationship between Official Development Assistance (ODA) and intrastate conflict by addressing the following main research question:

How is Official Development Assistance (ODA) associated with intrastate conflict?

To help break down this question, seven subquestions are addressed:

Research Question 1: Conflict-Side Determinants
RQ1: How do conflict dynamics within recipient countries shape whether ODA reduces or increases violence?

Before examining ODA itself, it is necessary to understand the environment into which it is delivered. The nature of an active conflict determines how aid is received and used, and therefore whether it is likely to help or harm. ODA does not arrive in a vacuum: the characteristics of the conflict, including who the parties are, what stage the fighting is at, and how strong state control remains, all shape the context into which aid is introduced. Therefore, the question examines which conflict-side dynamics are most relevant to the relationship explored in this thesis and provides the necessary foundation for the analysis that follows. This subquestion is addressed through a literature review.

Research Questions 2 and 3: Building a Measurement Framework

The effect of ODA on conflict depends on conditions in the recipient country. To capture these conditions, two complementary sets of indicators are required: one measuring a country's capacity to use ODA effectively, and another measuring the country's fragility. Because a consistent unit of analysis is necessary for quantitative methods and because ODA and related indicators are most readily available at the country level, the country is adopted as the unit of analysis. To answer both questions, frameworks and their indicators are selected based on two criteria: support in the literature and availability at the country-year level across the study period from 1989 to 2022.

RQ 2: What recipient country-level indicators contribute to ODA's general effectiveness?

ODA's impact on a recipient country depends on that country's capacity to absorb and use it productively. To capture it systematically and comparably across countries and years, a set of indicators is needed. This question asks which indicators best capture those conditions, forming the first part of the measurement framework used in this thesis.

RQ 3: What are the key indicators of a recipient country's fragility in relation to intrastate conflict?

Countries that receive ODA are, by definition, those facing development challenges. These same challenges also tend to make countries more vulnerable to intrastate conflict. There is, therefore, an overlap between the countries that need ODA most and those most prone to violence. To systematically and comparably capture this fragility across countries and years, a set of indicators is needed. This question asks which indicators best capture those dimensions, forming the second part of the measurement framework used in this thesis.

Research Question 4: Evaluating the Framework
RQ4: How well can the indicators in RQ2 and RQ3 represent absorptive capacity and state fragility?

Any set of indicators comes with strengths and limitations. Systematic, cross-country indicators offer consistency and comparability, but they are aggregates. Both absorptive capacity and measures of state fragility vary across countries, regions, sectors, and communities, and a single national figure may oversimplify. Before proceeding to the empirical analysis, it is therefore important to critically examine how well the indicators identified in Research Questions 2 and 3 capture the conditions they are intended to represent, and to identify where country-level aggregation falls short. This question is addressed through a review of literature critical of country-level measurement, assessing where the selected indicators fall short in capturing the subnational and intervention-specific variation that absorptive capacity and state fragility require.

Research Question 5: Modelling the Relationship
RQ5: How can the relationship between ODA and intrastate conflict be modelled to account for endogeneity and measure heterogeneous treatment effects?

Measuring the relationship between ODA and conflict raises significant methodological challenges. Most notably, aid flows and conflict levels influence each other simultaneously, and ODA's effects are unlikely to be uniform across all countries and contexts. This question asks how these challenges can be addressed through the choice of empirical methods. This question is addressed by applying Panel GMM, which accounts for endogeneity using lagged instruments, and Causal Forests, which estimate heterogeneous treatment effects. This question is addressed by applying Panel GMM and Causal Forests to the panel dataset, with careful data preparation in Python and R to meet each method's requirements, including handling missing values, selecting appropriate lags, and applying inclusion criteria.

Research Question 6: Empirical Insights
RQ6: What are the insights of the ODA and conflict data analysis?

With the framework and methods in place, this question asks what the data actually reveal about the relationship between ODA and intrastate conflict. It moves beyond the theoretical mechanisms identified in the literature and the methodological choices described in the preceding questions, to examine what the empirical analysis shows: whether ODA reduces conflict on average, and under what conditions its effects differ across countries and contexts. This question is answered by interpreting the results of

the Panel GMM and Causal Forest models, and contextualising the findings by comparing them with the existing literature.

Research Question 7: Policy Implications
RQ7: What policy implications for aid strategies can be derived from the relationship between ODA and intrastate conflict in recipient countries?

Empirical findings are most useful when they can inform practice. This question asks what the results imply for how ODA is allocated and structured, especially for fragile countries. This question is answered by translating the empirical findings into practical recommendations, contextualised by the existing literature on aid delivery in fragile and conflict-affected settings.

1.5. Relevance to Study: Engineering and Policy Analysis

This thesis aligns with the Engineering and Policy Analysis (EPA) master's program by addressing a grand challenge through the integrated use of quantitative and qualitative methods to generate policy-relevant insights. It focuses on a grand challenge of intrastate conflict. This topic directly relates to the UN Sustainable Development Goal 16, which aims to promote peaceful and inclusive societies, ensure access to justice, and build effective and accountable institutions (United Nations General Assembly, 2015). Moreover, intrastate conflict undermines progress on many other SDGs, including those related to poverty reduction, economic growth, health, and education. The thesis reflects the program's emphasis on combining rigorous technical methods with broader analytical perspectives. It applies advanced data science techniques for quantitative analysis while incorporating qualitative research to inform methodological choices and contextualise the findings. By evaluating ODA as a policy instrument and examining its relationship with conflict through this integrated approach, the thesis provides policymakers with insights consistent with the objectives of the EPA program.

1.6. Reader Guide

To examine the association between ODA and intrastate conflict incidence in recipient countries, this thesis is structured into six chapters. This introduction is followed by a literature review of the conditions that typically enable ODA to drive development, as well as the particular challenges of delivering effective aid in conflict-affected contexts. Chapter 3 then describes the data and two methods (panel GMM and causal forests) used to estimate the association between different forms of ODA, country-level indicators, and intrastate conflict. Chapter 4 begins with exploratory data analysis, presents the results of panel GMM, and shows the heterogeneous treatment effects of different forms of ODA on intrastate conflict casualties. Chapter 5 reflects on these results by outlining the study's strengths and limitations, presents the policy implications of the findings, and ends with suggestions for future work. Lastly, Chapter 6 concludes by synthesising the main findings and offering implications regarding the allocation of different forms of ODA in conflict-affected countries. Together, these chapters follow this approach: starting from the full complexity of the real world, progressively simplifying it into measurable indicators and model results, and finally stepping back out to interpret those results in their broader context.

2

Literature Review

To understand how ODA affects intrastate conflict, it is first necessary to examine the factors that determine ODA's effectiveness, conceptualised as absorptive capacity (Haider, 2018). ODA's influence on conflict dynamics builds on its developmental and institutional impacts, as ODA can alter conflict-related incentives only to the extent recipient countries can effectively use it (Feeny & de Silva, 2012). For example, aid-financed infrastructure, such as hospitals, yields limited developmental returns when there are no qualified doctors, while financial assistance may fail to generate positive outcomes when weak institutions or corruption divert resources away from their intended purposes. These challenges stem from underlying constraints in recipient countries that determine what they can realistically achieve with external assistance (Feeny & de Silva, 2012). Similar constraints shape ODA's impact on conflict. For instance, ODA intended to reduce grievances and prevent violence, may instead become a resource that armed groups fight over when institutions are too weak to protect and allocate it properly (Zürcher, 2017). Understanding these foundational constraints is the foundation for evaluating the broader effects of ODA on conflict. Accordingly, this literature review proceeds in two stages. First, it examines the determinants of ODA's effectiveness in promoting economic development. Second, building on this background, it assesses how ODA influences the onset and dynamics of intrastate conflict.

2.1. Determinants of ODA's Impact on Development

Feeny and de Silva (2012) proposed a framework of five factors that determine ODA's ability to drive economic development: policy and institutional capacity, capital constraints, macroeconomic constraints, donor practices, and social/cultural factors. Importantly, these determinants can be broadly grouped into **internal factors**, which originate within recipient countries (policy and institutional capacity, capital constraints, macroeconomic conditions, and social-cultural structures), and **external factors**, which stem from donor behaviour and the international aid architecture, something the donating parties can shape. Distinguishing between internal and external constraints is analytically relevant, as it clarifies how limitations of ODA effectiveness differ between domestic absorptive capacity and the manner in which aid is delivered. An overview with examples of these factors can be seen in Figure 2.1.

2.1.1. Internal Factors

Policy and Institutional Capacity A central internal determinant of ODA effectiveness is the quality of recipient countries' policies and institutions. A substantial body of literature demonstrates that ODA influences economic growth, conditional on institutional quality: stronger governance frameworks enable a more productive use of ODA, while weak institutions undermine ODA effectiveness (Feeny & de Silva, 2012). According to the World Bank, a country's policies and institutional quality are the primary determinants of its aid effectiveness prospects ("Country Policy and Institutional Assessments", 2024). In particular, poor rule of law and limited accountability increase opportunities for rent-seeking, allowing political elites to divert ODA to private uses rather than development-enhancing investments. Reviews of aid projects consistently find that governance quality and corruption levels are among the strongest predictors of whether aid-funded interventions succeed (Maruta et al., 2020). These challenges are es-

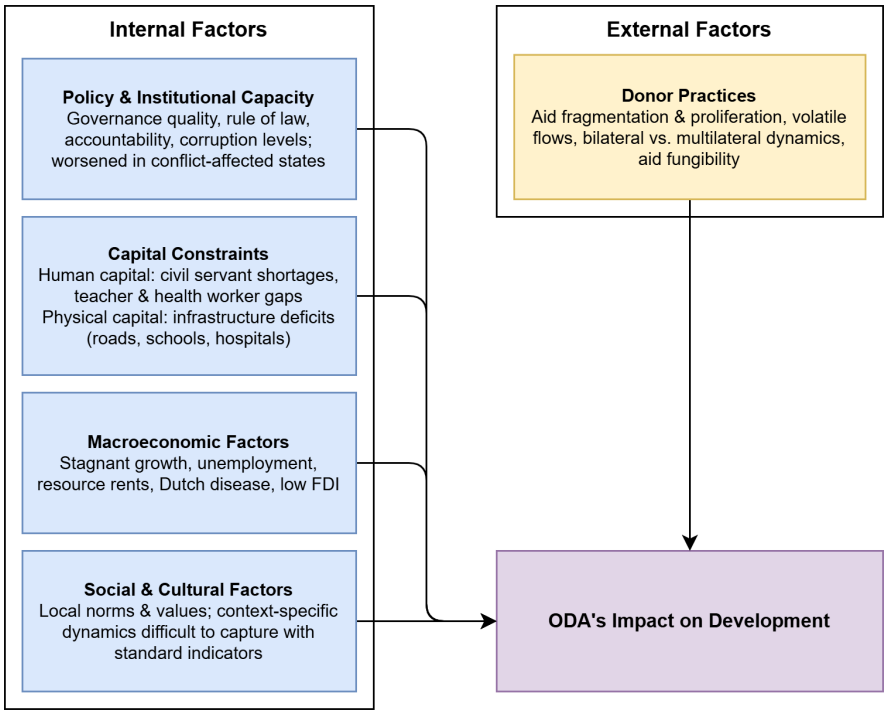

Figure 2.1: Factors that influence a country's ability to absorb ODA adapted from Feeny and de Silva (2012). None bold text represents examples

pecially pronounced in countries experiencing or emerging from intrastate conflict, where institutional capacity is typically low, as measured by the World Bank Country Policy and Institutional Assessment (CPIA) (Independent Evaluation Group, World Bank Group, 2016). This is still true today, one recent study examining African countries found that unconditional ODA is associated with declines in institutional quality when baseline governance conditions are poor (Misganaw et al., 2025). An explanation is that aid inflows may distort government incentives, encouraging leaders to prioritise donor preferences over responsiveness to domestic populations (Whitfield, 2009). Together, these findings underscore that policy and institutional constraints can worsen ODA's developmental impact, particularly in conflict-affected states.

Capital Constraints Another major internal factor that determines ODA's ability to stimulate development is the capital constraints, which come in two forms: human and physical capital (Feeny & de Silva, 2012). At the human level, many recipient countries face shortages of qualified civil servants to administer aid programs, a problem closely linked to institutional capacity. Administrative officials are often burdened with extensive reporting and compliance requirements imposed by donors, diverting time and attention away from core policy implementation and service delivery (Feeny & de Silva, 2012). Human capital is also a problem at the sectoral level. Issues such as teacher and health worker shortages limit ODA's ability to improve outcomes in education, health, and other essential services (Chaudhury et al., 2006).

In addition to these human capital constraints, physical capital constraints are also significant: effective delivery of aid-funded programs depends on adequate infrastructure, including schools, hospitals, roads, bridges, and utilities. Investments in telecommunications, energy, and irrigation systems can further enhance productivity and the impact of ODA by facilitating market access, improving service delivery, and supporting economic growth (Feeny & de Silva, 2012). Taken together, these human and physical capital limitations illustrate that the developmental returns of ODA are contingent on recipient countries' capital.

Macroeconomic Factors A third internal factor, a country's macroeconomic conditions, constitutes another key determinant of ODA's developmental impact. At the domestic level, stagnant growth and

high unemployment limit the productive opportunities available to aid recipients, constraining the effective use of external assistance (Rahnama et al., 2017). Natural resource wealth introduces a further complication: high resource rents tend to weaken governance and reduce economic diversification (Morrison, 2010). ODA is also an external inflow, so increasing ODA can further appreciate the real exchange rate (Fielding & Gibson, 2013). This so-called ”Dutch disease” erodes export competitiveness and heightens vulnerability to external shocks (Fielding & Gibson, 2013). Finally, the level of foreign direct investment reflects and reinforces these dynamics: low FDI signals weak macroeconomic fundamentals, though aid targeted at infrastructure and human capital can help crowd in private investment over time (Selaya & Sunesen, 2012). Together, these factors shape the macroeconomic environment in which ODA operates and, therefore, the extent to which a country can effectively absorb it.

Social and Cultural Factors Social and cultural factors also constrain the effective use of ODA, yet their complexity is inherently difficult to capture with standard quantitative indicators. These constraints stem from highly local norms and values and depend heavily on the type of aid (Feeny & de Silva, 2012). For example, a documented case from rural development practice shows how a well-intentioned water supply project failed due to overlooked local social dynamics (Kreitzer, 2023). A donor built a borehole in a village to reduce the burden of fetching water from a distant stream, expecting that closer access would benefit children and households. However, when evaluators returned the following year, the borehole was overgrown and unused. When villagers were asked why they did not use the new well, they explained that the daily walks to the distant stream provided the only private time parents had together. The closer borehole inadvertently disrupted this valuable social routine, making it socially unacceptable despite its technical benefits (Kreitzer, 2023). This example underscores that social and cultural norms can substantially influence the extent to which ODA projects have effects. Since such norms operate at the level of lived experience and meaning, traditional indicators do not easily measure them, and they cannot be captured on a country-wide scale. Therefore, the empirical findings of this thesis are meant as an addition to more localised research, not as a replacement.

2.1.2. External factors

Next to internal factors, which represent the recipient country’s situation, the manner in which the donation is made also matters for its impact on development.

ODA Fragmentation Related to the human capital constraints, developing countries typically receive ODA from multiple donors, and the administrative burden of managing these inflows increases when donors operate independently, employ different monitoring and reporting procedures, and fund numerous fragmented projects across sectors (Feeny & de Silva, 2012). This proliferation and fragmentation of ODA have been documented in the literature and are expected to intensify as ODA scales up, potentially reducing the developmental impact of assistance (Kimura et al., 2012).

ODA Volatility Another important factor is the consistency of the ODA. When ODA flows are variable or unpredictable, recipient governments struggle to allocate resources effectively across agencies, set the right policies, and coordinate with nongovernmental organisations on service delivery (Iannantuoni, 2025). Long-term capital formation is more difficult to achieve when ODA is volatile, as local governments are pushed toward consumption rather than investment spending (Iannantuoni, 2025).

Multilateral and Bilateral ODA One way to mitigate volatility risk and minimise aid fragmentation is to have multiple donors collaborate, moving from bilateral to multilateral ODA. Bilateral ODA is ODA provided by individual donors to recipient countries, whereas multilateral ODA is ODA provided through multilateral institutions. If donors group together and one falls away, the recipient country will still get donations from the other donors (Findley, 2018). Also, if bilateral donors combine to jointly make a multilateral contribution, fragmentation decreases. On top of that, multilateral ODA is less prone to strategic and geopolitical orientation. Bilateral ODA can, however, sometimes be more compatible with the recipient country when historical relationships make it more effective (Biscaye et al., 2017).

Tied and Untied ODA A further dimension of donor practice that shapes ODA effectiveness is whether aid is tied or untied. Tied aid requires recipient governments to procure goods and services from the

donor country, whereas untied aid permits procurement from any source (OECD, 2026). The literature consistently finds that tying reduces the developmental value of aid: by restricting procurement to donor-country suppliers, it inflates costs and weakens local private sector development by excluding domestic suppliers from ODA-funded contracts (Ganga, 2025).

ODA fungibility Another aspect of ODA that is often discussed is regulation to prevent ODA from being used for purposes other than those the donating country intended. This can be done through restricting the flexibility of domestic government resources, for example, through performance-based support or forcing governments to isolate their budgets (Rana & Koch, 2020). While traditionally considered undesirable, fungibility is also hypothesised to have positive effects when it improves the marginal impact of government spending, addresses equity concerns, or cushions temporal instability in aid flows (Rana & Koch, 2020).

Collectively, these donor-related factors demonstrate that the manner in which ODA is delivered and managed shapes its effectiveness, highlighting that not all ODA performs the same.

2.2. Determinants of ODA's Impact on Intrastate Conflict

Now that the internal and external factors that matter for ODA's impact on development have been established, this section is more specific and examines the determinants of ODA's impact on intrastate conflict.

2.2.1. Internal Factors

State Fragility The degree to which a state is fragile shapes whether ODA reduces or worsens intrastate conflict. The OECD defines state fragility as the combination of exposure to risk and the state, system, or community's insufficient coping capacities to manage, absorb, or mitigate those risks (Rolland, 2022). They measure this across six dimensions: economic, environmental, human, political, security, and societal (Rolland, 2022). Fragile states systematically underperform across these dimensions, leaving them particularly vulnerable to intrastate conflict. Structural characteristics common to fragile states, including natural resource dependence, demographic pressure, inequality, and low state legitimacy, independently elevate conflict risk (Fund, International Monetary, 2022). Once conflict breaks out here, it tends to persist and come back (Hegre et al., 2017). As established in section 2.1, the effectiveness of ODA depends on institutional quality, capital endowments, and macroeconomic stability (Feeny & de Silva, 2012). Fragile states are the contexts where these conditions are weakest (Independent Evaluation Group, World Bank Group, 2016).

Presence of local violence-*re*ducing mechanisms Zürcher (2017) 's systematic review of foreign aid and civil conflict identifies three mechanisms through which ODA might dampen violence, as listed on the left side in Figure 2.2. The first, the "hearts and minds" mechanism, holds that by providing public goods and services, aid fosters positive civilian attitudes toward the government, reducing support for insurgents. Zürcher argues, however, that this is an underspecified causal model: attitudinal change does not automatically produce the behavioural changes, such as withholding shelter from insurgents or sharing intelligence with security forces, that are actually required to reduce violence. The second mechanism, the information-centric model, posits that the prospect of aid incentivises local communities to share critical intelligence on insurgent activity with the government, thereby improving counterinsurgency effectiveness. Zürcher finds little empirical support for this in practice and raises the further theoretical objection that the model requires aid to be distributed conditionally on territorial control, a condition that was rarely met given the poor planning and oversight that characterised much military reconstruction spending. The third mechanism, the opportunity cost model, argues that aid-generated employment raises the personal cost of joining an insurgency by offering legitimate economic alternatives. Zürcher notes that this mechanism is theoretically compelling in its simplicity, but it depends on the assumption that insurgents are primarily motivated by economic rather than ideological considerations, a condition that substantially limits its applicability.

Presence of local violence-*in*ducing mechanisms Despite these theoretical pathways to peace, ODA can also fuel the very violence it aims to reduce, as listed on the right side in Figure 2.2. Zürcher

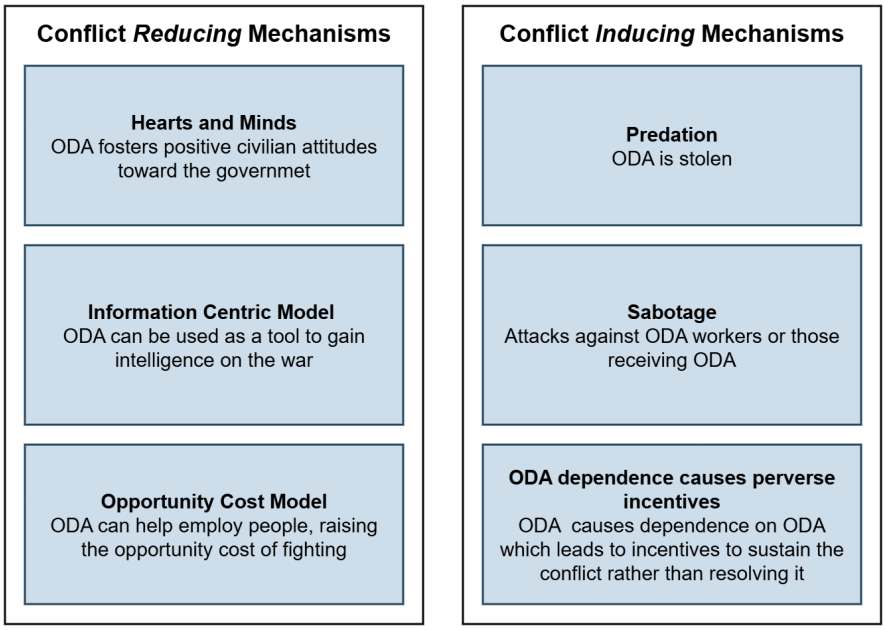

Figure 2.2: Mechanisms that, in theory, can either cause ODA to reduce or induce intrastate conflict

identifies two mechanisms through which this occurs: predation and sabotage. Predation occurs when violent parties steal aid resources for their own use. In Yemen, for example, armed groups systematically looted food supplies intended for civilians and diverted oil revenues worth $1.14 billion from humanitarian operations (Elayah & Fenttiman, 2021). Sabotage occurs when armed groups, perceiving aid as a threat to their political position, turn violent against those delivering or receiving it. In the Philippines, a regression discontinuity study found that World Bank-funded development projects in the poorest provinces led to increased violence, which Crost et al. (2014) attribute to insurgent groups sabotaging programs that, if successful, would have strengthened the government's legitimacy. Beyond these direct effects, ODA faces a more fundamental limitation: it does not address the root cause of most intrastate conflicts. Fearon (1995) argues that war typically results from failures in bargaining. There are situations where a negotiated settlement would benefit all parties, but breakdowns in trust and credible commitment prevent them from reaching one. Not only does aid fail to resolve these commitment problems, but it can also actively worsen them by making the local population dependent on external assistance, creating perverse incentives to sustain rather than resolve the conflict (Findley, 2018).

2.2.2. External Factors

Political Motivation and Alignment of ODA Building on the distinction between bilateral and multilateral ODA introduced in section 2.1, the political character of aid delivery has particular implications for conflict settings. Bilateral ODA is not allocated purely on the basis of recipient need: Dreher et al. (2024) show that bilateral donors systematically give more aid to countries that vote with them in the UN General Assembly, maintain colonial ties, or hold strategic importance, patterns that are far less pronounced for multilateral channels. When bilateral aid is perceived by conflict parties as aligned with one side, it increases the risk of sabotage. Carnegie et al. (2022) illustrate this in the Syrian civil war, where US aid explicitly directed at opposition-controlled areas failed in contested communities: because the assistance was visibly aligned with one party to the conflict, it could not function as neutral support and became a target rather than a stabilising force. Bluhm et al. (2021) provides broader causal evidence for this pattern, finding that receiving bilateral aid raises the probability of conflict escalating from low-level violence to armed conflict in already unstable countries. Multilateral ODA, by pooling resources across donors with heterogeneous preferences, is less easily associated with the strategic interests of any single country, making it a less provocative target and more resilient to sudden aid shocks (Findley, 2018). Together, these dynamics suggest that the political character of aid delivery independently shapes conflict outcomes, directly motivating the empirical distinction between bilateral

and multilateral ODA in the analysis that follows.

ODA Composition What also matters is the purpose for which the ODA has been delivered. The OECD tracks specific purposes, three of which are relevant to intrastate conflict. These are ODA for conflict, peace and security (code 152), ODA for government and civil society (codes 150 and 151), and ODA for construction (code 323). Each targets a different mechanism through which aid might reduce the likelihood or recurrence of armed conflict, and examining them separately allows for a more detailed understanding of how ODA composition, rather than volume alone, relates to peace outcomes.

First, ODA for conflict, peace and security is listed as its own category under code 152. This encompasses aid directed at security system management and reform, civilian peace-building, conflict prevention and resolution, participation in international peacekeeping operations, reintegration of demobilised soldiers and small arms control, removal of land mines and explosive remnants of war, and the prevention and demobilisation of child soldiers. According to Lilja and Milante (2023), countries that manage to stay peaceful after a conflict, meaning they escape the conflict trap, tend to receive more peacebuilding aid than countries that relapse back into conflict. An example of where ODA-funded peacebuilding worked well is in Sierra Leone, where the government worked alongside civil society and the international community to maintain peace by overseeing fair elections, establishing a reconciliation court, reforming the police, and forming anti-corruption and human rights boards (Elnour, 2018). Of the three categories examined, ODA for conflict, peace and security is the most directly targeted at the conflict cycle itself, whereas the other two operate through more indirect pathways of institutional reform and physical reconstruction.

Next, ODA for government and civil society is important Tracked under codes 150 and 151, this broad category covers a wide range of institutional support, including public sector policy and administrative management, public finance management, decentralisation, legal and judicial development. As the strength of a country's policies and institutions is seen as a major determinant of ODA success ("Country Policy and Institutional Assessments", 2024) and is typically lacking in countries experiencing violence (OECD, 2022), this form of ODA is important to research. One example is Colombia's ComunPaz program (2018–2019), which brought together local government authorities and community councils through a series of workshops designed to build communication and mutual trust. Although the results were mixed, a study did find there were fewer unresolved violent disputes because of it (Blair et al., 2022). By strengthening a state's governance architecture, this type of ODA addresses both the conflict directly and enables countries to become better at receiving ODA.

Lastly, ODA for construction covers construction-sector policy, planning, and administrative management, excluding construction activities that fall within specific sectors, such as hospital or school buildings. The importance of this category lies in the observation that civil war causes severe damage to physical infrastructure, which in turn deepens poverty and increases the risk that conflict will resume (Collier et al., 2003). Collier (2009) argues that construction is especially well-suited to post-conflict environments because it simultaneously repairs war-damaged infrastructure and provides employment for young men, the demographic most susceptible to recruitment by armed groups, ideally through an expanded private construction sector rather than through the state. To see if construction ODA is effective, a rare randomised field experiment was conducted in Afghanistan from 2007 to 2012. They gave half of the villages ODA through infrastructure projects like water systems and roads. It found that perceived security, economic well-being, and government attitudes increased in most villages, except in the most violence-prone districts (Beath et al., 2012).

2.3. Conclusion

The literature reviewed in this chapter reveals a consistent tension: the contexts where ODA is most urgently needed are precisely those where it is hardest to deliver effectively. The absorptive capacity constraints identified by Feeny and de Silva (2012), weak institutions, limited capital, macroeconomic instability, and poor donor practices, do not disappear when the goal shifts from development to conflict reduction; in fragile states, they intensify. The mechanisms through which ODA might reduce violence rest on assumptions that are difficult to satisfy in practice, while the countervailing dynamics of predation and sabotage operate with relative ease wherever institutions are weak and armed actors are present. Once conflict breaks out, it tends to persist (Collier et al., 2003), making the environment into which

ODA is delivered increasingly hostile to its intended effects.

Nevertheless, the literature does not strongly conclude that ODA is always bad, it is context dependent. Composition, targeting, and consistency matter: ODA directed at peacebuilding, institutional reform, and post-conflict reconstruction engages more directly with the drivers of intrastate conflict than generic development assistance. These insights directly motivate the empirical analysis that follows. Rather than treating ODA as a homogeneous quantity, the analysis examines how different forms of ODA, whether bilateral or multilateral, tied or untied, and targeted at different purposes, relate to intrastate conflict casualties across a broad panel of recipient countries. By doing so, it aims to move from the question of whether ODA affects conflict to the more policy-relevant question of which aid, under which conditions, is associated with more peaceful outcomes.

3

Data and Methods

This chapter describes the data and methodology used to analyse the relationship between ODA and intrastate conflict casualties, including the limitations of both the data and the methods. The analysis relies on a panel dataset of all 156 countries that were ODA-eligible at any point between 1989 and 2022, with annual observations for each country. The dataset comprises 86 variables in total: one dependent variable capturing intrastate conflict deaths per capita, nine measures of ODA, and 76 country-level indicators reflecting each country's circumstances. Two complementary methods are applied to this dataset: a Dynamic Panel Generalised Method of Moments (GMM) model, which identifies which forms of ODA and country-level indicators are typically followed by variations in conflict deaths compared to other country indicators, and a Causal Forest model, which primarily estimates the conditions under which ODA leads to decreases in casualties. Figure 3.1 shows an overview of this.

3.1. Data

The data used for this study consist of three components: the independent variables, forms of ODA; the dependent variable, deaths from intrastate conflict; and indicators that measure the countries' circumstances. These indicators are derived from three frameworks, supplemented by background research. The frameworks consist of the OECD Fragility Framework, the World Bank Country Policy and Institutional Assessment, and the Composite Index of Absorptive Capacity by Feeny and de Silva (2012). Together, these components form a panel dataset of annual observations for each ODA-eligible country from 1989 to 2022, as shown in the left column of Figure 3.1. A comprehensive overview of all indicators, where they were used and their sources, can be found in Appendix C.

3.1.1. Independent ODA Variables

The nine forms of ODA used as independent variables in this study operationalise the external factors identified in the literature review that are consequential for conflict outcomes and can be measured at the country-year level, given the available data. The OECD's Development Assistance Committee (DAC) is the only official source of reliable, comparable ODA statistics ("Official development assistance (ODA)", 2025). It provides extensive project-level datasets containing information about donors, recipients, and the nature of each donation (OECD, 2025b). For this thesis, nine specific forms of flow have been derived from this dataset: total ODA, bilateral ODA, multilateral ODA, ODA for construction, ODA for government and civil society, ODA for conflict, peace and security, untied ODA, partially tied ODA, and tied ODA. All nine forms are expressed in USD per capita, adjusted for inflation and exchange rates, and aggregated by year and recipient country. Total ODA is included as a high-level baseline, with the remaining eight forms following directly from three distinctions identified by the literature as most consequential.

Table 3.1 provides an overview of these forms along with the reasoning behind their inclusion. For a more detailed overview, including the full definitions as provided by the OECD and the calculations performed, see Table A.1 in Appendix A.

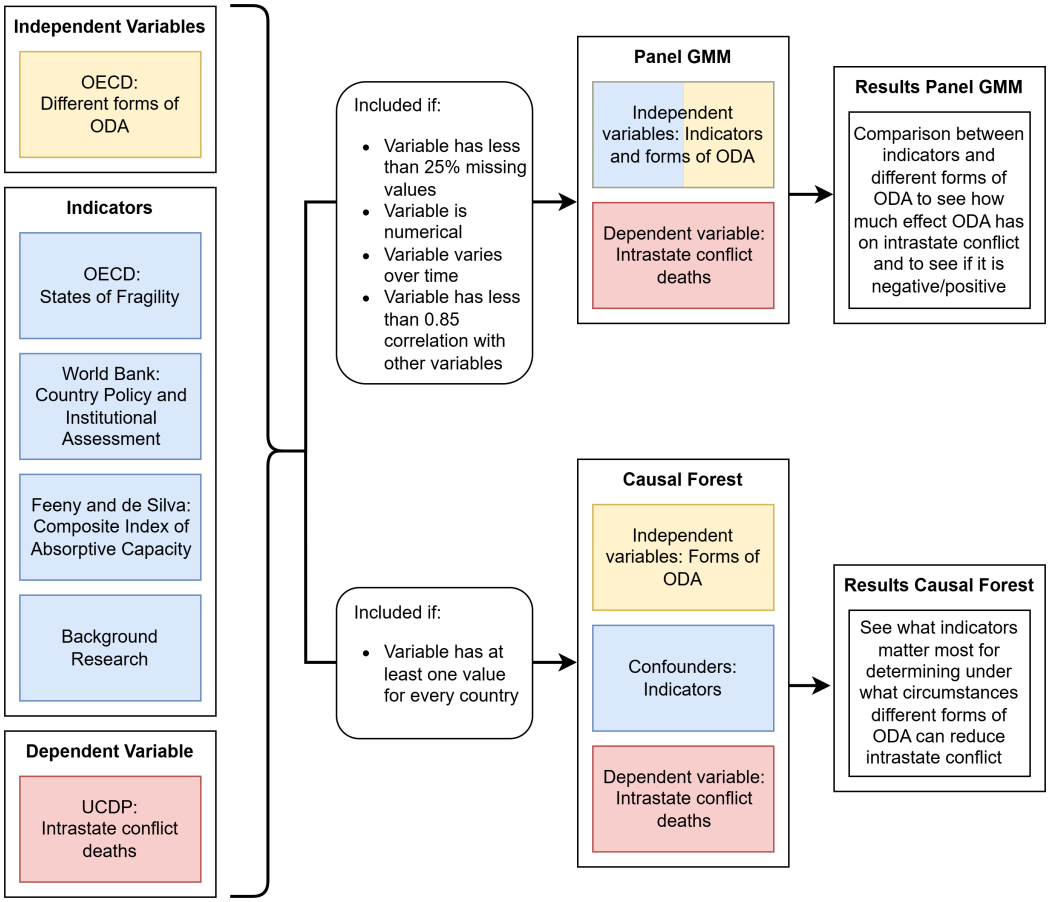

Figure 3.1: Data Flow: ODA, conflict casualties, and indicator data are combined into a single panel dataset, from which variables are selected for each model based on differing inclusion criteria. The Panel GMM examines how country-level indicators and different forms of ODA are associated with intrastate conflict deaths, while the Causal Forest identifies the country-level indicators that determine under what circumstances ODA reduces conflict casualties.

As the data for untied, partially tied, and tied ODA are recorded on a commitment basis rather than a disbursement basis, they reflect donors' declared intentions rather than actual resource flows. Given this limitation, and because neither method yielded significant results for these variables, they are included in the Panel GMM results for completeness, but excluded from the Causal Forest analysis, where the focus is on ODA forms with a clearer link to actual recipient-country conditions.

The accuracy and completeness depend on the reporting by donor countries and multilateral organisations. While the OECD maintains statistical standards to ensure that data are relevant, coherent, comparable, accurate, and reliable, and DAC member countries peer review each other's reports ("ODA standards", 2024), significant limitations remain. The system's reliance on self-reporting causes inconsistencies, as donors differ substantially in their reporting practices (Gulrajani & Craviotto, 2024). Historical data coverage is particularly incomplete, with gaps in earlier years when not all donors provided data compatible with current reporting requirements ("ODA: Frequently asked questions", 2024). Additionally, while DAC members are required to report their ODA statistics, and some non-DAC countries, multilateral institutions, and large private philanthropic foundations do so, other donors do not report their donations, leaving them excluded from the data. Lastly, since the raw data provides a comprehensive overview of all ODA projects by year, transforming it into a country-level panel dataset required dropping the 22% of ODA directed to regions rather than individual recipient countries.

3.1.2. Intrastate Conflict data from UCDP

This study uses the Uppsala Conflict Data Program's Georeferenced Event Dataset for conflicts. The dataset defines an event as "an incident where armed force was used by an organised actor against

Form of ODA	Definition	Reasoning
Total ODA	Total amount of ODA disbursed.	Provides a high-level overview measure of all ODA.
Bilateral ODA	Amount of ODA provided directly to recipient countries by the donor countries.	The literature debates the relative effectiveness of bilateral and multilateral aid (Biscaye et al., 2017). Bilateral ODA may benefit from historical relationships with recipients, but is more prone to strategic interests and aid shocks. Multilateral ODA reduces strategic bias and provides greater resilience (Findley, 2018).
Multilateral ODA	ODA channelled through international organisations.	
ODA for Construction	Amount of ODA flagged as allocated to construction-related activities.	ODA composition matters beyond volume alone, as different purposes target distinct mechanisms through which aid may reduce conflict (Lilja & Milante, 2023). ODA for conflict, peace and security directly targets the conflict cycle, ODA for government and civil society strengthens institutional capacity which is often lacking in fragile states (OECD, 2022), and ODA for construction repairs war-damaged infrastructure while reducing recruitment of young men into armed groups (Collier, 2009).
ODA for Government and Civil Society	Amount of ODA flagged as allocated to supporting government institutions and civil society.	
ODA for Conflict, Peace, and Security	Amount of ODA flagged as allocated to targeting conflict prevention, peacebuilding, and security.	
Untied ODA	Amount of committed ODA allowing procurement from all OECD and most developing countries.	Tying status affects ODA efficiency: tied ODA inflates costs and crowds out local suppliers, likely making it less effective than untied ODA (Ganga, 2025; OECD, 2026).
Partially Tied ODA	Amount of committed ODA restricted to procurement from a limited group of countries, including most developing countries and possibly the donor.	
Tied ODA	Amount of committed ODA restricted to procurement from the donor country.	

Table 3.1: Overview of the nine forms of ODA that were quantitatively assessed in this study

another organised actor, or against civilians, resulting in at least one direct death at a specific location and a specific date" (Högbladh, 2025). Officially, UCDP only categorises events with at least 25 battle-related deaths in a single calendar year to be a conflict (Uppsala Conflict Data Program, 2024). Because applying this threshold would introduce an artificial discontinuity in the data, jumping from zero to at least 25 deaths, this thesis includes all events regardless of their death toll.

To isolate intrastate conflicts, interstate conflicts are removed from the dataset by filtering out all conflicts between multiple countries. The data are then aggregated by country and year, summing the 'best' estimates of casualties. Finally, casualty figures are normalised by population and log-transformed to account for population size differences and reduce the influence of outliers. One limitation of this approach is that country-years with zero deaths are assigned a log value of zero to avoid undefined values. This convention is standard when using natural numbers, as was the case in the first version of the model. But now is inappropriate because the values are per capita fractions, which introduces an inconsistency at the lower end of the distribution.

While UCDP's GED is among the most comprehensive and widely used conflict datasets in contemporary research, several data quality issues warrant consideration. UCDP employs a rigorous two-stage verification system and manually validates its data by consulting multiple sources (Hegre et al., 2020). Nevertheless, Eck (2012) demonstrates that media-based event data inherently suffer from reporting biases, with events in remote areas, authoritarian regimes, or periods of intense violence being systematically under-reported. Despite these limitations, UCDP's GED remains the most reliable and comprehensive source available for this type of analysis and is widely accepted as the standard in the field (Hegre et al., 2020).

3.1.3. Countries' Circumstances: Indicators

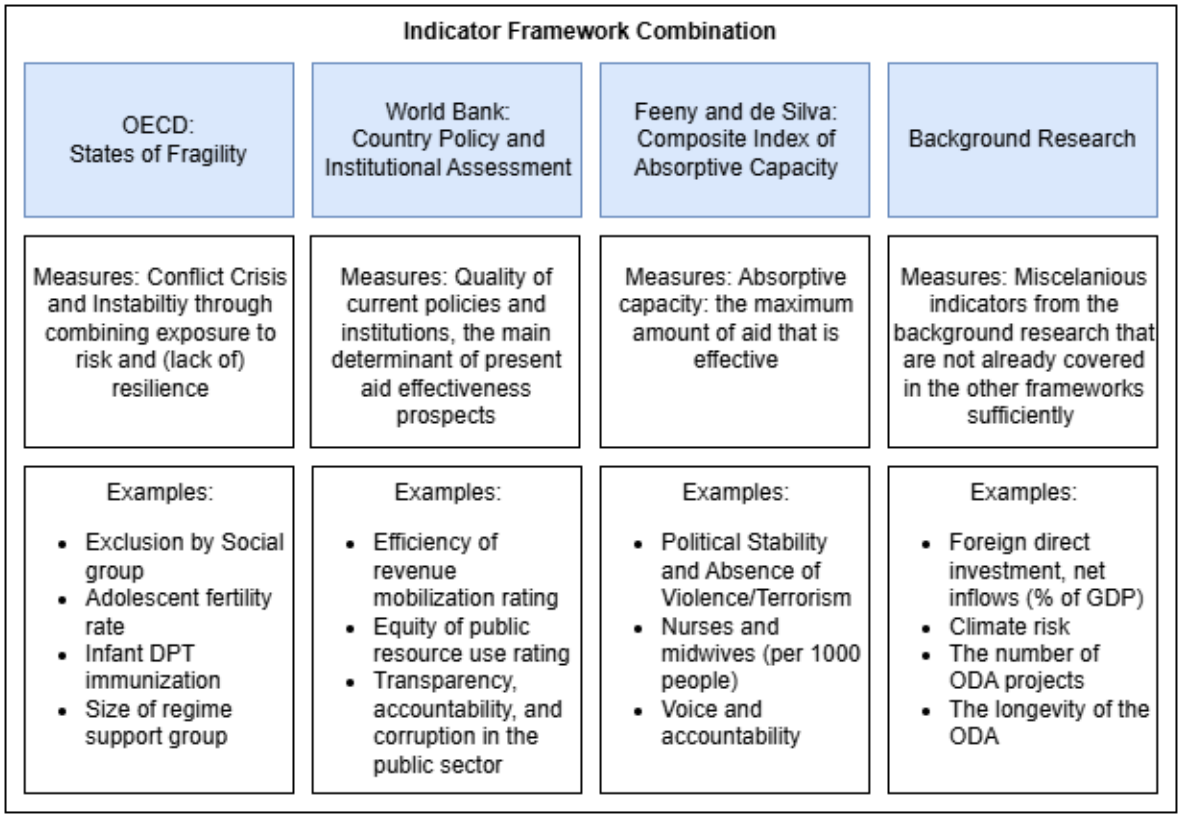

Figure 3.2: Indicators that measure the country's circumstances

The third component of the dataset captures country-level circumstances identified in the literature as shaping ODA's effectiveness, translating the theoretical moderating factors into measurable indicators. The literature indicates that when recipient countries are fragile or in active conflict, have weak institutions and policies, and lack the absorptive capacity to use aid effectively, ODA may increase rather than reduce conflict. Additionally, the ODA should be consistent, and depending on the research paper, either dispersed or not fragmented.

To quantify the circumstances using indicators, this study employs three existing frameworks: the OECD's Fragility Framework (OECD, 2022), the World Bank's Country Policy and Institutional Assess-

ments (CPIA) (“Country Policy and Institutional Assessments”, 2024), and the Composite Index of Absorptive Capacity (CIAC) (Feeny & de Silva, 2012). They are supplemented with data on ODA consistency and distribution, climate data, GDP per capita, foreign direct investment, and income group.

These three frameworks were chosen because, together, they cover the three theoretical channels through which country circumstances shape ODA’s ability to influence intrastate conflict, as identified in the literature review. The OECD Fragility Framework captures exposure to shocks and coping capacity across economic, political, security, and societal dimensions (Rolland, 2022), which are drivers of conflict (OECD, 2025a). Fragile states are both the contexts where ODA is most needed and where absorptive constraints are most binding (Independent Evaluation Group, World Bank Group, 2016), making the fragility dimensions particularly relevant for explaining variation in ODA’s conflict-related impact. The World Bank’s CPIA measures the quality of policies and institutions, which the World Bank itself identifies as the primary determinant of aid effectiveness prospects (“Country Policy and Institutional Assessments”, 2024) and which the literature consistently shows to be among the strongest predictors of whether aid-funded interventions succeed (Maruta et al., 2020). The CIAC operationalises absorptive capacity across five dimensions, namely policy and institutional constraints, human and physical capital, macroeconomic conditions, donor practices, and social and cultural factors, capturing whether a country can effectively utilise incoming aid (Feeny & de Silva, 2012). By combining these frameworks, a comprehensive analysis of various circumstances can be conducted. The supplementary indicators address gaps that none of the three frameworks fully cover: GDP per capita and FDI capture the broader macroeconomic context (Selaya & Sunesen, 2012), income group reflects the ODA eligibility thresholds used by the OECD, and the aid delivery indicators, including project length, disbursement size, number of projects, and aid shocks, operationalise the literature’s findings on consistency and fragmentation (Findley, 2018; Kimura et al., 2012), which cover measurable external factors.

Beyond theoretical coverage, a practical requirement was that indicators be available at the country-year level, as the dataset’s panel structure requires observations that vary both across countries and over time. Not all factors identified in the literature review as shaping ODA’s conflict-related impact are captured in the dataset. Some, such as social and cultural constraints (Feeny & de Silva, 2012), are inherently difficult to quantify at the country-year level and are therefore not measurable in a panel setting. Others, such as predation and sabotage (Zürcher, 2017), are theoretically important but lack systematic country-year data, so they are not currently measured, even though measurement is in principle conceivable.

Inclusion Criteria Because the two methods, Panel GMM and Causal Forest, impose different data requirements, indicator inclusion is determined separately for each. For explanations of these methods, see Section 3.2. Several indicators from the three frameworks were excluded from both methods at the outset: one indicator (Exchange rate volatility) was not openly accessible, one indicator (Perception of corruption) had too many NaNs, and one indicator (Human inequality) lacked historical data.

For the Panel GMM model, indicators were retained only if they satisfied all four of the following conditions. First, Indicators with more than 25% missing values were excluded, as excessive missingness undermines the reliability of GMM estimates (Roodman, 2009). This threshold was chosen to retain as many indicators as possible while ensuring computational feasibility. Second, the categorical income group variable was excluded because GMM requires numerical variables. Then, before additional indicators were dropped, countries with fewer than five observations were excluded to ensure sufficient within-unit variation for identification. Third, time-invariant indicators were excluded. Fourth, to guard against multicollinearity, any indicator with a pairwise correlation exceeding 0.85 with another included variable was removed.

For the Causal Forest model, missing values were addressed through both imputation and exclusion, as this method does not allow for any missing values. For each indicator and country, missing observations were replaced with the mean value across all years. Following imputation, six small island nations were excluded because data for key indicators remained unavailable even after this step. Any indicators for which missing values persisted were then dropped entirely.

States of Fragility Framework The OECD’s States of Fragility Framework measures a ”combination of exposure to risk and insufficient coping capacities of the state, system and/or communities to

manage, absorb or mitigate those risks" (Rolland, 2022). Because fragile countries are much more prone to intrastate violence ("Conflict and fragility", 2024) and because intrastate violence has inertia, the separate indicators of the fragility framework may more precisely indicate when ODA is effective at minimising intrastate conflict.

The OECD measures fragility through combining indicators on six dimensions: Economic, Environmental, Human, Political, Security, and Societal. Within each of these indicators, they assess the risks each country faces and combine this with its coping strategies across the six dimensions (Rolland, 2022).

Although they provide the code and data to replicate the 2022 version of the index (Hammond et al., 2022), fragility is measured only for that year. As this study requires data spanning multiple years, preferably since 1989. Although they provide the code and data to replicate the 2022 version of the index (Hammond et al., 2022), fragility is measured only for that year. As this study requires data spanning multiple years, preferably since 1989, the data were obtained directly from their original sources, resulting in a dataset that goes further back in history than what the OECD has aggregated.

Country Policy and Institutional Assessment Framework The World Bank's Country Policy and Institutional Assessments is an annual dataset that provides ratings on a 1 to 6 scale for countries since 2005 (World Bank, 2015). They focus on the quality of each country's current policies and institutions, which they report being the main determinant of present aid effectiveness prospects ("Country Policy and Institutional Assessments", 2024). They measure elements within a country's control rather than on outcomes (World Bank, 2015). It groups its indicators into four clusters: economic management, structural policies, policies for social inclusion and equity, and public sector management and institutions ("Country Policy and Institutional Assessments", 2024). Unlike the other two frameworks, the CPIA data are all published directly by the World Bank in a consistent format, requiring only aggregation into the panel dataset. Unfortunately, the data for these indicators were so sparse that they were not included in either method.

Composite Index of Absorptive Capacity Framework The Composite Index of Absorptive Capacity (CIAC) developed by Feeny and de Silva (2012) measures a country's capacity to utilise foreign aid effectively without experiencing diminishing returns or adverse macroeconomic effects. Through an extensive review of the aid effectiveness literature, they identified five distinct dimensions of absorptive capacity constraints: human and physical capital constraints; policy and institutional constraints; macroeconomic constraints; deficiencies in donor delivery mechanisms; and social and cultural constraints. The CIAC aggregates indicators across these dimensions to produce a single composite measure that can be integrated into aid allocation formulas (Feeny & de Silva, 2012), however, to see what indicators matter most, the separate indicators are used in this thesis, not the composite.

There is some criticism of this approach to measuring absorptive capacity at the country level. Instead, Lamb (2013) argues that absorptive capacity should be measured in relation to a particular intervention rather than in relation to the recipient country.

As this research is relatively old, some of the indicators are defined slightly differently now. Outdated indicators were replaced with similar ones (e.g., "Number of doctors per thousand people" is replaced by "Physicians per 1,000 people").

Extra indicators Several additional indicators were incorporated to capture dimensions not fully covered by the three frameworks. Because the climate indicators from the OECD frameworks contained too many missing values to meet the inclusion criteria, they were replaced with five alternative climate indicators: extreme low-temperature days, extreme high-temperature days, extreme rainfall days, extreme drought days, and the Global Climate Physical Risk Index. Unfortunately, these indicators also did not meet the inclusion criteria. Two economic indicators were added to capture the broader economic context of recipient countries: GDP per capita and foreign direct investment (FDI) as a percentage of GDP, the latter also serving as a partial complement to ODA as an alternative source of external capital. The income group of each country was also included, as the OECD uses income group thresholds to determine which countries are eligible for ODA. Finally, four indicators describing the way ODA is disbursed were added, categorised as external factors in the literature review. The literature review

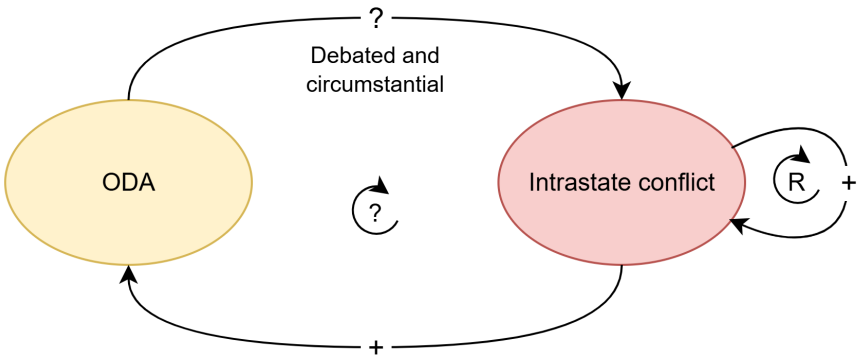

Figure 3.3: The bidirectional relationship between ODA and intrastate conflict. Conflict can attract more ODA (+), and intrastate conflict tends to perpetuate itself (+). The goal is to measure the impact of ODA on Intrastate conflict (?).

suggests that the manner in which aid is delivered matters for its effectiveness. This has been quantified as average project length, average disbursement per project, number of aid projects per capita, and change in ODA per capita, the last of which is a proxy for aid shocks.

3.2. Methods

This study employs two complementary empirical methods to analyse the relationship between ODA, ODA effectiveness indicators, conflict risk factors, and intrastate conflict casualties. First, a Panel Generalised Method of Moments (Panel GMM) model identifies which ODA indicators statistically predict variations in conflict relative to other country-level factors. Second, moving beyond the question of *whether* ODA affects intrastate conflict deaths, causal forests examine *under what conditions* ODA leads to changes in casualties, across profiles of ODA effectiveness indicators and conflict risk factors.

Main challenge The central methodological challenge of this thesis is the bidirectional relationship between ODA and conflict, illustrated in Figure 3.3. This causal loop diagram shows that two loops are at play: a reinforcing loop that portrays the conflict trap, and a loop which may be reinforcing or balancing, depending on ODA's effect on intrastate conflict. ODA may influence conflict, reducing violence by addressing grievances or raising the opportunity cost of fighting, or worsening it through predation, sabotage, or perverse incentives. But conflict also influences ODA: countries experiencing more violence can attract more aid, as donors respond to humanitarian need. In the raw data, these two forces are difficult to separate because ODA and conflict rise together. This is the endogeneity problem: the independent variable is itself shaped by the dependent variable, so a naïve measure such as correlation would capture both the donor response to conflict and the effect of ODA on it. The two methods that follow are designed to isolate the first arrow by accounting for the second.

3.2.1. Dynamic Panel Generalised Methods of Moments

Dynamic Panel GMM is used to assess the influence of ODA and other indicators on the prevalence of intrastate conflict. This method is well-suited to the panel structure of the dataset and accommodates endogeneity, serial correlation within units, unobserved heterogeneity, measurement error, and omitted variable bias (Obi, 2023).

Data structure and preprocessing As described in Section 3.1, the input data consists of two components. The independent variables do not just include the different forms of ODA here, but also include all the indicators from the frameworks and background research. The dependent variable is the log-transformed count of intrastate conflict deaths per capita. Both the independent variables and the conflict deaths are standardised to a mean of zero and unit variance.

Dynamic Panel Estimation Strategy To address endogeneity, the study employs dynamic Panel GMM estimators (Blundell & Bond, 1998). As described in the main challenge above, endogeneity arises because countries experiencing more conflict tend to receive more ODA, suggesting that ODA

and conflict jointly determine each other. Standard regression methods cannot handle this, as they assume the independent variable is not itself influenced by the outcome. GMM resolves this by using past values of the variables as instruments: rather than relying on current ODA levels, which are entangled with current conflict, the model uses earlier values that predate the conflict, breaking the feedback loop.

Both Difference Panel GMM and System Panel GMM were evaluated to determine the most appropriate estimation method. Testing began with the simpler Difference Panel GMM, which proved unsuitable. Because intrastate conflict is highly persistent, meaning past levels of conflict strongly predict future levels, the model's errors became correlated across time periods, violating a core assumption required for reliable estimation. This was confirmed by the AR(2) test, which checks for the absence of serial correlation at the second order: when this test fails, it indicates that the instruments underlying the model are invalid and its estimates cannot be trusted (Vossen, 2020).

System GMM was therefore selected as the estimation method. This approach combines differenced and level equations, making it particularly suitable for highly persistent conflict data with relatively short time periods (Roodman, 2009). The model includes two lags of the dependent variable to capture conflict dynamics, with deeper lags (t-4 through t-6) serving as instruments. Put differently, the conflict levels for the year prior and the two years prior are used as independent variables. Then, the conflict levels of 4-6 years prior are used as instruments. To avoid instrument proliferation, the `collapse` option was employed. In GMM, instruments are created from past values of the variables, but as the number of time periods grows, the number of instruments can quickly exceed the number of countries in the dataset. Having too many instruments relative to countries causes the model to overfit, producing misleadingly good diagnostic test results that mask underlying problems (Roodman, 2009). The `collapse` option addresses this by combining instruments together, substantially reducing their number while preserving the model's reliability (Roodman, 2009).

Model diagnostics and validity tests To confirm that the model is reliable, four standard checks were carried out. The first check (Sargan test) verifies that the past values used to construct the instruments are genuinely unrelated to current unexplained variation in conflict, which is a requirement for the model to produce valid estimates (Roodman, 2009). The second and third checks (AR(1) and AR(2) tests) examine whether the unexplained variation in conflict follows a predictable pattern over time; some pattern at one year's lag is expected, but if the pattern persists to two years, it suggests the model is missing something important (Roodman, 2009). The fourth check (Wald test) confirms that the variables included in the model collectively explain a meaningful share of the variation in conflict deaths, rather than being noise (Roodman, 2009). All four checks passed, indicating that the model is well-specified and its estimates can be trusted. The exact results of these tests are reported in Appendix B.

3.2.2. Causal Forests

Following the Panel GMM analysis, Causal Forests are used to examine the heterogeneity of ODA's impact on conflict-related casualties. Whereas Panel GMM identifies which indicators matter on average, Causal Forests can also estimate Conditional Average Treatment Effects (CATEs) in addition to the Average Treatment Effects (ATEs) and thus reveal the contexts in which ODA is most and least effective in reducing intrastate conflict.

Data structure and preprocessing This method uses the panel dataset as described in the data section. The dependent variable is the logarithm of intrastate conflict deaths per capita. The independent variables are the different forms of ODA, and the confounders, which represent the circumstances, are all the other country-level indicators.

Unlike Panel GMM, Causal Forests do not allow for missing values. To address this limitation, several methods were employed sequentially. First, for each combination of indicator, year, and country, missing values were imputed using the mean of the available observations within that group. Second, six small island nations were excluded because data were unavailable for key indicators. Third, indicators containing more than 750 missing values were removed from the analysis. Finally, any remaining countries with missing values were dropped to ensure a dataset without any missing values.

Causal Forests Explained Causal Forests extend the logic of Random Forests to the problem of estimating treatment effects rather than predicting outcomes. A traditional Random Forest works by repeatedly drawing random subsamples of the data (bootstrapping) and, for each subsample, building a decision tree that recursively splits the data into smaller groups. Each split is chosen to maximise predictive accuracy with respect to the outcome variable. By averaging predictions across many such trees, the forest produces estimates that are more stable and less sensitive to any one subsample than a single tree would be. Causal Forests adapt this logic for causal inference: instead of splitting the data to improve predictive accuracy, the algorithm's splits are made to maximise differences in treatment effects across groups. This allows the model to identify subpopulations, defined by combinations of country-level indicators, in which ODA has a particularly large or small effect on conflict casualties. The result is a set of Conditional Average Treatment Effects (CATEs) that capture how the impact of ODA varies depending on context (White & Green, 2023).

Two additional principles govern how the model is trained and validated. First, to respect the temporal structure of the data, an expanding-window cross-validation strategy is used: the model is always trained on past observations and tested on future ones, rather than randomly shuffling observations across time. This reflects the realistic constraint that only historical information is available at any given point in time. Second, honest splitting ensures statistical validity by dividing each tree's sample in two: one part determines where to split the data, and the other estimates treatment effects within the resulting leaves, preventing the same observations from doing both (Wager & Athey, 2018). This minimises overfitting and ensures that the resulting estimates and confidence intervals are statistically valid (Wager & Athey, 2018).

Model specification The Causal Forest DML estimation is conducted using the `econml` package developed by Microsoft (Battocchi et al., 2019). Five expanding-window temporal splits are constructed at six-year intervals, and the model uses the automated option to select appropriate nuisance models for both the outcome and treatment equations. A CausalForestDML estimator is specified with 400 trees, a minimum leaf size of 15 observations, and a minimum split size of 30 observations. These values are more conservative than the `econml` defaults, producing more stable estimates and ensuring that treatment effects within each subgroup are based on a sufficient number of countries.

3.2.3. List of Assumptions

Dynamic Panel GMM

- **No second-order serial correlation**: The error terms are not correlated at the second order. Violation of this assumption would invalidate the instruments. This is tested using the AR(2) test.
- **Instrument validity**: The lagged variables used as instruments are uncorrelated with the error term, i.e. they are valid instruments. This is tested using the Sargan test.
- **Linearity**: The relationship between ODA, the indicators, and conflict casualties is assumed to be linear. This will later be shown to be incorrect by the causal forest section, but the assumption allows for drawing simplified conclusions.
- **Stationarity**: The variables are assumed to be stationary, meaning their statistical properties, such as their mean, variance, and autocorrelation, do not change over time.

Causal Forests

- **Unconfoundedness**: All variables that jointly influence ODA allocation and conflict casualties are observed and included as confounders. Unobserved confounders would bias the estimated treatment effects. Unfortunately, there is no way to measure all the possible influences on ODA allocation and conflict casualties. Through the extensive data collection described in this chapter, which combines three established frameworks with additional indicators drawn from background research, this study aims to minimise the risk of unobserved confounding. However, it cannot be ruled out that relevant factors remain unobserved, meaning the estimated treatment effects should be interpreted with appropriate caution.
- **Overlap**: Every country must have a non-zero probability of receiving any level of ODA. Countries that systematically receive or do not receive aid cannot be included in the estimation. Overlap

is assessed empirically prior to interpretation by examining the distribution of residuals from the treatment model. Poor overlap is indicated when a large share of residuals cluster near zero, suggesting that ODA levels are highly predictable and leave little variation for the model to learn from. For forms of ODA where poor overlap is detected, the resulting treatment effect estimates are treated as tentative indications rather than reliable findings.

- **Stable Unit Treatment Value Assumption**: The conflict outcomes of one country are not affected by the ODA received by another country, meaning that there are no spillover effects. By limiting the analysis to intrastate conflict, rather than interstate conflict, the most direct form of cross-border interference is excluded. However, spillover effects likely still exist in practice; aid directed at one country may stabilise or destabilise neighbouring countries through refugee flows, regional economic effects, or the diffusion of conflict across borders (Salehyan & Gleditsch, 2006). This assumption is therefore unlikely to hold exactly, and the results should be interpreted accordingly.
- **Consistency**: The observed outcome for each country corresponds to the potential outcome under the treatment it actually received, as the data on a commitment basis was left out of this analysis, this is a fair assumption to make, although there is no way to guarantee the right people received it, which is included in the analysis of the results, and is referred to as predation.

4

Results

This chapter presents the results in three parts. First, it examines what the descriptive data reveal about where ODA is directed and where intrastate conflict occurs. Second, it turns to the Panel GMM and Causal Forest results to assess whether ODA reduces intrastate conflict on average, finding that it does not. Third, it uses more of the causal forest results to explore the conditions under which ODA can be effective at reducing intrastate conflict, identifying political stability, aid fragmentation, donor type, and ODA purposes as the main determinants.

The literature review sets three main expectations for the results. First, intrastate conflict is long known to be persistent, making it difficult for interventions such as ODA to minimise conflict (Collier et al., 2003). Second, it shows that ODA's effects are expected to depend on the recipient country's internal factors (Pham & Pham, 2022). Lastly, the form of ODA matters: the purpose of the ODA, whether it is bilateral or multilateral, and whether it is tied.

4.1. Where ODA Goes and Where Conflict Occurs

Before turning to the analysis based on the methods, it is useful to examine where intrastate conflict occurs, where ODA is directed, and how the two relate for context. Figure **??** shows the ten countries with the most intrastate conflict deaths over the period 1989–2022. By far the largest peak belongs to Rwanda, driven by the 1994 genocide (Uvin, 1996). Ethiopia follows, where a two-year war between local and national parties claimed many lives (Gebregziabher et al., 2022). Syria, in turn, illustrates a more persistent pattern of conflict, with rebel groups fighting the national regime over an extended period (Hall, 2022). Together, these countries account for a disproportionate share of global intrastate conflict deaths, which is why the data is log-transformed before entering the Panel GMM and Causal Forests.

ODA is distributed across many recipient countries, but not all receive equal shares. On average, a recipient country receives around $54 per capita per year; most countries receive less than $100 per capita. As shown on the map in Figure 4.2, some recipient countries stand out with substantially higher figures. The most ODA per capita is given to predominantly small island nations, where small populations inflate the per-capita values. Among the larger countries, somewhat bigger disbursements are visible in the Eastern Mediterranean, the Caucasus, and parts of Southern Africa. This uneven distribution is important because it allows comparisons between countries that receive more ODA and those that receive less. If all countries received similar amounts, there would be insufficient variation for either method to reliably distinguish the effect of ODA from other factors that vary across recipients.

Countries that experience more intrastate conflict also tend to receive more ODA. Figure 4.3 plots total conflict deaths against total ODA disbursements for each country over the study period, with both axes on a logarithmic scale. There is an upward trend: the most conflict-affected countries are also among the largest recipients of ODA in absolute terms. This positive correlation, however, does not mean that ODA causes conflict deaths. It can also reflect how ODA is allocated, showing that donors allocate more resources to countries in greater need, which can be those already experiencing violence. This

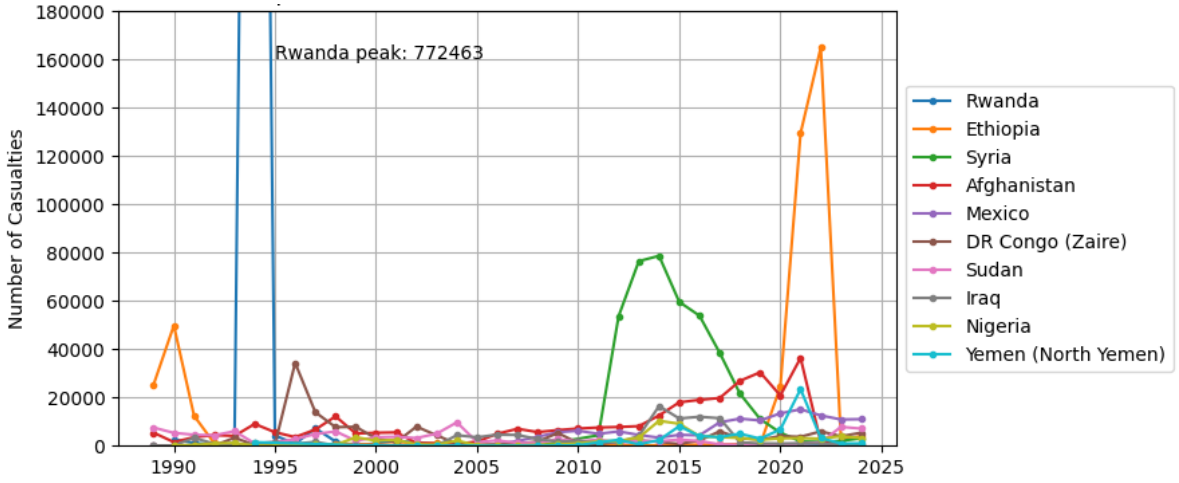

Figure 4.1: Annual intrastate conflict casualties for the ten most affected countries, 1989–2022

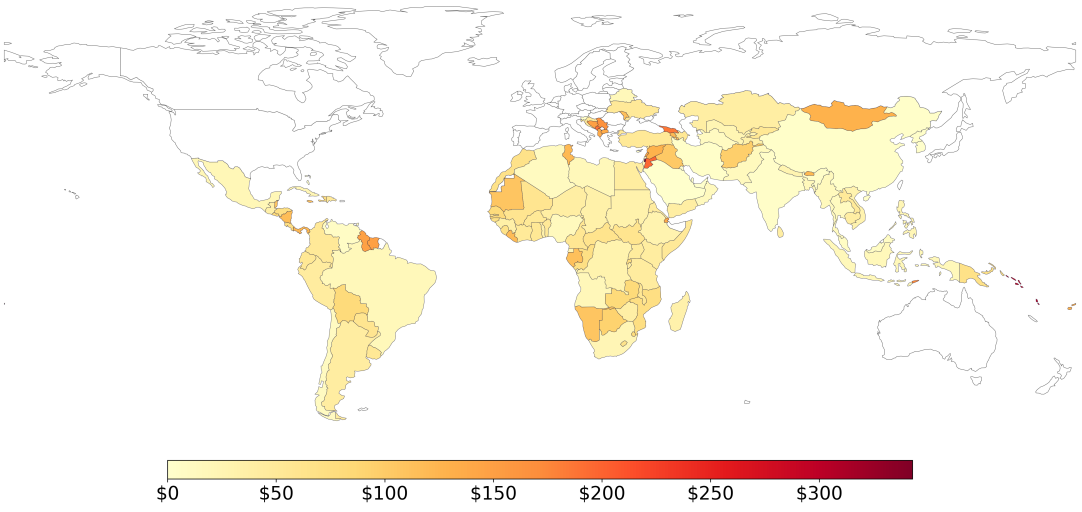

Figure 4.2: Average annual ODA disbursements per capita by recipient country, 1989–2022

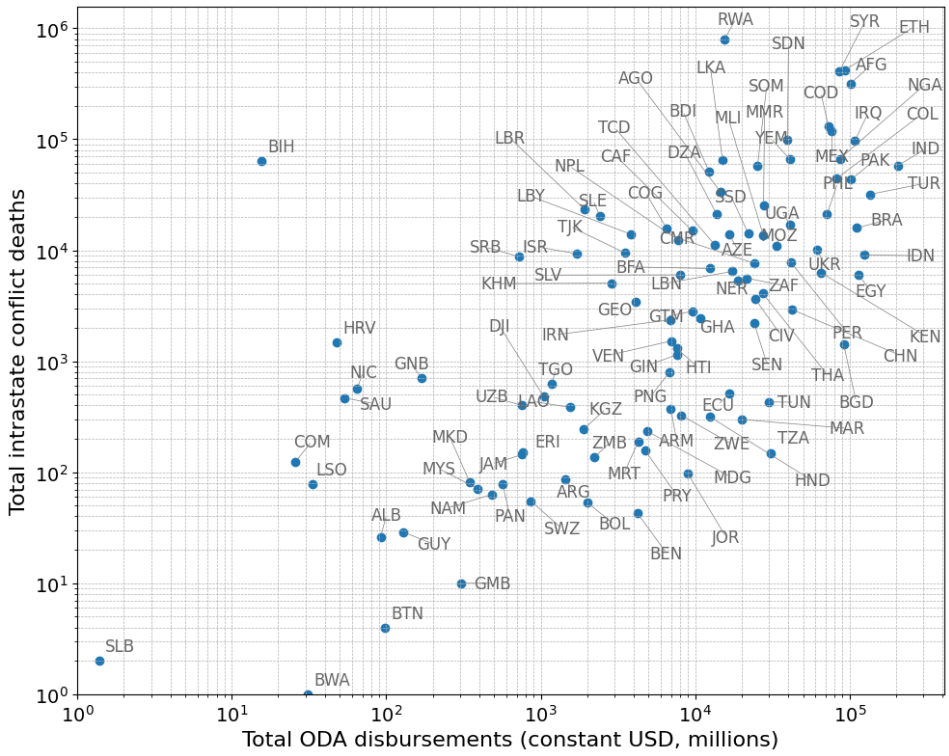

Figure 4.3: Total intrastate conflict deaths against total ODA disbursements per country, 1989–2022 (both axes on a logarithmic scale)

leads back to the endogeneity problem: the relationship goes both ways: ODA can affect conflict, and conflict can affect the amount of ODA a country receives. This reinforces the need to use models that account for endogeneity.

4.2. Decreasing Intrastate Conflict Through ODA is Difficult

Chapter 2 established, based on the literature, that ODA's effects on conflict depend on the characteristics of both the conflict and the recipient country, and that several frameworks exist to measure these conditions. This section turns to the empirical results to answer a more direct question: Does ODA reduce intrastate conflict? Two complementary methods are used to address this. Panel GMM estimates which country level indicators and forms of ODA are statistically associated with changes in conflict deaths. It does this while controlling for endogeneity. For each form of ODA, the Causal Forest's Average Treatment Effects (ATEs) estimates the average change in conflict deaths associated with an additional dollar of ODA per capita across all country-years in the dataset. Both methods point to the same conclusion: ODA does not reliably reduce intrastate conflict on average.

Intrastate conflict is highly persistent Intrastate conflict is self-reinforcing, and the empirical results confirm that this persistence dominates all other factors, including ODA, in predicting future violence. The Panel GMM results show that the strongest predictor of conflict deaths in any given year is the number of deaths the previous year, with a standardised estimate of 0.503 ($p < 0.001$). This single variable alone accounts for roughly half of all explained variation in conflict deaths, outstripping every other indicator in the model, including all nine forms of ODA. The second most significant predictor, freedom from political killings and torture, reinforces this pattern: countries where state repression is already prevalent tend to experience more conflict deaths in subsequent periods, confirming that violence leads to more violence.

This finding is consistent with the broader literature on intrastate conflict dynamics. The number of intrastate conflicts has increased primarily because they terminate less frequently rather than because new ones break out more often (Öztürk, 2024). Collier et al. (2003) describes this dynamic as the

conflict trap: once violence breaks out, it destroys the institutions, infrastructure, and economic capacity needed to prevent its recurrence. Countries that have experienced conflict are significantly more likely to experience it again (Hegre et al., 2017), and the human and economic costs accumulate accordingly. The dominance of lagged conflict deaths in the Panel GMM results directly reflects this trap, and it sets a difficult baseline against which any intervention, including ODA, must be measured.

Table 4.1: Panel GMM Results

Variable	Estimate	Std.Error	z.value	p.value
Deaths the previous year	0.503	0.146	3.441	0.001***
Freedom from political killings and torture	0.199	0.071	2.789	0.005**
Multilateral ODA per capita	0.051	0.022	2.272	0.023*
Foreign direct investment, net inflows (% of GDP)	0.059	0.029	2.061	0.039*
Infant DPT immunization	0.069	0.035	1.989	0.047*
Participatory environment for CSOs	-0.100	0.056	-1.778	0.075.
Amount of aid donated per project	-0.089	0.051	-1.758	0.079.
Access to justice	0.134	0.088	1.532	0.126
Judicial constraints on the executive	-0.090	0.063	-1.428	0.153
Unemployment rate	-0.038	0.027	-1.404	0.160
Current account balance	0.035	0.026	1.341	0.180
Untied ODA per capita	0.011	0.009	1.272	0.203
Aid shocks	-0.015	0.012	-1.222	0.222
Adaptive capacity	-0.068	0.060	-1.128	0.259
ODA for conflict, peace and security	0.022	0.020	1.088	0.277
Tied ODA per capita	-0.024	0.025	-0.965	0.334
Adolescent fertility rate	-0.068	0.071	-0.964	0.335
Crude death rate	0.038	0.040	0.943	0.346
Total natural resources rents	-0.026	0.028	-0.909	0.363
Size of regime support group	-0.028	0.031	-0.884	0.377
Legislative constraints on the executive	-0.046	0.054	-0.854	0.393
Bilateral ODA per capita	0.023	0.027	0.835	0.404
GDP per capita	0.027	0.034	0.806	0.421
Age dependency ratio	0.055	0.075	0.732	0.464
Renewable electricity output	-0.023	0.031	-0.730	0.465
Deaths two years prior	0.043	0.061	0.698	0.485
ODA for construction	-0.003	0.005	-0.624	0.532
Urbanisation rate	-0.014	0.030	-0.474	0.635
Prevalence of clientelism	-0.017	0.044	-0.384	0.701
Exclusion by social group	-0.024	0.062	-0.380	0.704
Women's civil liberties	-0.028	0.084	-0.332	0.740
Number of aid projects per capita	0.008	0.030	0.256	0.798
GDP per capita growth rate	-0.004	0.016	-0.242	0.809
Partially tied ODA per capita	0.001	0.012	0.089	0.929
Women's political empowerment	-0.003	0.061	-0.056	0.955
ODA for government and civil society	0.001	0.023	0.045	0.964
Longevity of the aid	-0.001	0.028	-0.042	0.966
Tax revenue	-0.001	0.027	-0.040	0.968

Note: ***, **, *, and . indicate that the coefficients are significant at the 0.1%, 1%, 5% and 10% level of significance

None of the selected forms of ODA reliably reduce conflict on average When averaged across all countries and years, no form of ODA consistently reduces intrastate conflict deaths. In the Panel GMM, of the eight ODA-related variables included, only multilateral ODA reaches conventional statistical significance, and it does so in the wrong direction: the positive coefficient (0.051, p = 0.023) indicates that higher multilateral ODA is mildly associated with more rather than fewer conflict deaths. All other forms, including bilateral, tied, untied, construction, government and civil society, and conflic-

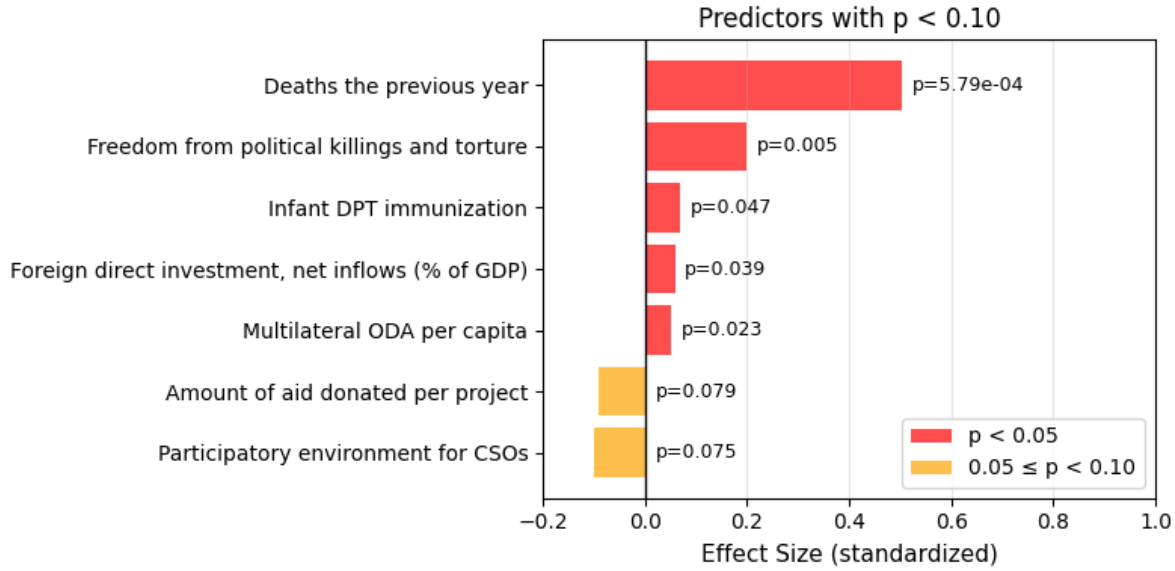

Figure 4.4: Panel GMM results: normalised effect estimate of different indicators and forms of ODA

t/peace/security ODA, yield p-values too high to detect any effect. Notably, some non-ODA indicators outperform all ODA variables in the model, with lagged conflict deaths, political repression, foreign direct investment, and immunisation rates all reaching statistical significance, suggesting that conflict dynamics and broader country characteristics predict changes in violence far better than ODA flows do.

The Causal Forest ATEs, presented in Table 4.2, corroborate this conclusion independently. Across all nine forms of ODA examined, the ATEs are small in magnitude and cluster near zero. ODA for construction shows the largest value (0.134), but all remaining types fall below 0.03 in absolute value. Because the outcome is in $\ln\left(\frac{\text{deaths}}{\text{capita}}\right)$, each ATE reflects how much a one-dollar increase in ODA per capita shifts the natural log of conflict deaths per capita:

$$\Delta \ln\left(\frac{\text{Deaths}}{\text{capita}}\right) = ATE \cdot \Delta\left(\frac{\text{ODA}}{\text{capita}}\right) \tag{4.1}$$

The small magnitude of these ATEs implies that increasing ODA by any realistic amount is not systematically followed by reductions in conflict deaths across the full sample.

This null result is consistent with decades of inconclusive debate in the aid effectiveness literature. The wide-ranging review by Pham and Pham (2022) concludes that ODA's effects depend not only on its form but on the circumstances of recipient countries, and Zürcher (2017) finds limited empirical support for any of the theoretical mechanisms through which ODA might reduce violence. Together, the Panel GMM and Causal Forest ATEs converge on the same conclusion: no form of ODA reliably reduces intrastate conflict deaths on average. This does not mean ODA never reduces conflict, but rather that its effects may be too context-dependent to produce a consistent average signal, a heterogeneity that the following section examines in detail.

4.3. ODA's Ability to Decrease Intrastate Conflict is Circumstantial

Although no form of ODA reliably reduces conflict on average, its effects vary substantially across country contexts. The Causal Forest feature importance results, shown in Figure 4.5, reveal that two indicators dominate across nearly all forms of ODA: political stability and the absence of violence/terrorism, and the number of aid projects per capita. This aligns with the broader literature, which concludes that ODA's impact depends not on volume alone but on the circumstances of the recipient country (Pham & Pham, 2022). The following paragraphs examine both of these moderators before consid-

Table 4.2: Causal Forest ATE

Treatment	ATE mean	ATE std
ODA for construction	0.134	0.072
ODA for conflict, peace and security	0.031	0.021
Partially tied ODA per capita	0.022	0.015
Bilateral ODA	0.012	0.007
Total ODA per captia	0.010	0.006
ODA for government and civil society	0.009	0.010
Untied ODA per capita	0.000	0.000
Tied ODA per capita	-0.001	0.001
Multilateral ODA	-0.004	0.005

ering how the choice between bilateral and multilateral, along with the purpose of the ODA channels, shapes these dynamics.

Political Stability Matters Of all the indicators, political stability is the most important internal factor that moderates ODA's effect on conflict across nearly all aid types. The World Bank defines this indicator as the perception of the security of political power and governance from destabilisation, and the likelihood that authority will be challenged or altered (World Bank, 2024b).

To understand how this shapes ODA's estimated treatment effects, Figure 4.6 plots the treatment effect of bilateral ODA on conflict deaths against each country-year's political stability score. Each point represents one country in one year. The vertical axis shows the estimated change in log conflict deaths per capita associated with an additional dollar per capita of bilateral ODA: points above the zero line indicate that ODA is associated with more deaths, points below with fewer, and the vertical bars show 95% confidence intervals.

The points and their confidence intervals can be split into two distinct regions around a threshold of approximately −0.2. On the left side, the danger zone, where political stability is low, treatment effects are large, higher above the zero line, and widely dispersed. This means that, on average, in politically unstable countries, bilateral ODA is associated with more conflict deaths. The wide confidence intervals mean that for any individual country-year it is difficult to know in advance whether ODA will help, do nothing, or make things worse. Countries such as Syria (−2.8), Mali (−2.6), and Afghanistan (−2.5) fall on the far end of this danger zone, based on 2022 data. On the right side, where countries score above approximately −0.2, the treatment effects hover tightly around zero with narrow confidence intervals. In these relatively stable countries, bilateral ODA appears to have little effect on conflict: it neither increases nor decreases it. Examples of countries on this end of the spectrum are Singapore (1.4), which received ODA only before 1996, Botswana (1.1), and Costa Rica (1.0). The most interesting part is the threshold, the tipping point where ODA might make

Countries at the threshold such as Uzbekistan, Ghana, and Bolivia, all scoring −0.2 in 2022, while Singapore, which only received ODA before 1996 (1.4), Botswana (1.1), and Costa Rica (1.0) represent the stable end of the distribution.

This threshold at approximately −0.2 is not unique to bilateral ODA. A similar pattern emerges across total ODA, ODA for government and civil society, and ODA for construction: below the threshold, effects tend to be harmful and unpredictable; above it, they are muted and stable. This connects to the mechanisms of predation and sabotage identified by Zürcher (2017): in politically unstable countries, where state control is weak and armed groups are active, ODA resources are more likely to be seized by warring parties or to provoke violence against aid providers and recipients. The political character of aid further compounds this risk. Dreher et al. (2024) shows that bilateral donors systematically allocate more aid to countries that vote with them in the UN General Assembly or hold strategic importance, meaning that in conflict settings, bilateral ODA can easily be perceived as aligned with one party to the conflict. Carnegie et al. (2022) illustrates this concretely in the Syrian civil war, where aid explicitly directed at opposition-controlled areas became a target rather than a stabilising force, and Bluhm

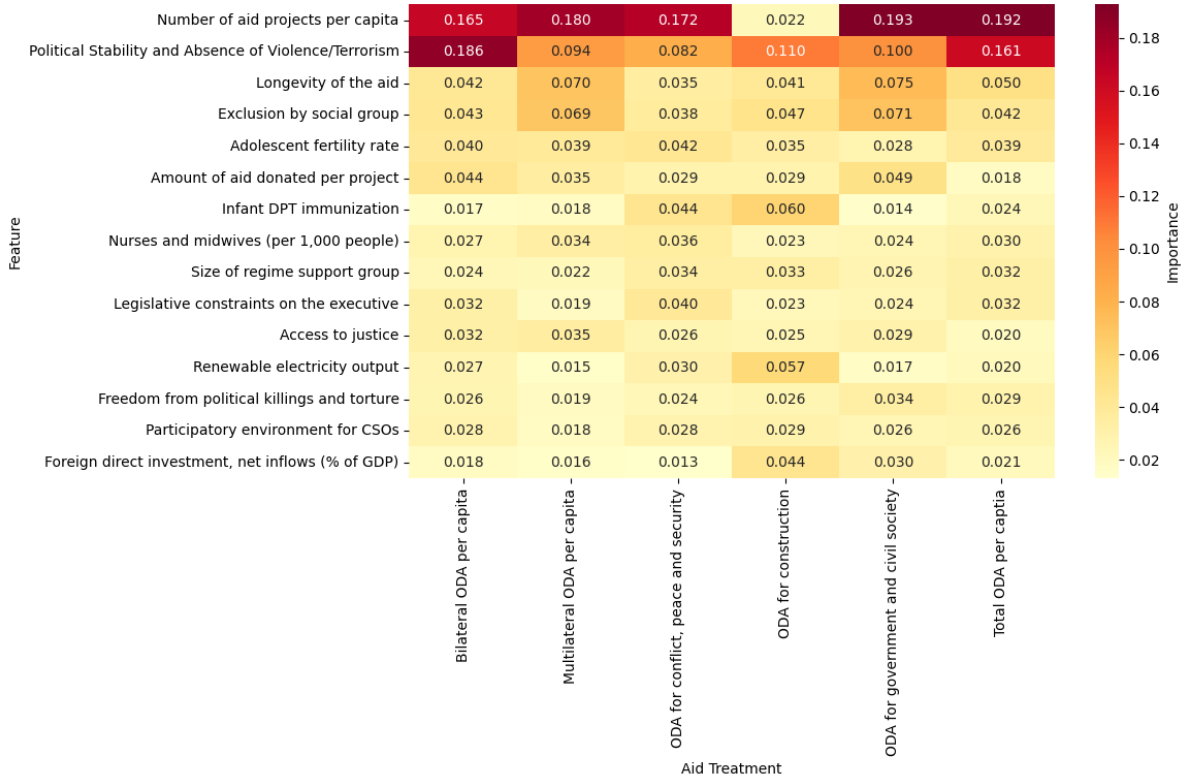

Figure 4.5: For each form of ODA, this figure shows what features matter most in estimating whether or not ODA will decrease intrastate conflict deaths

et al. (2021) finds broader causal evidence that receiving bilateral aid raises the probability of conflict escalating in already unstable countries. Above the threshold, these risks diminish, but ODA does not appear to actively reduce conflict either, suggesting that in stable contexts, peace is sustained by other factors rather than by ODA itself.

Aid Proliferation and Fragmentation Matters The second dominant indicator in Figure 4.5 is the number of aid projects per capita. Figure 4.7 plots the treatment effect of total ODA against this variable. The x-axis shows the number of aid projects per capita a country receives in a given year, and the y-axis shows the estimated effect of ODA on conflict deaths in that context. As with the political stability plot, each point represents a country-year, and vertical bars denote 95% confidence intervals.

At very low project counts, treatment effects are highly dispersed, ranging from strongly positive (ODA associated with more deaths) to moderately negative (ODA associated with fewer deaths), with wide confidence intervals. As the number of projects per capita increases, both the magnitude and the variance of the treatment effects shrink substantially, converging toward zero. In countries receiving many small projects, ODA appears to have a more predictable and less harmful relationship with conflict.

This finding differs from the aid effectiveness literature, which holds that the proliferation and fragmentation of aid are undesirable because they increase transaction costs. Each donor brings its own reporting and compliance procedures, consuming scarce government capacity (Haider, 2018), and this administrative burden is expected to worsen as ODA scales up (Gutting & Steinwand, 2017; Kimura et al., 2012). If this were the dominant mechanism, countries receiving many small projects should perform worse, not better.

One explanation is that the number of projects not only captures administrative burden, but it also reflects the geographical and sectoral diffusion of ODA across a country. When aid is delivered through many projects, it is likely more dispersed. Findley et al. (2023) find that diffused aid is less provocative to armed conflict than concentrated aid, because large, localised inflows create contestable resources that armed groups have an incentive to fight over. A few large projects concentrate wealth in specific

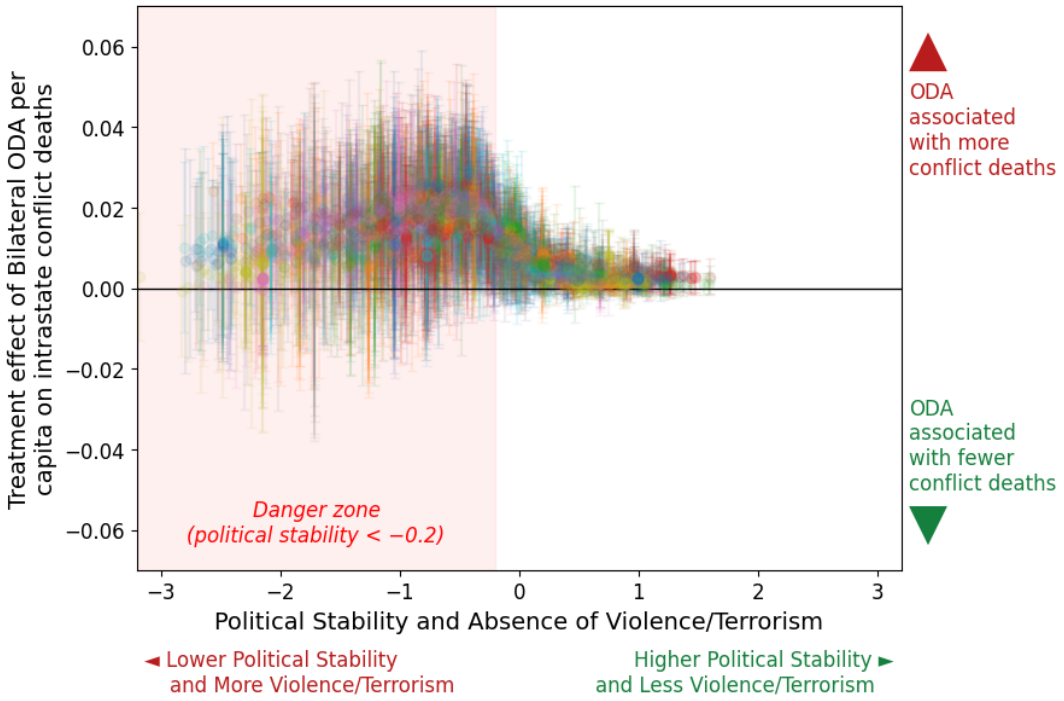

Figure 4.6: Treatment effect of bilateral ODA on intrastate conflict casualties across the political stability and the absence of violence/terrorism indicator. The less stable the country, the more ODA is associated with intrastate conflict deaths.

locations, making them attractive targets for predation; many smaller projects spread resources more thinly, reducing the payoff of seizing any single one. The project count variable may therefore proxy for this diffusion effect, which works in the opposite direction to the administrative costs of fragmentation.

Another explanation could be the way that ODA projects are selected. Countries that receive fewer, larger projects may be precisely those where ODA faces the greatest implementation challenges. If donors consolidate into fewer projects in regions with weaker institutions or higher baseline instability, because managing many projects in such environments is impractical, then the association between low project counts and harmful ODA effects could partly reflect these underlying conditions rather than a causal effect of project structure itself. Disentangling diffusion from selection would require a measure that captures donor fragmentation independently of spatial dispersion.

The Choice Between Multilateral and Bilateral ODA Matters The previous paragraphs established that political stability is an important moderator of ODA's effects on conflict. But this relationship is not the same for all forms of ODA. Comparing Figure 4.6 (bilateral ODA) with Figure 4.8 (multilateral ODA) reveals an important difference in how these two channels behave in politically unstable countries.

For bilateral ODA, as discussed above, countries below the -0.2 stability threshold show treatment effects that are predominantly positive, meaning more ODA is associated with more deaths, with wide confidence intervals. The pattern of multilateral ODA in the same unstable region differs. Below the −0.2 threshold, the treatment effects are centred around zero or slightly negative, meaning that multilateral ODA is not associated with increases in conflict deaths and may even be associated with modest decreases. The confidence intervals remain wide in this region, indicating substantial uncertainty in the individual estimates. But the direction of the effects still matters. Where bilateral ODA tends to worsen outcomes in unstable contexts, multilateral ODA does not appear to cause the same harm.

Several mechanisms from the literature may explain why multilateral ODA performs better in fragile settings. Bilateral ODA is more susceptible to geopolitical motivations and may be perceived by conflict parties as aligned with one side, increasing the risk of sabotage (Biscaye et al., 2017). Multilateral institutions, by pooling resources from multiple donors, are less easily associated with the strategic interests of any single country, potentially making them less provocative targets. Additionally, multilat-

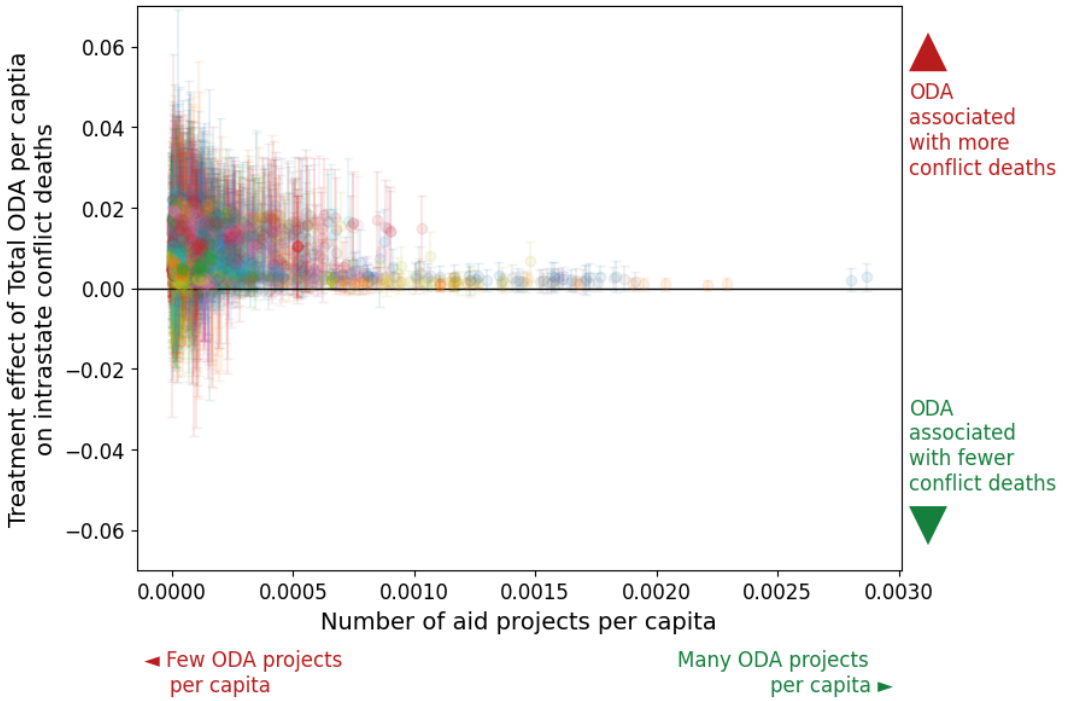

Figure 4.7: Treatment effect of ODA on intrastate conflict casualties across the number of aid projects per capita

eral channels provide insurance against aid shocks: because funding comes from many contributors, the withdrawal of any single donor does not substantially alter total flows (Findley, 2018). This stability may matter particularly in conflict-affected countries, where sudden drops in aid can shift the balance of power between the government and armed groups (Findley, 2018). It is worth noting, however, that the wide confidence intervals for multilateral ODA in unstable settings mean that the advantages of multilateral ODA are unpredictable; multilateral channels are safer, but they cannot guarantee ODA will reduce conflict in any given country.

The Purpose of ODA Matters What ODA is intended to be spent on may matter more for conflict outcomes than the total amount spent. The previous paragraphs examined how ODA's effects vary by channel, whether aid is delivered bilaterally or through multilateral institutions. But ODA also differs in its intended purpose. Three purpose-specific categories are examined here: ODA for government and civil society (OECD codes 150 and 151), which targets institutional strengthening through support for public administration, rule of law, anti-corruption, and democratic participation; ODA for conflict, peace and security (code 152), which directly addresses the security dimensions of conflict through activities such as security sector reform, demobilisation, and peacekeeping; and ODA for construction (code 323), which funds infrastructure rebuilding. The evidence for this claim is visible in the scale of the effects alone. Where the y-axes of the bilateral and multilateral figures (Figures 4.6 and 4.8) range from −0.06 to +0.06, the purpose-specific figures that follow stretch to −0.4 to +0.4 an order of magnitude wider. The same moderators, political stability and project count continue to shape ODA's effects.

Of the three purposes, ODA for government and civil society shows the smallest effects on intrastate conflict. Figures 4.9 and 4.10 plot the treatment effects against political stability and project count, respectively. The familiar patterns from total and bilateral ODA are present: dispersion and predominantly positive effects at low political stability scores, and convergence toward zero at higher project counts. Compared to the other two purposes discussed below, the effects are more contained. However, compared to the total, bilateral, and multilateral ODA results presented earlier, where effects ranged within ± 0.06, the treatment effects here are a bit larger, with individual estimates reaching ± 0.1 or beyond in unstable contexts. This means that even ODA aimed at strengthening institutions can have meaningful positive or negative associations with conflict, depending mainly on the project count

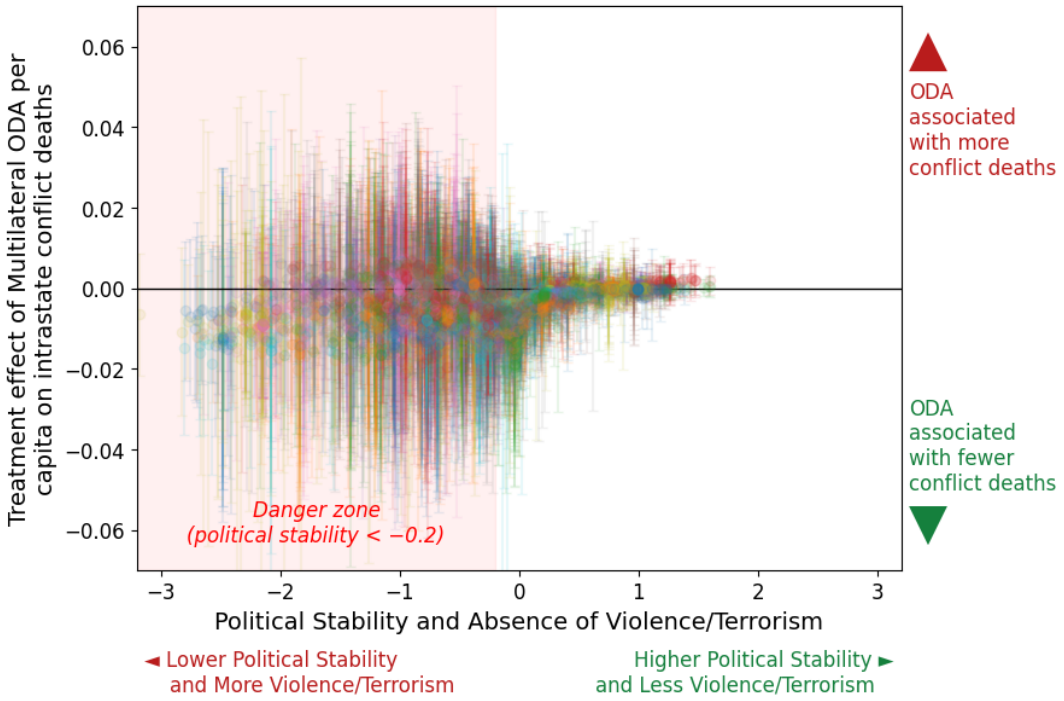

Figure 4.8: Treatment effect of multilateral ODA on intrastate conflict casualties across political stability and the absence of violence/terrorism

and political stability.

This result is somewhat surprising. Because this category targets institutional strengthening, precisely the dimension that the CPIA and CIAC frameworks identify as the main determinant of ODA effectiveness (“Country Policy and Institutional Assessments”, 2024; Feeny & de Silva, 2012), one might expect it to show the clearest conflict-reducing effects. Instead, the treatment effects are centred around zero, with no consistent negative direction. One interpretation is that institutional strengthening is inherently a slow process: investments in public administration, rule of law, and democratic participation may take years or even decades to translate into measurable reductions in conflict deaths (Hegre, 2014), a time horizon that calculations based on annual changes cannot easily capture. The results show that, relative to the other two purposes, government and civil society ODA carries less risk of worsening conflict, though it is not risk-free, particularly in politically unstable settings.

The results for conflict, peace and security ODA are not very reliable and should be interpreted with considerable caution. Of all forms of ODA examined in this thesis, conflict, peace and security ODA is the most directly reactive to violence: it is deployed when conflict is occurring or expected to occur. This makes it more difficult for any statistical method to separate the effect of the ODA from the conditions that triggered it. The overlap diagnostics support this interpretation: conflict, peace and security ODA had a residual share of 40%, meaning the model struggled to isolate systematic variation in ODA allocation after conditioning on country characteristics. The estimates should therefore be treated as inconclusive rather than as evidence that peacebuilding ODA worsens conflict.

With that caveat in mind, the results produce a counterintuitive pattern: ODA explicitly designed to promote peace is associated with more conflict deaths across nearly all conditions. When treatment effects are examined across the range of political stability, the picture differs from other forms of ODA. Rather than a threshold near −0.2 separating stable from unstable contexts, effects are predominantly positive across the entire stability range. The project count dimension tells a similar story to the other forms of ODA: as the number of projects increases, estimates become more predictable and converge, but they stabilise slightly above zero rather than at zero, as is the case for other aid categories. Overall, firm conclusions cannot be drawn from these results. Nevertheless, there are indications that this form of ODA may increase conflict-related deaths across the conditions examined, and it does not display

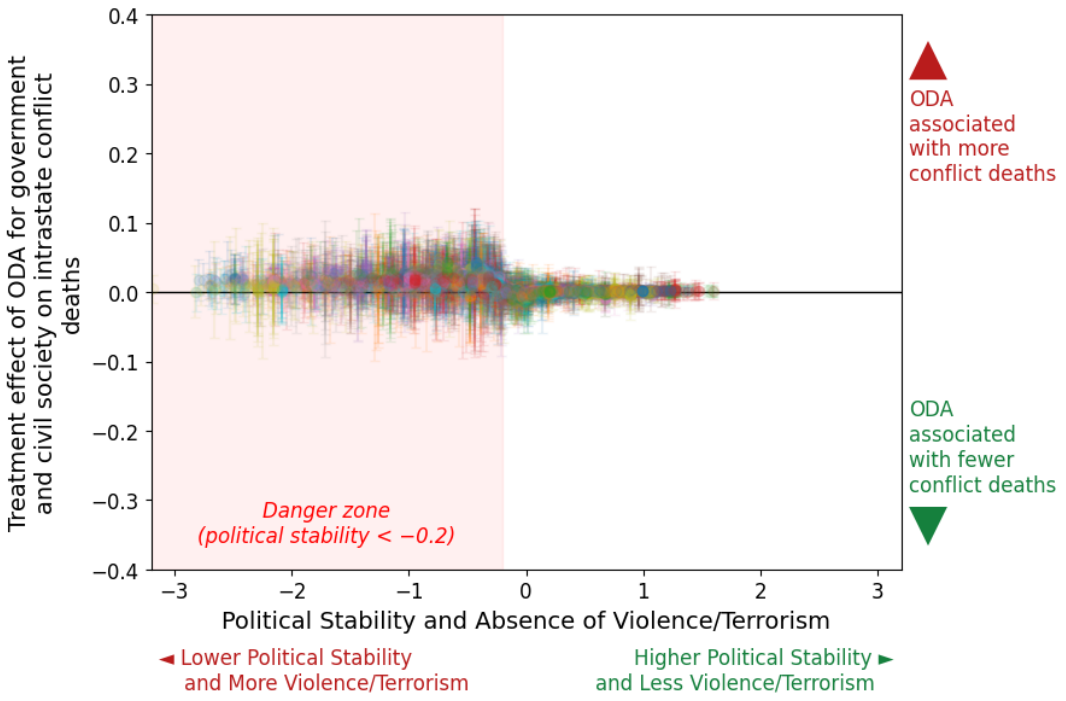

Figure 4.9: Conditional treatment effect of ODA for government and civil society on intrastate conflict casualties, plotted against political stability and the absence of violence/terrorism.

the pronounced threshold separating stable from unstable countries observed for other forms of ODA.

ODA for construction exhibits the largest treatment effects among the ODA types examined but also the weakest statistical identification, making its results inconclusive. The ATE for construction ODA was 0.134 (Table 4.2), more than four times larger than any other form of ODA, and the conditional treatment effects, plotted against political stability and infant DPT immunisation rates in Appendix D, are almost entirely above zero across all conditions. The familiar drop around the −0.2 political stability threshold is visible, but unlike other forms of ODA, the estimates remain well above zero even in stable countries.

These results, however, cannot be reliably interpreted. The overlap diagnostics revealed that construction ODA had a residual share of 58.1%, by far the highest of all ODA types. This means the Causal Forest struggled to find systematic variation in construction aid allocation after accounting for observed country characteristics. When the model cannot reliably separate countries that received more or less construction ODA for reasons unrelated to their observable profiles, the estimated treatment effects may capture underlying differences between these countries rather than the effect of the ODA itself. Construction ODA, like conflict/peace/security ODA, is likely allocated reactively: post-conflict reconstruction funding flows to countries precisely because their infrastructure has been destroyed by war. Without stronger identification, it is not possible to determine whether construction ODA genuinely worsens conflict.

Taken together, the three purposes tell different stories, but none of them is reassuring. Government and civil society ODA is the least harmful of the three, with effects that are modest and centred around zero, but it does not clearly reduce conflict either, despite targeting the institutional strengthening that the literature identifies as the main determinant of ODA effectiveness. The results for conflict, peace, and security ODA, as well as construction ODA, are inconclusive due to identification challenges: these forms of aid are allocated reactively, making it difficult to separate their effects from the crises that triggered them. The results indicate that treating all ODA as interchangeable obscures important variation. The difference in effect sizes between purpose-specific and aggregate ODA suggests that the change in conflict is dependent on the purpose of ODA.

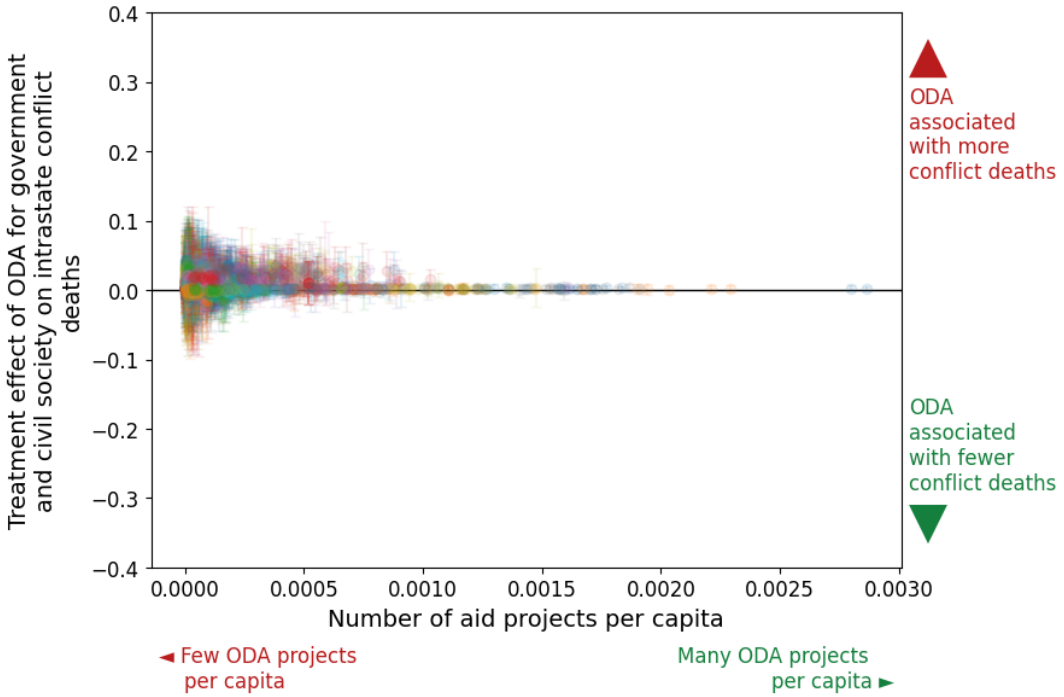

Figure 4.10: Conditional treatment effect of ODA for government and civil society on intrastate conflict casualties, plotted against the number of aid projects per capita.

5

Discussion

5.1. Reflections

As with any empirical study, the methods and data used in this research are subject to several limitations, which should be considered when interpreting the results. Nevertheless, both Panel GMM and Causal Forests remain a valuable approach for uncovering meaningful patterns in the relationship between ODA and intrastate conflict.

5.1.1. Data

The ODA data used in this study is limited to donations reported through the OECD's Creditor Reporting System. Several significant donors, most notably China, engage in substantial foreign aid programmes but do not report their contributions as ODA to the OECD (Findley, 2018). These flows are therefore excluded from the analysis, potentially understating the total aid received by certain countries and biasing estimates of foreign aid's effects. However, as many donors do report their donations to the OECD, which the OECD only allows if they meet the criteria for ODA, there is still a large enough sample to work with, even though the conclusions from the quantitative part of this thesis cannot be extrapolated to be true for the foreign aid that has not been reported as ODA. Additionally, a 21.7% of reported ODA is attributed to regions rather than individual countries. As regional allocations cannot be assigned to specific recipients, this ODA is excluded from the country-level analysis, further limiting the data's completeness. Assuming that donations to specific countries constitute a representative sample of all ODA and that only one-fifth of the ODA was filtered out, this drawback is minor.

The conflict data, drawn from the Uppsala Conflict Data Programme (UCDP), uses a rigorous verification system to ensure high-quality data (Hegre et al., 2020). Nevertheless, it relies on reported events, which are inherently subject to reporting biases. Conflict events in remote areas, authoritarian regimes, or during periods of extreme violence tend to be systematically underreported (Eck, 2012). At the same time, conflict deaths are highly newsworthy, which makes fatal conflict events less prone to this reporting bias (Öberg, 2025). Thus, there is likely an underestimation of conflict intensity in unstable areas, but this under-reporting is limited.

Furthermore, the data is aggregated at the country level. This lack of granularity prevents the analysis from capturing subnational variation in both aid distribution and conflict intensity. This is an extra-troubling limitation, given that Zürcher (2017) concludes that "aid in conflict zones will only have violence-dampening effects when the aid is injected in regions which are already relatively stable", directly pointing to strong subnational variation. ODA may be concentrated in particular regions within a country, and conflict dynamics can vary greatly across localities. Aggregation to the national level, therefore, masks potentially important heterogeneity. Despite this lack of granularity, the results of the causal forests point to the same conclusion: ODA is better at minimising conflict in already stable countries.

Finally, several conditional indicators identified in the literature as relevant to both aid effectiveness and conflict risk, such as cultural differences between donors and recipients, informal institutional norms,

and local power dynamics, cannot be measured with the available quantitative data. Their omission may limit the results, a concern that applies particularly to the Causal Forest model's unconfoundedness assumption, as discussed below.

As long as the scope of this study is understood to be for ODA reported, the conflict is understood as reported conflict, and the insights are solely at the national level, these limitations do not discredit the results much.

5.1.2. Panel GMM

The Panel GMM model, while well-suited for addressing endogeneity in dynamic panel settings, has several limitations. First, Panel GMM is a linear model (Vossen, 2020). It estimates average marginal effects and cannot capture nonlinear relationships between ODA, country-level indicators, and conflict outcomes. If the true relationship is characterised by threshold effects or diminishing returns, the linear specification may provide a misleading picture. This limitation is mitigated by using the Causal Forest method alongside Panel GMM.

Second, Panel GMM has strict data requirements. Indicators with more than 25% missing values, discrete variables, and variables that do not vary over time were excluded during the inclusion criteria stage, leaving "only" 36 indicators. This limits the ability to capture the full breadth of the frameworks. 8 countries that have fewer than 5 annual observations were also excluded. While this choice is methodologically justified, it leads to the omission of data, thereby limiting the generalisability of the results.

Just as the limitations of the data do not discredit the results, the results of Panel GMM are likewise not discredited when its limitations are understood.

5.1.3. Causal Forest

The Causal Forest DML model addresses some of the limitations of Panel GMM by allowing for heterogeneous treatment effects and nonlinear relationships. However, it introduces its own set of assumptions and challenges.

Most critically, the causal interpretation of the results rests on the unconfoundedness assumption: that all variables that jointly influence both ODA allocation and conflict outcomes are included in the model (Athey et al., 2019). In practice, this assumption is unverifiable. As noted above, in 3.2.3 several theoretically relevant confounders are either unmeasured or poorly captured by the available data. To the extent that important confounders are omitted, the estimated treatment effects may reflect residual confounding rather than true causal relationships.

Additionally, the overlap diagnostics presented in the previous section revealed that for certain ODA types, particularly untied and construction ODA, the first-stage treatment model struggled to identify systematic variation in ODA allocation after conditioning on covariates. When the treatment model achieves low predictive accuracy, the double machine learning procedure cannot effectively separate confounded variation from exogenous variation, weakening the causal identification strategy (Athey et al., 2019). Results for untied and construction ODA should therefore not be interpreted. Other forms of ODA analysed in this thesis exhibited sufficient variation to allow interpretation of the results.

The wide confidence intervals observed for the conditional average treatment effects (CATEs) further underscore the limited statistical precision of the individual-level estimates. While aggregate patterns of heterogeneity are informative, point estimates for specific country-year observations are highly uncertain, limiting their ability to guide targeted policy recommendations at the country level. Yet, when combining all the country-year observations, patterns do emerge. So, aggregate findings can be identified, but no strong claims can be made for specific countries and years.

In this thesis, these limitations are minimised and accounted for in multiple ways. First, to minimise them, there are two complementary methods with different limitations that partially offset each other. Next, statistical tests, confidence intervals, and p-values are used to assess the models' reliability. On top of that, the findings are contextualised within prior qualitative research. Lastly, the thesis recommends doing extra research before allocating any ODA.

5.1.4. Conceptual Scope

Beyond the specific limitations of the methods and data employed, this study is also subject to broader limitations arising from the scope of the research. In particular, the level of analysis, especially measuring absorptive capacity on a country level, the variables included, and the assumption that ODA donors' interests are aligned with those of the recipient countries.

First, the validity of cross-country macro-level analysis for studying aid effectiveness has been widely questioned. Roodman (2007) argues that because aid is a relatively small factor in development and is highly heterogeneous, it is not the sort of variable that can easily be studied with macroeconomic tools, concluding that robust generalisations from cross-country growth empirics have yet to materialise. This is a relevant concern for the present study, which relies on country-level panel data. However, this limitation is partially mitigated by the use of Causal Forests, which move beyond estimating a single average effect and instead examine heterogeneous treatment effects across country-year observations, thereby capturing some of the contextual variation that purely aggregate approaches miss.

One specific dimension of this variation that remains uncaptured, even with heterogeneous treatment effects, is absorptive capacity. In this study, a country's ability to effectively utilise incoming aid is proxied by aggregate indicators such as governance quality and different forms of capital. However, as Lamb (2013) argue, absorptive capacity cannot be measured in isolation: it exists only in relation to a particular intervention and can therefore only be assessed against a model of that intervention. A country may have high absorptive capacity for one type of ODA project and low capacity for another. Because this study measures absorptive capacity at the country level rather than at the project level, it cannot capture this intervention-specific variation, potentially obscuring important heterogeneity in aid effectiveness.

Next, while the models include foreign direct investment and tax revenue to see the impact of non-aid financial flows, remittances are not included in the analysis. Remittances are personal transfers between resident and non-resident households and the compensation of short-term or cross-border workers employed in economies where they are not resident (World Bank, 2024a). This is unfortunate, because, according to the World Bank, remittance flows to fragile and conflict-affected countries reached approximately $60 billion in 2022, exceeding the volume of ODA received by these countries (Ratha et al., 2022). Remittances serve as economic lifelines for households in conflict settings, sustaining livelihoods and providing a buffer against income shocks (Weiss Fagen & Bump, 2006). Because remittances are correlated with both conflict intensity and with the economic conditions that also determine ODA allocation, their omission may be an excluded confounder. On top of this, given that this thesis finds that disbursed ODA is preferred, and remittances are disbursed flows, remittances may be a low-risk way of donating to those in need.

Lastly, this study treats ODA as if its primary objective is development or peacebuilding. In practice, ODA allocation is shaped by a range of competing donor objectives, including geopolitical interests, trade relationships, and domestic political considerations. Boyce (2000) finds that a key reason for the shortcomings of post-conflict assistance is the tension between peacebuilding and other donor objectives. Dreher et al. (2024) argue that because aid donors pursue a broad set of motives, many of which are unrelated to development, evaluating aid effectiveness solely against developmental outcomes provides an incomplete picture. Since donor motivations are not captured in the data used in this study, the estimated effects of ODA on conflict may partially reflect the consequences of strategically motivated aid rather than the impact of development/peace-oriented assistance.

5.1.5. Overall Trustworthiness

The limitations discussed across the preceding subsections are real and should not be dismissed. The country-level aggregation masks subnational variation that the literature identifies as critical to understanding ODA's effects. The unconfoundedness assumption of the Causal Forest cannot be verified, and the wide confidence intervals for individual CATE estimates make country-specific conclusions unreliable. Taken together, these constraints mean that the results of this thesis cannot serve as direct prescriptions for specific ODA projects or individual country cases.

However, two factors lend credibility to the broader patterns that emerge. First, the two methods employed have substantially different assumptions and weaknesses: Panel GMM addresses endogeneity

through instrumentation in a linear framework, while Causal Forests allow for nonlinear, heterogeneous treatment effects under an unconfoundedness assumption. Where the results from both methods point in the same direction, as they do on the importance of political stability and the limited effectiveness of ODA in high-conflict settings, the findings are more robust than either method could establish alone. Second, the main findings align closely with prior qualitative and quantitative literature. The conflict trap, the risks of predation and sabotage, and the moderating role of institutional quality are all well-documented, and the results here reinforce rather than contradict this body of evidence.

The findings of this thesis are therefore best understood as identifying broad, credible trends rather than precise causal estimates. They are strong enough to inform policy direction, but not strong enough to substitute for the context-specific analysis that any individual ODA decision requires.

5.2. Future Work

The limitations and findings of this thesis point to several directions for future research, organised into three categories: improvements to the empirical model, extensions to the policy analysis, and the need for localised research.

5.2.1. Model and Data Improvements

Several refinements to the data and methods used in this thesis would strengthen the reliability and scope of the findings.

First, the analysis could be moved to the subnational level. This thesis operates at the country-year level, but Zürcher (2017) concludes that ODA only dampens violence when injected into regions that are already relatively stable, and the Causal Forest results point to the same pattern at the country level. Both UCDP's Georeferenced Event Dataset and the OECD's project-level ODA data contain geographic identifiers that would allow subnational matching of aid flows to conflict events. Such an analysis could test whether the political stability threshold identified in this thesis also holds within countries, and whether the effects of ODA differ across regions with varying levels of state control and armed group activity. This, however, would be difficult, as different countries have different subnational divisions, and the data availability would be much lower.

Second, the dependent variable could be disaggregated by conflict type. UCDP distinguishes between state-based armed conflict, non-state conflict, and one-sided violence, but this thesis aggregates all three into a single measure of intrastate conflict deaths. Analysing these separately could reveal whether ODA affects different forms of violence differently. For example, ODA for conflict, peace and security may have a different relationship with state-based conflict, where the government is a party, than with non-state violence between armed groups.

Third, a technical correction: the log transformation of the dependent variable should be revised to $\ln(\text{deaths} + 1/\text{capita})$ rather than the current specification, which assigns a log value of zero to country-years with no recorded deaths. Because the values are per capita fractions rather than natural numbers, this convention introduces an inconsistency at the lower end of the distribution that a plus-one adjustment would resolve.

Fourth, the Causal Forest model's reliability depends on the unconfoundedness assumption: that all variables jointly influencing ODA allocation and conflict outcomes are included. Strengthening this assumption requires incorporating more determinants of why donors allocate ODA in the way they do. Variables such as UN General Assembly voting alignment, colonial ties, and bilateral trade volumes capture geopolitical motivations that Dreher et al. (2024) show to be significant drivers of aid allocation. Including these would reduce the risk that estimated treatment effects reflect residual confounding from strategic donor behaviour rather than the true impact of ODA on conflict.

Fifth, the current Causal Forest estimates contemporaneous effects, but many forms of ODA are unlikely to influence conflict within the same year. This is particularly relevant for ODA targeting government and civil society, where institutional strengthening is inherently slow and may take years or even decades to translate into measurable reductions in violence (Hegre, 2014). Introducing temporal lags into the Causal Forest specification would allow estimation of delayed impacts. More broadly, developing models that combine heterogeneous treatment effects with temporal variation would make it

possible to distinguish short-run from long-run effects of different ODA forms, an important distinction that neither method in this thesis currently captures.

5.2.2. Policy Comparisons

This thesis evaluates ODA in isolation, but policymakers do not choose between more or less ODA alone. They choose between multiple instruments, each with different costs, risks, and mechanisms of action. Future work should therefore evaluate competing policy tools using the same methodological framework, enabling direct comparison of their effectiveness at reducing intrastate conflict. Remittances, which exceeded ODA flows to fragile and conflict-affected countries in 2022 (Ratha et al., 2022), represent a particularly important comparison, as they are disbursed flows that reach households directly and may carry lower risks of predation than institutionally channelled ODA. Foreign direct investment and power-sharing agreements (Mueller & Rauh, 2024) are further candidates for comparative evaluation. Applying the same Panel GMM and Causal Forest methods to these alternative instruments would clarify not only whether ODA is effective, but whether it is the most effective option available.

A related question that this thesis raises but does not answer is whether ODA can improve its own precondition. The results consistently show that political stability is the most important moderator of ODA's conflict effects, but the analysis does not examine whether ODA, particularly for government and civil society, can itself improve political stability over time. If it can, ODA may have an indirect, long-term pathway to conflict reduction that the current analysis, focused on contemporaneous and near-term effects, cannot detect. Establishing this causal chain would clarify whether sustained institutional ODA can gradually shift countries above the stability threshold at which other forms of aid become safer to deliver.

5.2.3. Localised Case Studies

Finally, the broad patterns identified in this thesis need to be tested and enriched through localised qualitative research. Countries near the -0.2 political stability threshold, such as Ghana, Bolivia, and Uzbekistan, represent the most uncertain terrain in the results: small changes in stability appear to shift ODA's effects from neutral to potentially harmful. Qualitative case studies in these countries could illuminate what drives this transition and capture the social, cultural, and political dynamics that country-level indicators cannot measure. The unused borehole example from Kreitzer (2023), where a technically sound project failed because it disrupted local social routines, illustrates the kind of mechanism that only localised research can uncover.

For countries deep in the danger zone, such as Syria, Mali, and Afghanistan, subnational case studies could identify pockets of relative stability where ODA might still be delivered safely, testing Zürcher (2017)'s hypothesis at a finer resolution than this thesis can achieve. Such studies would also provide the context-specific understanding of predation and sabotage dynamics that is needed to operationalise the practical guidance offered in the policy implications.

Together, these directions would move the analysis from the broad patterns identified in this thesis toward the granular, context-specific evidence that effective ODA allocation in conflict-affected settings ultimately requires.

5.3. Policy Implications

Because this thesis spans a broad geographical and temporal scope, its direct policy implications are likewise broad and general. This, however, is less tangible to those who need to make ODA allocation decisions across different countries. Therefore, the policy implications are split into two parts: the broad implications that follow from the results, and more targeted implications for different circumstances, depending on each country's stability.

5.3.1. Broad Implications

Be extremely careful with ODA in areas of high conflict The results suggest ODA in highly violent contexts carries substantial risks of making things worse. The Causal Forest results indicate that in countries with political stability scores below approximately -0.2, ODA typically leads to more intrastate conflict deaths. More broadly, bilateral and total ODA are associated with increased conflict casualties,

and the variance of these effects is large, indicating unpredictable outcomes. This finding is consistent with the literature. According to the systematic review by Zürcher (2017), this is driven by two mechanisms: predation, in which armed groups steal aid resources, and sabotage, in which warring parties attack aid providers or recipients to undermine ODA operations. Although the results indicate significant differences between politically stable and unstable countries in how well they handle ODA, they also show that the effects of ODA cannot be inferred solely from aggregated country-level indicators.

Given these risks, donors operating in high-conflict environments should exercise extreme caution when disbursing ODA. Before deciding to provide ODA, research should be conducted into the specific project and the context in which it is provided. This means researching the local environment, rather than just looking at country-wide indicators. It includes finding out whether ODA resources could become targets for predation or sabotage, whether ODA delivery could be perceived as politically aligned with one party to the conflict, and whether the local security situation permits effective oversight. The default assumption in high-violence settings should be that ODA carries risks, and this research should not be seen as a formality or afterthought: it should guide decisions. The consequences of skipping this step are illustrated by Save the Children's experience during the Tajikistan civil war, where aid was directed toward the weaker party without sufficiently accounting for how this would be read by the stronger group. The stronger faction perceived the assistance as political support for their enemy, fueling resentment and contributing to the continuation of the conflict (Anderson, 1999).

Improve political stability before scaling up ODA The Causal Forest results consistently identify political stability as the most important moderator of ODA's effects on conflict casualties. Across total, bilateral, and purpose-specific ODA, a threshold at approximately -0.2 on the World Bank's Political Stability and Absence of Violence/Terrorism index marks a transition: below this level, ODA effects are unpredictable and often harmful; above it, they are more muted and stable. This aligns with the broader literature on absorptive capacity, which argues that the effectiveness of foreign aid depends on recipient countries' institutional and political conditions (Feeny & de Silva, 2012; Pham & Pham, 2022).

This implies a sequencing challenge: scaling up ODA before the -0.2 level is reached risks wasting resources or fuelling violence. Policymakers should therefore consider investing first in the political preconditions that allow ODA to be absorbed productively. One avenue is through multilateral aid channels, which show more favourable results in unstable contexts, as discussed below. Another is through diplomatic instruments outside the ODA framework, such as power-sharing agreements, which directly address the bargaining failures that Fearon (1995) identifies as the root cause of most intrastate wars. Additionally, further research is needed on the long-term effects of ODA on government and civil society. This type of ODA targets institutional strengthening directly, but its effects on conflict could not be clearly distinguished from those of other ODA types in the Causal Forests results. To do this, models that combine both CATEs and temporal variation are needed.

Consider multilateral channels in fragile contexts While the overall differences between bilateral and multilateral ODA's ATEs are small, the Causal Forest results reveal an important distinction in politically unstable settings. Bilateral ODA in countries below the −0.2 political stability threshold is associated with increased conflict casualties, whereas multilateral ODA in the same contexts does not show this harmful pattern. Although the confidence intervals for multilateral ODA remain wide in these settings, the point estimates tend toward zero or slightly negative, suggesting that multilateral channels may be less prone to fuelling violence. Several mechanisms from the literature can explain this. Bilateral aid is more susceptible to geopolitical motivations and may be perceived by conflict parties as aligned with one side, increasing the risk of sabotage (Biscaye et al., 2017). Multilateral institutions, by pooling resources from multiple donors, may also provide a form of insurance against the aid shocks that Findley (2018) identifies as destabilising: if one donor withdraws, others remain.

Ideally, violent conflict is prevented in the first place. But if it does occur, among the forms of ODA researched in this study, only multilateral ODA sometimes reduces conflict casualties, even though this form has unpredictable consequences and is heavily dependent on local circumstances. In fragile states where political stability is low and the risk of violence is high, policymakers should give serious consideration to channelling aid through multilateral institutions rather than bilateral programmes, not as a universal preference, but as a context-specific precaution where the evidence suggests bilateral

channels carry greater risk of harm.

Prioritise conflict prevention over ODA-based de-escalation Both Panel GMM and Causal Forests show that conflict is persistent: once intrastate conflict is underway, ODA does little to reduce casualties. Causal forests even show that for many countries, ODA worsened the number of casualties. This persistence of conflict alligns with the literature, where it is described as the conflict trap (Collier et al., 2003). Because escaping this conflict is so difficult and it is so damaging, preventing it from starting is preferable to trying to remedy it once it is already underway.

Policymakers should therefore allocate ODA resources meant to minimize intrastate conflict primarily to prevention, rather than relying on ODA as a tool for de-escalation during active fighting. Where intrastate conflict is already entrenched, alternative instruments such as power-sharing agreements may be more effective at creating the conditions for peace (Mueller & Rauh, 2024). ODA should not be entirely abandoned in these contexts, but expectations of what it can achieve should be realistic, and its deployment should be subject to scrutiny to ensure it does not risk harming the country (Do No Harm Project, 2004).

Recognise the limits of cross-country evidence by treating these findings as a starting point, not as a prescription It is important to recognise the inherent limitations of cross-country, macro-level evidence when translating it into policy. As discussed in Section 5.1, the country-year level of aggregation masks critical subnational variation. Zürcher (2017) concludes that ODA only dampens violence when injected into already relatively stable regions within a country, a distinction this analysis cannot capture. The social and cultural factors that Feeny and de Silva (2012) identify as constraints on ODA effectiveness, illustrated by the unused borehole example from Kreitzer (2023), operate at the level of individual communities and cannot be represented by national indicators. Moreover, the omission of variables such as remittances, donor motivations, and informal institutional norms means that some confounding likely remains despite the methodological precautions taken.

These findings are therefore best understood as identifying broad patterns, the importance of political stability, the risks of ODA in high-conflict settings, and the relative advantages of multilateral channels, that can inform but not replace context-specific analysis.

5.3.2. Practical Guidance by Context

The broad implications discussed above identify general patterns, but they do not tell a policymaker what to do in a specific situation. The practical guidance in this subsection attempts to bridge that gap by organising recommendations around the circumstances a policymaker is likely to face. Since political stability consistently emerges as the strongest moderator of ODA's effects on intrastate conflict, it provides a natural basis for this organisation. The following subsections therefore group guidance into three broad categories: countries with high political stability and little historical conflict, countries with moderate stability and some history of conflict, and countries with low political stability and entrenched or ongoing conflict. These are heuristic groupings rather than rigid classifications, and some countries may not neatly fit into a single category. Their purpose is to give policymakers a structured starting point for identifying the most relevant risks and considerations before turning to the local research that must ultimately guide any decision.

Stable Countries *High political stability, little historical conflict. Examples: Botswana (1.1), Costa Rica (1.0).* In countries with high political stability and little history of intrastate conflict, the results of this thesis are relatively reassuring. Above the −0.2 threshold, ODA effects on conflict casualties are muted and stable, with narrow confidence intervals clustering around zero. This means that in these contexts, ODA is unlikely to fuel violence. The mechanisms that make ODA dangerous in unstable settings, predation, sabotage, and political misperception, are far less likely to operate where state control is strong and armed groups are not active. For policymakers, this means that in stable countries, conflict prevention does not need to be the primary lens through which ODA decisions are made. The more relevant question is what ODA can achieve for development. This thesis does not directly address that question, but the absence of conflict risk means that ODA can be evaluated primarily on its developmental merits rather than its security implications. Standard due diligence remains important, but the exceptional caution warranted in fragile contexts is not required here.

Moderately Stable Countries *Moderate political stability, some history of conflict. Examples: Ghana (−0.2), Bolivia (−0.2), Uzbekistan (−0.2).* Countries near the −0.2 threshold represent the most uncertain terrain. They sit at the tipping point where ODA's effects on conflict begin to shift from muted to potentially harmful. The results show that small changes in political stability can move a country from one regime to another, and the confidence intervals at the threshold are wide enough that it is genuinely unclear whether ODA will be neutral or damaging in any given country-year. Countries like Ghana, Bolivia, and Uzbekistan, all scoring −0.2 in 2022, illustrate this ambiguity: they are neither safely stable nor clearly in the danger zone. For policymakers operating in these contexts, the priority is caution and preparation rather than avoidance. The following considerations apply:

- **Reflect on whether ODA is the right tool.** At the threshold, the risk of ODA fuelling conflict is real. Before allocating resources, policymakers should consider whether other instruments, such as diplomatic engagement or support for institutional reform, might address the underlying drivers of instability more directly.
- **Research local circumstances thoroughly.** Country-level indicators provide a starting point, but the decision should be grounded in a more holistic analysis. Which regions are relatively stable? Are there armed groups that could exploit aid resources? How is the donor perceived by different parties?
- **Distribute ODA evenly.** Concentrating ODA in particular regions or directing it toward specific groups risks being perceived as politically aligned, increasing the risk of sabotage or resentment. Broad and even distribution reduces this risk.
- **Consider multilateral channels.** The results suggest that multilateral ODA is less prone to being perceived as politically aligned than bilateral ODA, and therefore carries lower risk of fuelling conflict. In uncertain contexts, routing aid through multilateral institutions is a meaningful precaution.

Unstable Countries *Low political stability, entrenched or ongoing conflict. Examples: Syria (−2.8), Mali (−2.6), Afghanistan (−2.5).* In countries on the far end of the danger zone, the results of this thesis are stark. Below the −0.2 threshold, bilateral ODA is on average associated with more conflict deaths, and the wide confidence intervals mean that for any individual country-year, it is very difficult to know in advance whether ODA will be harmful, neutral, or occasionally helpful. Countries like Syria, Mali, and Afghanistan illustrate the scale of this challenge: in these contexts, the mechanisms of predation and sabotage identified by Zürcher (2017) operate more strongly, state control is weak, armed groups are active, and aid can easily become a resource to be seized or a target to be attacked. The Syrian civil war provides a concrete illustration: aid directed at opposition-controlled areas became a target rather than a stabilising force (Carnegie et al., 2022). Bluhm et al. (2021) finds broader causal evidence that bilateral aid raises the probability of conflict escalation in already unstable countries. The conflict trap compounds this difficulty. Once intrastate conflict is entrenched, escaping it is extremely difficult, and ODA alone is unlikely to be the mechanism for doing so. Policymakers should therefore begin by asking whether ODA is the right instrument at all, before considering how to deploy it. The following guidance applies:

- **Prioritise policy alternatives.** Before turning to ODA, consider instruments that address the bargaining failures and power dynamics driving the conflict more directly. Power-sharing agreements have shown promise as a mechanism for creating the conditions for peace (Mueller & Rauh, 2024).
- **If ODA is still chosen, conduct thorough local research first.** This is not a formality. As the Save the Children experience in Tajikistan illustrates (Anderson, 1999), failing to understand how ODA will be perceived by different conflict parties can directly fuel violence. Research should establish whether predation or sabotage mechanisms are likely, whether the donor will be perceived as aligned with one party, and whether effective oversight is feasible given the security situation.
- **Opt for multilateral over bilateral ODA.** The results suggest that multilateral ODA does not show the same harmful pattern in politically unstable settings that bilateral ODA does. Multilateral channels reduce the risk that ODA will be perceived as geopolitically motivated and provide

greater resilience against sudden donor withdrawals.

- **Prefer small projects over large ones.** Large ODA projects are more visible, more valuable as targets, and more politically sensitive. Distributing resources across many smaller projects reduces the risk of predation and limits the damage if any single intervention goes wrong.
- **Target regions that are already relatively stable.** Zürcher (2017) concludes that ODA only dampens violence when injected into regions that are already relatively stable within a conflict-affected country. Even in deeply unstable countries, subnational variation in stability exists, and directing ODA toward those pockets reduces the risk of harm while preserving some prospect of positive impact.

6

Conclusion

This thesis set out to examine how ODA is associated with intrastate conflict. To answer this, the analysis combined a Panel Generalised Method of Moments model with a Causal Forest model, applied to a panel dataset of ODA-eligible countries spanning 1989 to 2022. The following paragraphs synthesise the research and conclude by answering the main research question.

Conflict dynamics The literature identifies two direct mechanisms through which ODA can worsen active conflict: predation, where armed groups seize aid resources for their own use, and sabotage, where groups attack aid providers or recipients because they perceive the assistance as strengthening their opponents (Zürcher, 2017). Both mechanisms are more likely when state control is weak and fighting is ongoing (Zürcher, 2017). Theoretical mechanisms through which ODA could reduce violence, win hearts and minds, raise the opportunity cost of fighting, and facilitate intelligence sharing have limited theoretical support (Zürcher, 2017). Compounding this, intrastate conflict is self-reinforcing. Once violence breaks out, it tends to persist: conflict destroys the institutions, infrastructure, and economic capacity that are needed to prevent its recurrence, creating a cycle that Collier et al. (2003) describes as the conflict trap. Countries that have experienced conflict are significantly more likely to experience it again (Hegre et al., 2017), and the mechanisms of predation and sabotage mean that ODA delivered into this cycle can deepen it rather than break it.

Recipient country-level indicators The World Bank's Country Policy and Institutional Assessment captures the quality of a country's policies and institutions, which the World Bank identifies as the primary determinant of current aid effectiveness ("Country Policy and Institutional Assessments", 2024). The Composite Index of Absorptive Capacity broadens this by incorporating human and physical capital constraints, macroeconomic conditions, donor practices, and social and cultural factors (Feeny & de Silva, 2012). Together, these frameworks suggest that ODA is most effective where governance is strong, human and physical capital is sufficient, and the macroeconomic environment is stable.

Measuring state fragility To measure a country's risk of intrastate conflict, this study draws on the OECD's States of Fragility Framework, which defines fragility as the combination of exposure to risk and insufficient coping capacities to manage or absorb those risks across six dimensions: economic, environmental, human, political, security, and societal (Rolland, 2022). Fragile states systematically underperform across these dimensions, leaving them particularly vulnerable to intrastate conflict, and once violence breaks out, it tends to be self-reinforcing (Hegre et al., 2017). Fragile states are therefore both the contexts where ODA is most needed and where the conditions for absorbing it effectively are weakest (Feeny & de Silva, 2012; Independent Evaluation Group, World Bank Group, 2016).

The frameworks used in this thesis: the OECD Fragility Framework, the World Bank CPIA, and the CIAC, each offer systematic, comparable, and annually updated measurements that make large-scale quantitative analysis possible. However, their representational limits are significant. All three operate at the country level and therefore cannot capture the subnational variation in conflict intensity and aid

distribution that the literature identifies as crucial: Zürcher (2017) concludes that ODA will only have violence-dampening effects when injected into regions that are already relatively stable, a distinction that country-level data cannot capture. Absorptive capacity, in particular, cannot meaningfully be measured in isolation at the national level: it exists only in relation to a specific intervention, and a country may have high capacity for one type of project and low capacity for another (Lamb, 2013). Several indicators identified by the literature as theoretically important: cultural norms, informal institutions, and local power dynamics cannot be quantified at all (Feeny & de Silva, 2012).

The right method Countries experiencing intrastate conflict tend to receive more ODA, not less, meaning the relationship between ODA and conflict runs in both directions (Cooper et al., 2020). Methods that do not account for this endogeneity risk producing biased estimates. Panel GMM addresses this by using lagged instruments and combining differenced and level equations, making it well-suited to the persistent, dynamic nature of conflict data (Blundell & Bond, 1998; Roodman, 2009). However, Panel GMM can only estimate average effects across the sample. To move beyond average effects and examine the conditions under which ODA helps or harms, the Causal Forest model estimates Conditional Average Treatment Effects for each country-year observation, conditioning on the full set of country-level indicators (White & Green, 2023). Combining these two methods is advantageous: Panel GMM provides a statistically grounded assessment of which factors are associated with average changes in conflict, while the Causal Forest reveals how these effects vary across country profiles.

Main results Both methods converge on the same overarching conclusion: ODA does not reliably reduce intrastate conflict on average. In the Panel GMM, only multilateral ODA is statistically significant among the ODA variables, but the effect size is small and in the wrong direction, with a positive association with conflict deaths. The Causal Forest Average Treatment Effects are small in magnitude and cluster near zero for most ODA types. These averages, however, conceal heterogeneity, meaning ODA's ability to reduce conflict depends on the country's conditions and the form of ODA. The Causal Forest results identify four main conditions under which ODA's effects on conflict differ.

First, political stability is the most consistently important moderator (World Bank, 2024b): below the −0.2 threshold, ODA effects are harmful and unpredictable; above it, they are muted and stable.

Second, aid fragmentation matters in a counterintuitive direction: countries receiving more, smaller projects experience more predictable and less harmful ODA effects (Findley et al., 2023), likely because diffused aid is less attractive as a target for predation than concentrated large inflows (Zürcher, 2017).

Third, the choice between bilateral and multilateral channels matters in politically unstable countries: bilateral ODA is associated with increased casualties in politically unstable settings, while multilateral ODA does not show this harmful pattern, in part because multilateral channels are less susceptible to geopolitical perceptions (Biscaye et al., 2017).

Fourth, the purpose of ODA matters. The results for conflict, peace and security ODA and construction ODA are inconclusive due to insufficient overlap in the underlying data, meaning these forms of aid are too reactive for the model to reliably separate their effects. What is clear is that effect sizes for all three purpose-specific forms of ODA are an order of magnitude larger than for aggregate ODA, suggesting that what aid is intended for matters far more than total volume. ODA for government and civil society shows the most reliable results, mirroring total ODA and exhibiting effects shaped by political stability and project count, but with a larger magnitude.

General policy implications Based on these four insights and the wider literature of ODA's impact on conflict, five policy implications follow:

In countries at the far end of the instability spectrum, such as Syria, Mali, or Afghanistan, the evidence suggests that ODA can actively worsen violence through predation and sabotage. (Zürcher, 2017). Before disbursing aid, donors should conduct detailed local assessments, guided by frameworks such as Do No Harm (Do No Harm Project, 2004), to determine whether resources risk being seized or whether delivery will be perceived as politically aligned with one party to the conflict.

Second, political stability should be treated as a precondition for scaling up ODA, as investing in the political conditions before increasing aid volumes is more likely to produce beneficial outcomes (Feeny

& de Silva, 2012). The results of Causal Forest confirm this for the threshold of -0.2 on the World Bank's political stability indicator (World Bank, 2024b).

Third, in fragile contexts where aid must still be provided, multilateral channels should be preferred over bilateral programmes, as they are less susceptible to geopolitical perceptions (Biscaye et al., 2017) and provide greater insurance against the aid shocks that can destabilise the domestic balance of power (Findley, 2018).

Fourth, because conflict is persistent (Collier et al., 2003) and ODA rarely breaks this cycle once violence is entrenched, policymakers should prioritise conflict prevention over ODA-based de-escalation. Alternative instruments such as power-sharing agreements may be more effective when conflict is already underway (Mueller & Rauh, 2024).

Fifth, these findings should be treated as identifying broad patterns rather than prescriptions for individual cases: the macro-level evidence in this thesis cannot substitute for the context-specific, project-level analysis that effective aid in conflict settings ultimately requires (Lamb, 2013; Zürcher, 2017).

Answering the main research question: How is ODA associated with intrastate conflict? On average, ODA is not associated with reductions in intrastate conflict deaths. Across both Panel GMM and Causal Forest methods, no form of ODA reliably reduces casualties when effects are averaged across all countries and years. This is partly because intrastate conflict is overwhelmingly driven by its own history (Collier et al., 2003; Hegre et al., 2017): the single strongest predictor of conflict deaths in any year is the level of deaths in the previous year, reflecting the conflict trap dynamic that ODA is ill-equipped to break. Where ODA does show an association with conflict, it is more often a harmful one, particularly in countries with low political stability (World Bank, 2024b), and driven by the mechanisms of predation and sabotage that the literature anticipates (Zürcher, 2017). The conditions under which ODA can avoid worsening conflict are specific: the recipient country must have reached a minimum level of political stability, aid should be dispersed across many smaller projects rather than concentrated in large ones (Findley et al., 2023), and multilateral channels are preferable to bilateral ones in fragile settings (Biscaye et al., 2017; Findley, 2018). The purpose of ODA also matters, with purpose-specific categories showing far larger effect sizes than aggregate aid, though the results for the most conflict-targeted categories are inconclusive. Together, these findings suggest that the question is not simply how much ODA a country receives, but whether the political and institutional conditions exist for that aid to be absorbed safely (Feeny & de Silva, 2012), and whether the manner of its delivery reduces or amplifies the risks of predation and sabotage (Zürcher, 2017). For countries already below the minimum stability threshold, ODA is unlikely to reduce conflict and may worsen it; for those above it, ODA's effects on conflict are limited but less harmful, and can be improved through how it is structured and delivered. Future work should move toward subnational and project-level analysis and be complemented by qualitative methods to understand local power dynamics, cultural norms, and community-level perceptions that cannot be measured numerically.

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A

ODA Variables

Table A.1: Overview of ODA Measurements

Measurement	Calculation	Definition/ Explenation	Units
Total ODA per capita	USD_Disbursement_Defl / Population	Amount disbursed during the reporting year. A disbursement is the placement of resources at the disposal of a recipient country or agency, or in the case of internal development-related expenditures, the outlay of funds by the official sector. A deflated amount is a measure given at a constant price, adjusted for the effects of inflation and exchange rates.	Millions USD/capita
Untied ODA per capita	USD_AmountUntied_Defl / Population	On a commitment basis, for new commitments only. Deflated amounts. Untied aid is defined as loans and grants whose proceeds are fully and freely available to finance procurement from all OECD countries and substantially all developing countries. A deflated amount is a measure given at a constant price, adjusted for the effects of inflation and exchange rates.	Millions USD/capita
Partially tied ODA	USD_AmountPartial-Tied_Defl / Population	On a commitment basis, for new commitments only. Deflated amounts. Partially untied aid is defined as loans and grants which are tied, contractually or in effect, to procurement of goods and services from a restricted number of countries which must include substantially all developing countries and can include the donor country. A deflated amount is a measure given at a constant price, adjusted for the effects of inflation and exchange rates.	Millions USD/capita
Tied ODA	USD_Amounttied_Defl / Population	On a commitment basis, for new commitments only. Deflated amounts. Transactions are considered tied unless the donor has, at the time of the aid offer, clearly specified a range of countries eligible for procurement which meets the tests for “untied” or “partially untied” aid. All loans and grants that do not fall under the definition of untied or partially untied aid are classified as tied aid, whether they are tied formally or through informal arrangements. A deflated amount is a measure given at a constant price, adjusted for the effects of inflation and exchange rates.	Millions USD/capita
Bilateral ODA	USD_Disbursement_Defl / Population if BI_Multi represents bilateral aid	Bilateral + Bilateral, core contributions to NGOs and other private bodies / PPPs + Bilateral, ex-post reporting on NGOs’ activities funded through core contributions + Bilateral, triangular co-operation.	Millions USD/capita
Multilateral ODA	USD_Disbursement_Defl / Population if BI_Multi represents multilateral aid	Multilateral (inflows) + Multilateral outflow	Millions USD/capita
ODA for construction	USD_Disbursement_Defl / Population if PurposeCode starts with 323	Construction	Millions USD/capita
ODA for government and civil society	USD_Disbursement_Def / Population if PurposeCode starts with 150 or 151	Government & Civil Society + Government & Civil Society-general	Millions USD/capita
ODA for conflict, peace and security	USD_Disbursement_Defl / Population if PurposeCode starts with 152	Conflict, Peace & Security	Millions USD/capita

B

Panel GMM Diagnostic Tests

Test	Statistic	p_value	Criterion
Sargan	40.473	0.174	Valid overidentifying restrictions (p > 0.05)
AR(1)	-4.549	0.000	First-order autocorrelation present (p < 0.05)
AR(2)	-0.058	0.954	No second-order autocorrelation (p > 0.05)
Wald	1140.257	0.000	Joint significance of coefficients (p < 0.05)

C

All variables

Type of Variable	Indicator Name	Framework	Data source	Included (Panel GMM)	Included (Causal Forest)
Independent Variable	Total ODA per captia	Background research	OECD	No (More than 0.85 correlaation with bilateral_aid)	Yes
Independent Variable	Untied ODA per capita	Background research	OECD	Yes	Yes
Independent Variable	Partially tied ODA per capita	Background research	OECD	Yes	Yes
Independent Variable	Tied ODA per capita	Background research	OECD	Yes	Yes
Independent Variable	Bilateral ODA	Background research	OECD + own calculation	Yes	Yes
Independent Variable	Multilateral ODA	Background research	OECD + own calculation	Yes	Yes
Independent Variable	ODA for construction	Background research	OECD + own calculation	Yes	Yes
Independent Variable	ODA for government and civil society	Background research	OECD + own calculation	Yes	Yes
Independent Variable	ODA for conflict, peace and security	Background research	OECD + own calculation	Yes	Yes
Circumstance	GDP per capita	BAckground research	World Bank	Yes	Yes
Circumstance	Longevity of the aid	Background research	OECD + own calculation	Yes	Yes
Circumstance	Amount of aid donated per project	Background research	OECD + own calculation	Yes	Yes

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Type of Variable	Indicator Name	Framework	Data source	Included (Panel GMM)	Included (Causal Forest)
Circumstance	Aid shocks	Background research	OECD + own calculation	Yes	Yes
Circumstance	Number of aid projects per capita	Background research	OECD + own calculation	Yes	Yes
Circumstance	Extreme low temperature	Background research	CPRI	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Extreme high temperature	Background research	CPRI	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Extreme rainfall	Background research	CPRI	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Extreme drought	Background research	CPRI	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Climate risk	Background research	CPRI	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Foreign direct investment, net inflows (% of GDP)	Background research	World Bank	Yes	Yes
Circumstance	Income group	Background research	OECD	No (Data is categorical)	Yes
Circumstance	Physicians (per 1,000 people)	CIAC	World Bank	No	No (Data not available)
Circumstance	Nurses and midwives (per 1,000 people)	CIAC	World Bank	No (More than 25% NaNs)	Yes
Circumstance	Primary education, teachers	CIAC	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Adult literacy rate	CIAC	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	% Paved roads	CIAC	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Voice and Accountability	CIAC	World Bank	No (More than 25% NaNs)	Yes
Circumstance	Political Stability and Absence of Violence/Terrorism	CIAC	World Bank	No (More than 25% NaNs)	Yes
Circumstance	Government Effectiveness	CIAC	World Bank	No (More than 25% NaNs)	Yes
Circumstance	Regulatory Quality	CIAC	World Bank	No (More than 25% NaNs)	Yes

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Type of Variable	Indicator Name	Framework	Data source	Included (Panel GMM)	Included (Causal Forest)
Circumstance	Control of Corruption	CIAC	World Bank	No (More than 25% NaNs)	Yes
Circumstance	Business regulatory environment rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Gender equality rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Policy and institutions for environmental sustainability rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Property rights and rule-based governance rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Debt policy rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Efficiency of revenue mobilization rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Equity of public resource use rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Financial sector rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Fiscal policy rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Macroeconomic management rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Quality of budgetary and financial management rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Building human resources rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Economic management cluster average	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Policies for social inclusion/equity cluster average	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Public sector management and institutions cluster average	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)

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Type of Variable	Indicator Name	Framework	Data source	Included (Panel GMM)	Included (Causal Forest)
Circumstance	Quality of public administration rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Social protection rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Structural policies cluster average	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Trade rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Transparency, accountability, and corruption in the public sector rating	CPIA	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Tax revenue	States of fragility	ICTD	Yes	No (Has NaNs)
Circumstance	Current account balance	States of fragility	World Bank	No (More than 25% NaNs)	Yes
Circumstance	Total natural resources rents	States of fragility	World Bank	Yes	Yes
Circumstance	Unemployment name	States of fragility	World Bank	Yes	No (Has NaNs)
Circumstance	GDP per capita growth rate	States of fragility	World Bank	Yes	Yes
Circumstance	Adaptive capacity	States of fragility	ND GAIN	Yes	No (Has NaNs)
Circumstance	Renewable electricity output	States of fragility	World Bank	No (More than 25% NaNs)	Yes
Circumstance	Age dependency ratio	States of fragility	World Bank	Yes	Yes
Circumstance	Adolescent fertility rate	States of fragility	World Bank	Yes	Yes
Circumstance	Share of youth not in education	States of fragility	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Prevalence of stunting	States of fragility	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	People using at least basic drinking water services	States of fragility	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	School enrollment	States of fragility	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Infant DPT immunization	States of fragility	World Bank	Yes	Yes

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Type of Variable	Indicator Name	Framework	Data source	Included (Panel GMM)	Included (Causal Forest)
Circumstance	Primary completion rate	States of fragility	World Bank	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Arrests from online content	States of fragility	V-DEM	No (More than 25% NaNs)	Yes
Circumstance	Freedom from political killings and torture	States of fragility	V-DEM	Yes	Yes
Circumstance	Judicial constraints on the executive	States of fragility	V-DEM	Yes	Yes
Circumstance	Legislative constraints on the executive	States of fragility	V-DEM	Yes	Yes
Circumstance	Prevalence of clientelism	States of fragility	V-DEM	Yes	Yes
Circumstance	Size of regime support group	States of fragility	V-DEM	Yes	Yes
Circumstance	Women's political empowerment	States of fragility	V-DEM	Yes	Yes
Circumstance	Military spending	States of fragility	SIPRI	No (More than 25% NaNs)	No (Has NaNs)
Circumstance	Government cybersecurity capacity	States of fragility	V-DEM	No (More than 25% NaNs)	Yes
Circumstance	Access to justice	States of fragility	V-DEM	Yes	Yes
Circumstance	Participatory environment for CSOs	States of fragility	V-DEM	Yes	Yes
Circumstance	Women's civil liberties	States of fragility	V-DEM	No (Too similar to v2x_gender (Similartiy = 0.854))	Yes
Circumstance	Exclusion by social group	States of fragility	V-DEM	Yes	Yes
Circumstance	Urbanisation rate	States of fragility	World Bank	No	No (Data not available)
Circumstance	Regulatory quality	States of fragility and CIAC and CPIA	World Bank	No (More than 25% NaNs)	Yes
Dependent Variable	Intrastate conflict deaths per captia	Background research	UCDP	Yes	Yes
Lagged Death	Deaths the previous year	Panel GMM	UCDP	Yes	No (This is just a panel GMM thing)
Lagged Death	Deaths two years prior	Panel GMM	UCDP	Yes	No (This is just a panel GMM thing)

D

Conditional Average Treatment Effects

This appendix presents the full set of conditional average treatment effect (CATE) scatterplots produced by the Causal Forest analysis. Each figure plots the estimated treatment effect of a specific form of ODA on intrastate conflict deaths (vertical axis) against the confounder identified as most important for that form of ODA (horizontal axis). Each point represents one country-year observation, and vertical bars show the 95% confidence interval around each estimate. Points above the zero line indicate that ODA is associated with more conflict deaths in that context; points below indicate fewer. The figures are organised by ODA type and include some of the plots shown in Chapter 4.

Total ODA

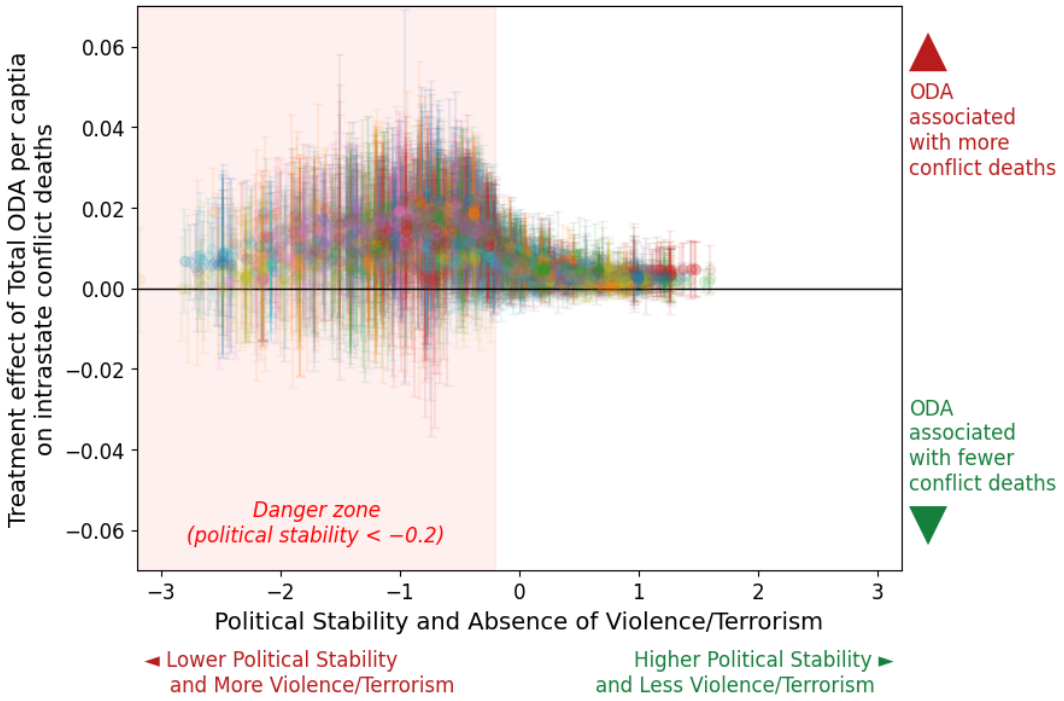

Figure D.1: Conditional treatment effect of total ODA on intrastate conflict casualties, plotted against political stability and the absence of violence/terrorism.

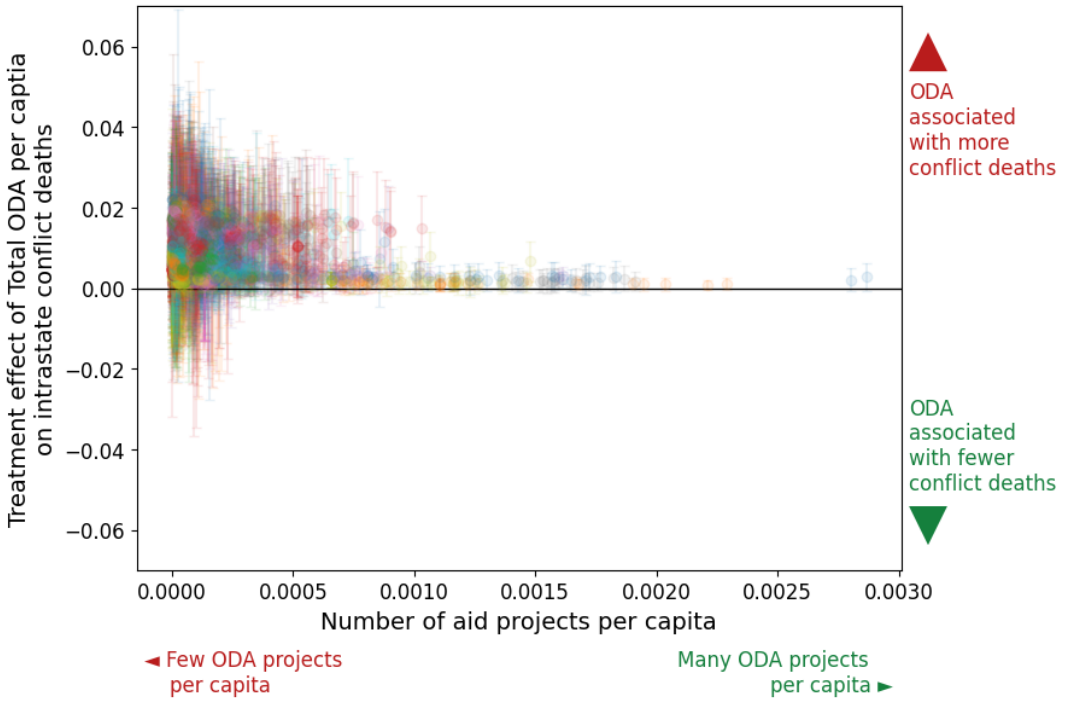

Figure D.2: Conditional treatment effect of total ODA on intrastate conflict casualties, plotted against the number of aid projects per capita.

Bilateral ODA

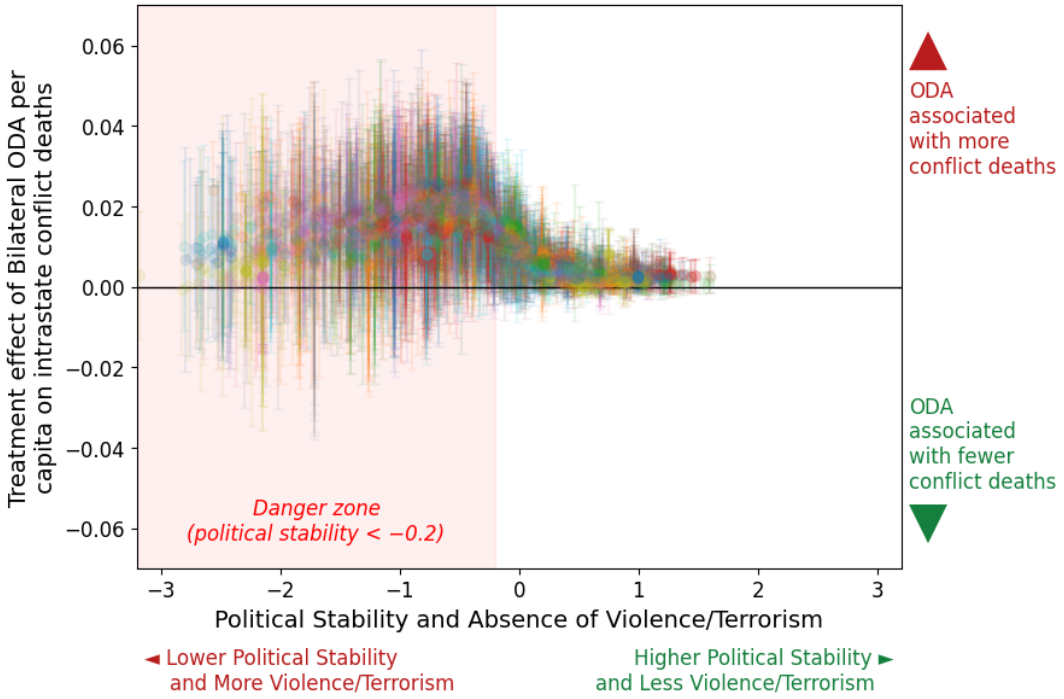

Figure D.3: Conditional treatment effect of bilateral ODA on intrastate conflict casualties, plotted against political stability and the absence of violence/terrorism.

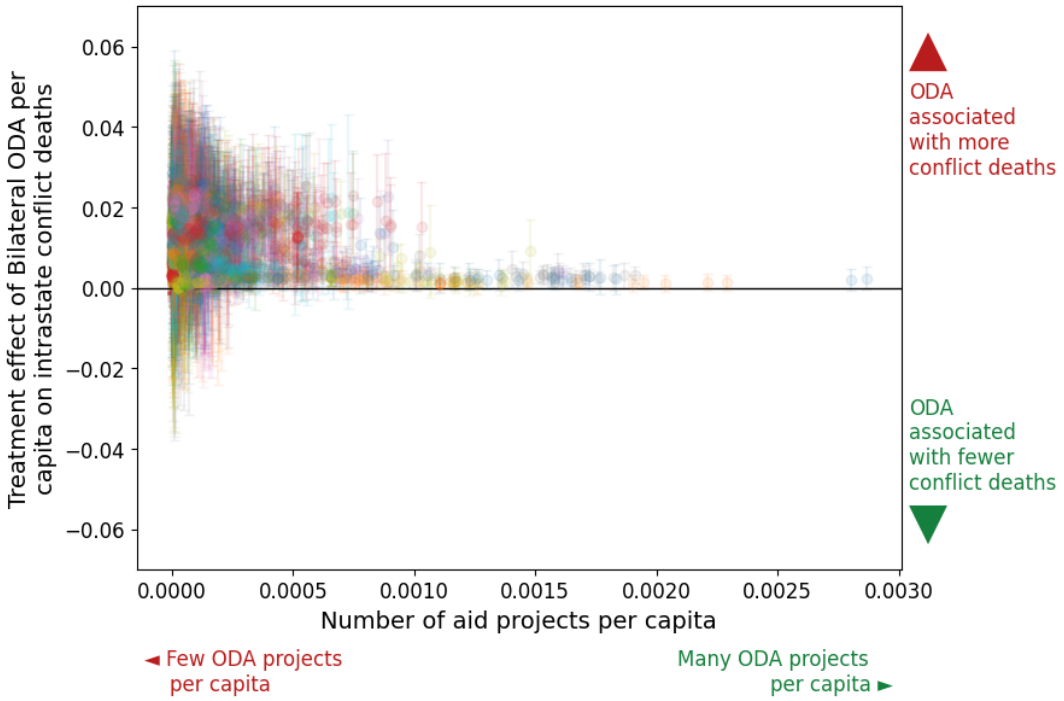

Figure D.4: Conditional treatment effect of bilateral ODA on intrastate conflict casualties, plotted against the number of aid projects per capita.

Multilateral ODA

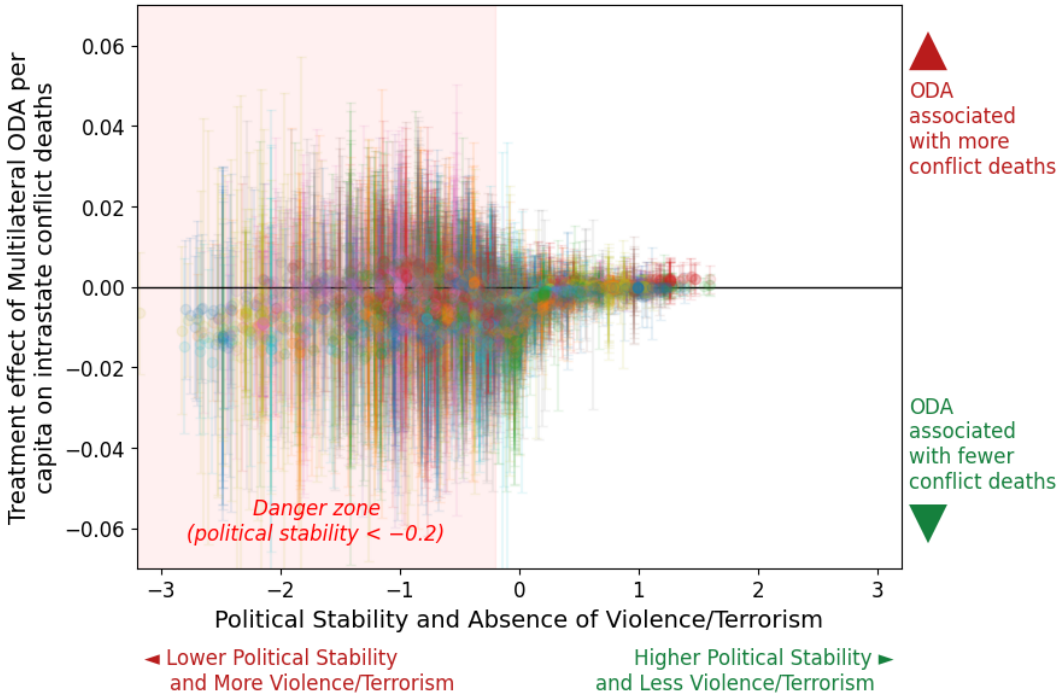

Figure D.5: Conditional treatment effect of multilateral ODA on intrastate conflict casualties, plotted against political stability and the absence of violence/terrorism.

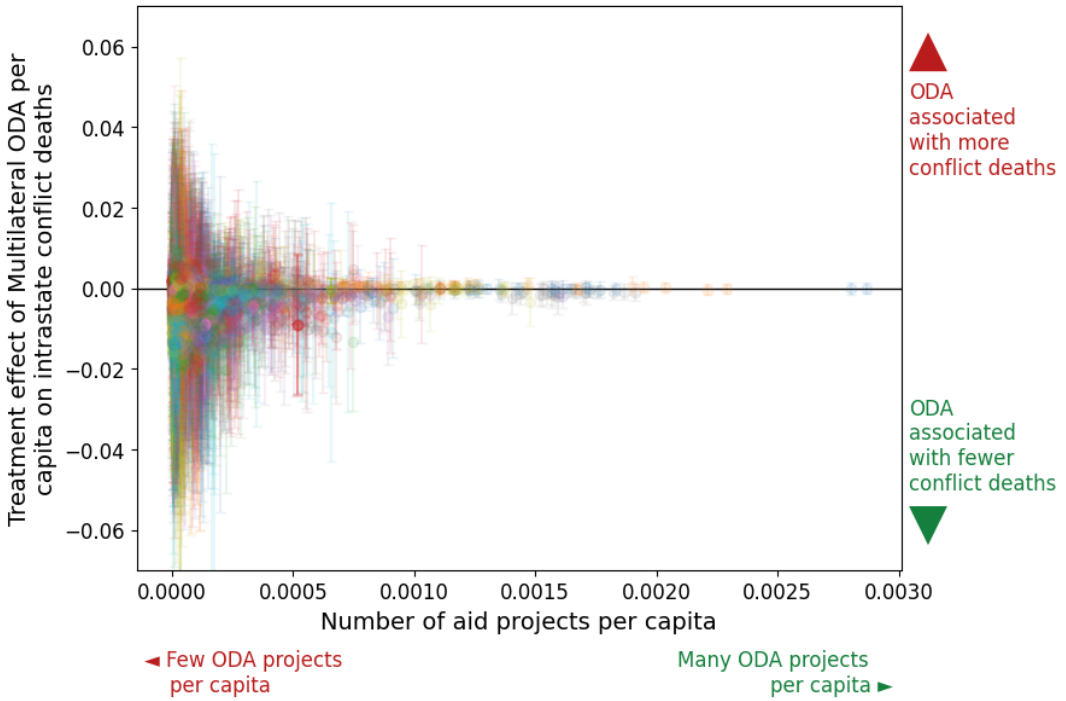

Figure D.6: Conditional treatment effect of multilateral ODA on intrastate conflict casualties, plotted against the number of aid projects per capita.

ODA for Government and Civil Society

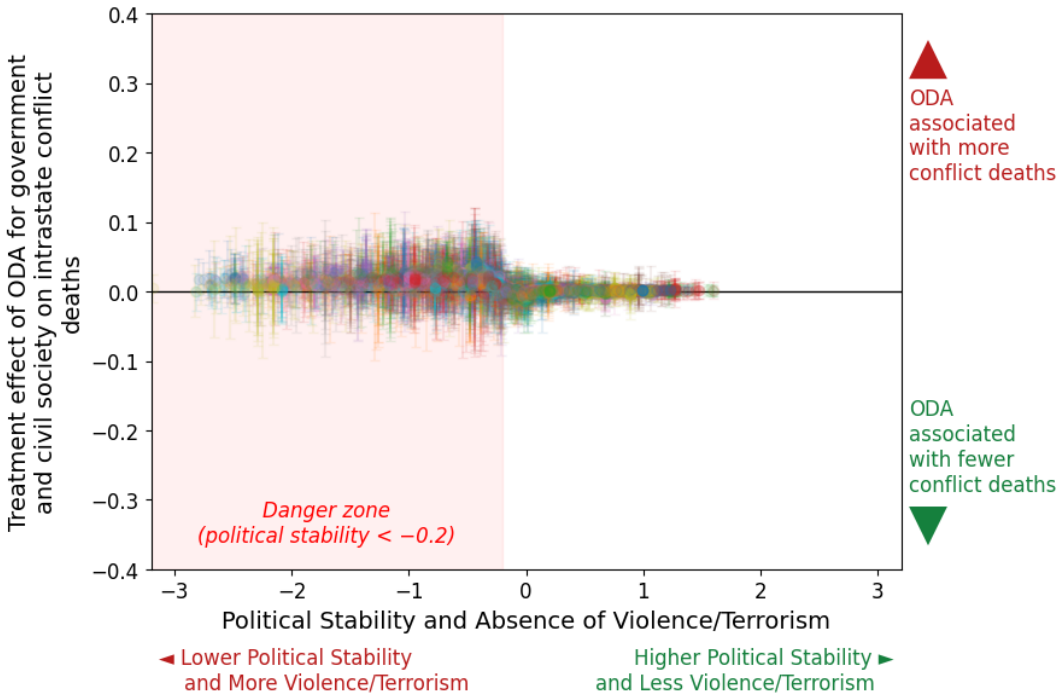

Figure D.7: Conditional treatment effect of ODA for government and civil society on intrastate conflict casualties, plotted against political stability and the absence of violence/terrorism.

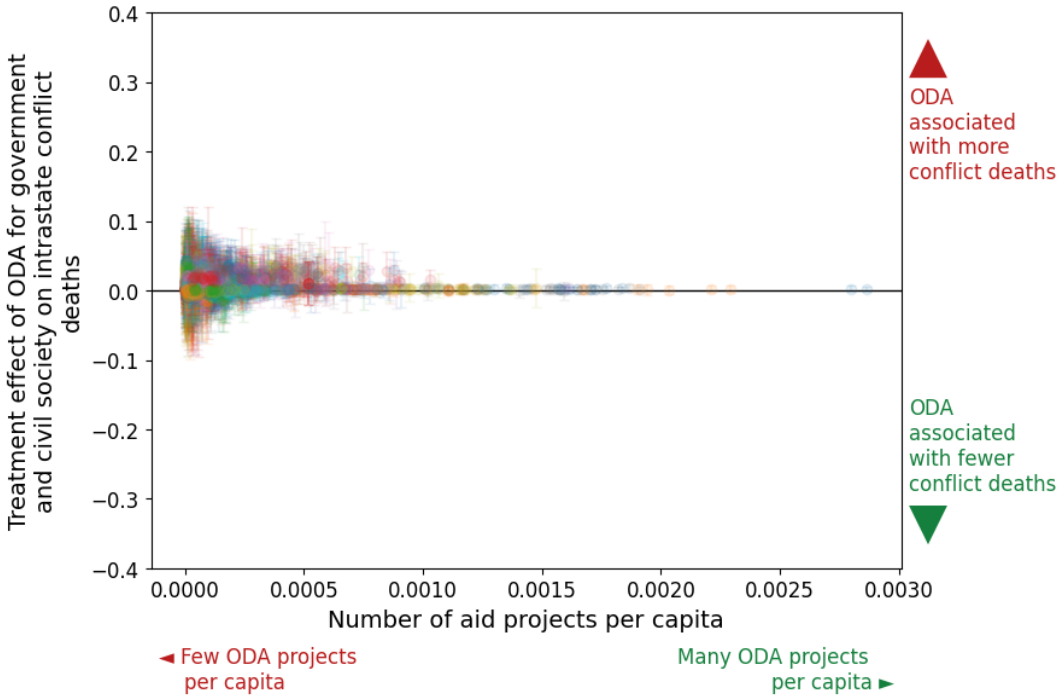

Figure D.8: Conditional treatment effect of ODA for government and civil society on intrastate conflict casualties, plotted against the number of aid projects per capita.

ODA for Conflict, Peace and Security

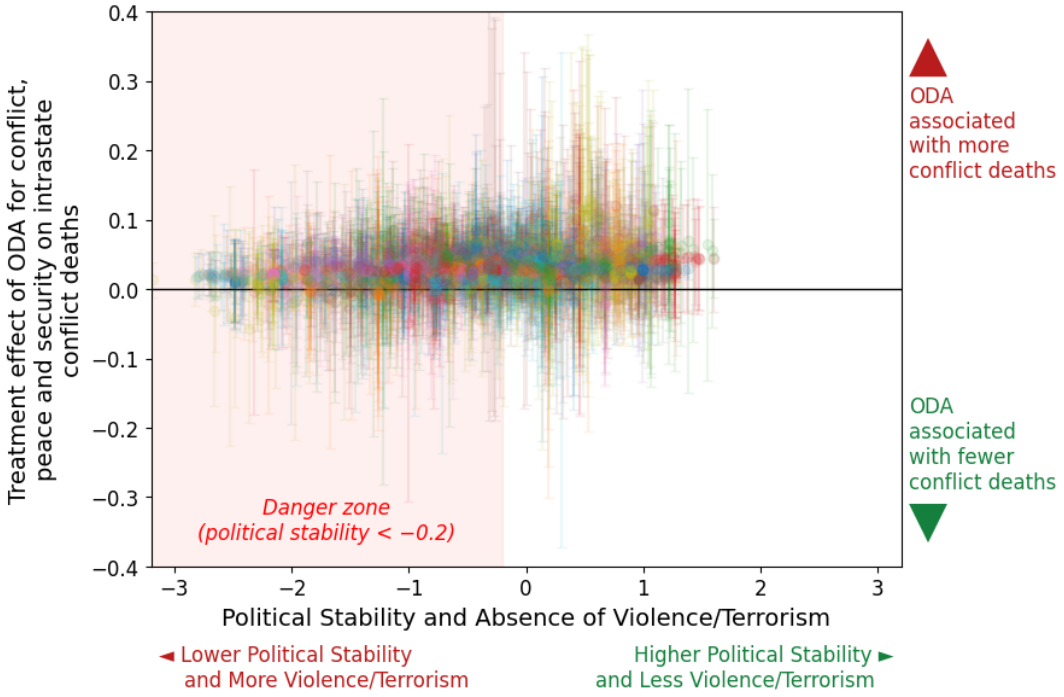

Figure D.9: Conditional treatment effect of ODA for conflict, peace and security on intrastate conflict casualties, plotted against political stability and the absence of violence/terrorism.

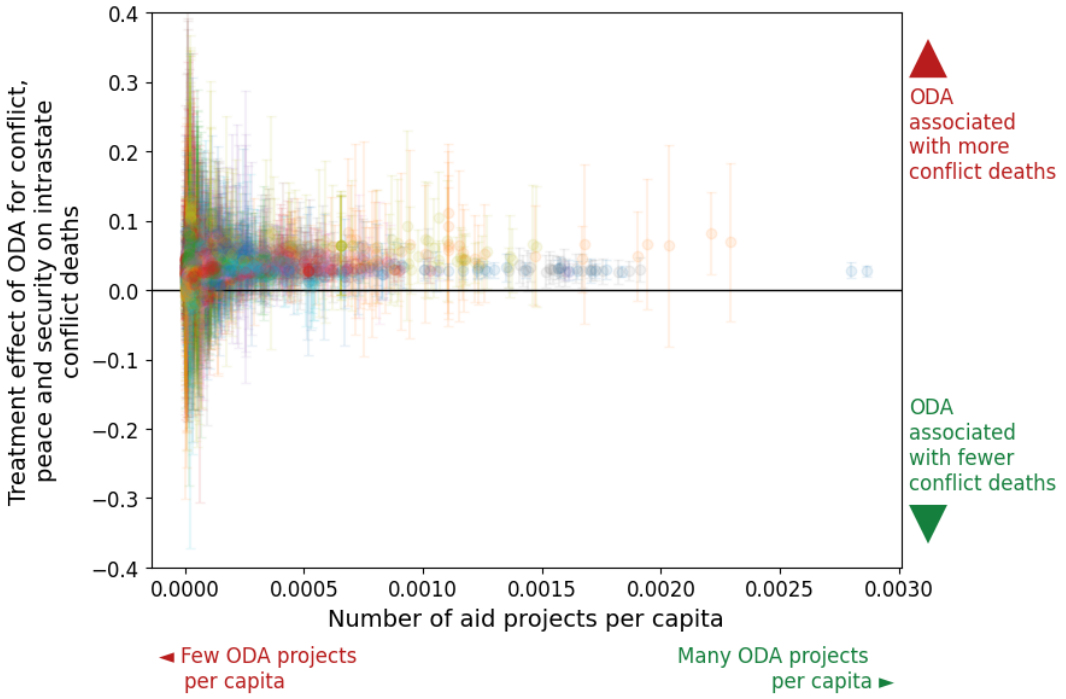

Figure D.10: Conditional treatment effect of ODA for conflict, peace and security on intrastate conflict casualties, plotted against the number of aid projects per capita.

ODA for Construction

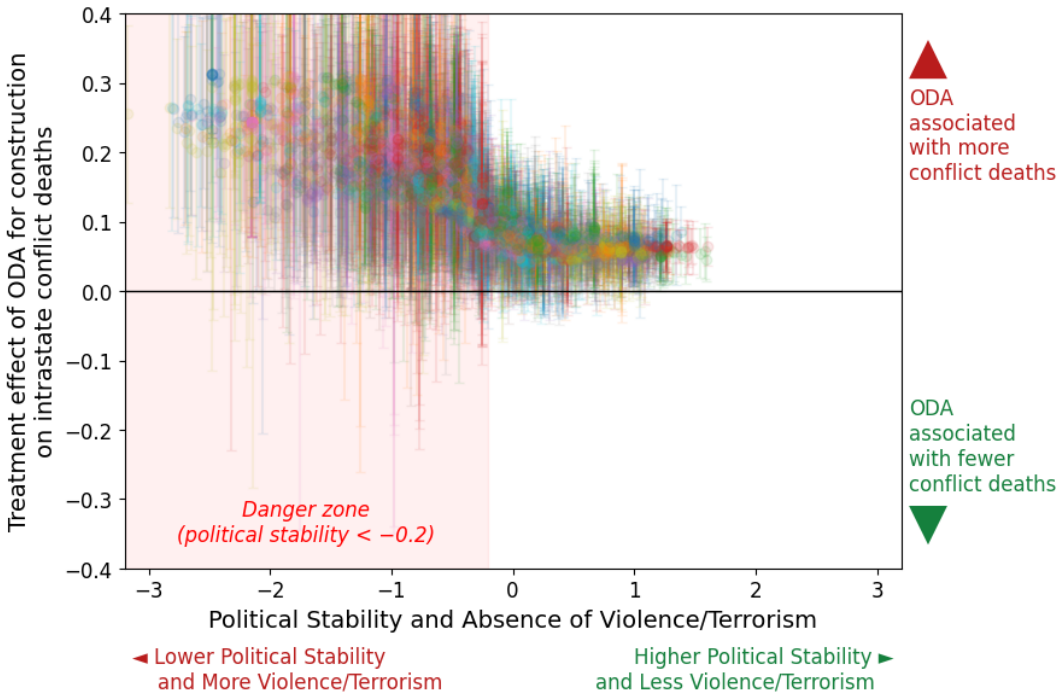

Figure D.11: Conditional treatment effect of ODA for construction on intrastate conflict casualties, plotted against political stability and the absence of violence/terrorism.

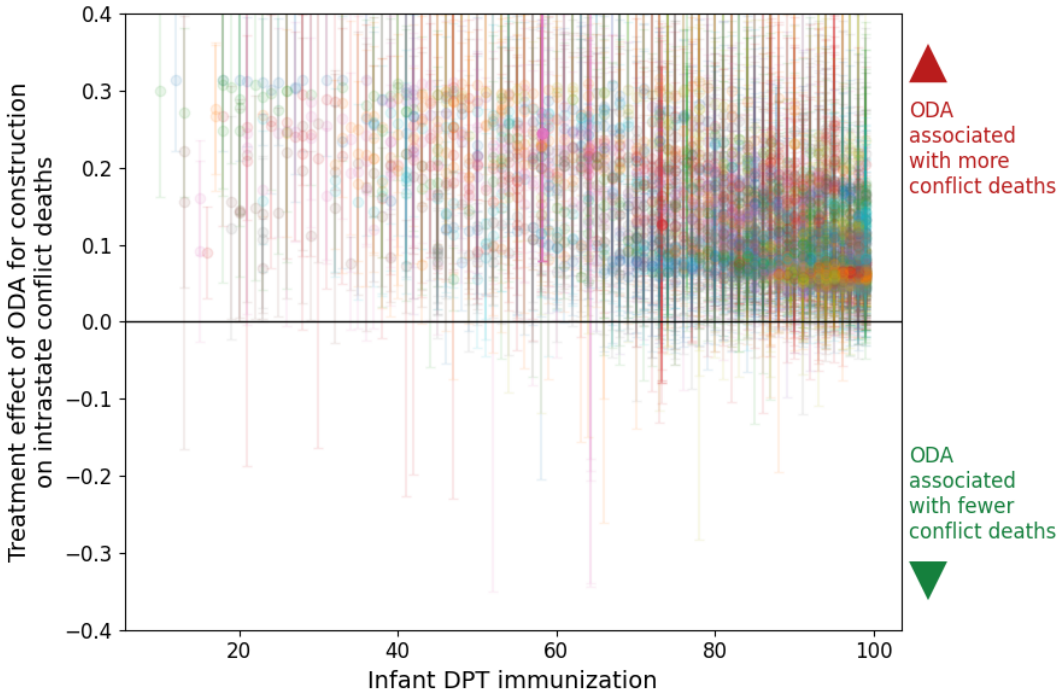

Figure D.12: Conditional treatment effect of ODA for construction on intrastate conflict casualties, plotted against infant DPT immunisation rates.