Foreign Aid Between Disaster and Rebellion: Subnational Evidence from the Philippines

Thomas Dainty

Abstract: How do states balance between spending foreign aid to manage disasters or to manage internal conflict? This paper argues that the saliency of both conflict and natural disasters influences where foreign aid projects are prioritized. Specifically, states prioritize disaster-impacted localities where government control of said localities is high to better ensure that aid is not co-opted or destroyed by insurgents, as well as to reward supporters and punish dissidents to maintain or improve stability. Further, the state may consider providing aid to firmly held rebel territories that are impacted by a natural disaster as an opportunity to gain intelligence, win hearts and minds, or otherwise garner good favor or leverage over the rebels to aid in negotiations, at the risk of destruction or co-optation, making it secondary to state objectives to further stabilize the country. This paper evaluates this theory through a subnational analysis of the Philippines' municipalities from 2011 to 2014. World Bank project aid is more likely to be allocated and receive more funding in government-controlled territories that are impacted by a natural disaster than in rebel-controlled territories that are similarly affected. In addition, contested municipalities are the most likely and most funded places for World Bank aid. These findings contribute to important questions as to the role of recipient states in aid delivery and whether foreign aid is driven by strategic or political needs rather than the humanitarian needs of those impacted by disasters or conflict.

Introduction

How do states balance between utilizing foreign aid to manage disasters or to manage conflict? Foreign aid can be a crucial lifeline for many communities during times of war. Before the collapse of the Afghan government in August 2021, for example, Afghanistan was immensely reliant on foreign aid, financing over half of the government's $6 billion annual budget before its collapse (Runde et al., 2024) and making up 40% of the nation's GDP (Runde et al., 2024; Cordesman, 2022). In 2020, over $700 million in foreign aid was recorded by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) Financial Tracking Services, provided from a variety of donors, such as the U.S., U.K., and Japan, as well as international organizations such as the European Commission or World Bank (Afghanistan 2020 | Financial Tracking Service, n.d.).

Much of this aid was in response to challenges only exacerbated by the conflict. Over 25% of this aid went towards food security or nutrition-related projects, with other primary areas of funding being health or water and sanitation-focused (over 10% of aid) or protection-focused (over 7%) (Afghanistan 2020 | Financial Tracking Service, n.d.). Afghanistan also faces challenges from natural disasters. Afghanistan's conflict weakened its ability to manage natural disasters, causing a high humanitarian cost that places Afghanistan first in the world for the impact of disasters on its population (Mena & Hilhorst, 2021). Afghanistan is not the only state that faces such balances between disasters and conflict, however. Natural disasters coincide with conflict in a variety of cases globally – Syria, Nigeria, Somalia, Kashmir, the Philippines, among others, have all had natural disasters impact them during conflict (Ide, 2023c). Given the immense toll both natural disasters and conflict take on the state and its people, how do governments determine where to prioritize the use of foreign aid?

I argue that states seek to balance humanitarian needs and strategic incentives by providing foreign aid to disaster-affected regions in areas and times where the government is in control of the territory. I argue that aid has strategic implications while also serving as a tool for enhancing state stability, incentivizing the state to make considerations as to the level of control it has over a given locality before dispensing aid. Because of this, territorial control may moderate the relationship between natural disasters and foreign aid. I further argue that while aid to rebel territory provides strategic incentives for the government, the risk of co-optation or destruction makes it less desirable than government-controlled territory, but still a viable option compared to contested territories, where the benefits of attribution of success are low and the risk of destruction is high.

This paper explores the allocation of foreign aid at the local level. Specifically, I examine aid distribution from the World Bank at a municipality-level in the Philippines, from 2011 to 2014. I use geocoded data on foreign aid, conflict, and natural disasters at the municipality-month level to examine my theory. Through examining a singular case and focusing on the subnational dispersion of foreign aid, this paper provides greater insights into the dynamic between natural disasters, aid, and conflict by being able to better discern *where* foreign aid is going once it has been decided that a recipient state will receive it.

This paper makes three main contributions. First, it identifies and reconciles a puzzle revealed by previous research at the intersection of foreign aid, conflict, and natural disasters (Desportes, 2019; Desportes and Hilhorst, 2020; Mena and Hilhorst, 2021). Each literature provides internally consistent findings. Literature on foreign aid and conflict suggests that aid may incentivize conflict due to its utility as a resource and its potential fungibility (Findley et al., 2011; Narang, 2015; Wood & Molfino, 2016). The literature on disasters and foreign aid

indicates that natural disasters are often found to increase the amount of foreign aid in the aftermath, which could provide resources or other benefits to the state and rebels (Mogge et al., 2023; Becerra et al., 2014; Francken et al., 2012; Strömberg, 2007). However, the literature on the dynamics of natural disasters and civil conflict often argues that disasters can deprive impacted rebels and governments of resources, increasing the duration of conflict (Eastin, 2016; Keels, 2019; Ide, 2023b; Ide, 2023a). If natural disasters lead to increased aid to recipient states, but if impacted parties often still feel the impacts of resource deprivation, is aid not being provided in conflict zones that face disasters, and rather prioritized to non-conflict environments within the state? Or is aid being provided in conflict zones, with the effects of the disaster persisting even with aid provision?

I reconcile this puzzle by developing a theory centered around state decision-making that necessitates balancing between humanitarian needs and strategic objectives related to the conflict. I argue that states may prioritize aid to their own controlled territory, with humanitarian needs from natural disasters serving as a secondary priority for where aid should go within government-controlled territory. Because of this, while disasters can stall conflict when both rebels and the state are impacted, the state has greater capabilities to use outside resources to help recuperate and enrich its base of support while depriving the enemy of such resources. I argue that aid to rebel-controlled territories offers some strategic advantages, but at the risk of co-optation or destruction, harming the state's counterinsurgency, making aid to such localities a lower priority in the eyes of a strategic-minded state.

Second, by focusing on local aid projects, I help untangle previously conflicting findings related to disasters and conflict that may be due to methodological differences in how conflict is measured and whether analysis is at a country-level or local-level (Salehyan & Hendrix, 2014).

Finally, this study helps disentangle causal chains connecting climate change and conflict by looking at how foreign aid, a relevant factor during conflict, is influenced by natural disasters and the conflict itself. Further, this paper builds on a call from Gleditsch (2012) to further investigate potential interaction effects by building on qualitative work such as Desportes (2019), Desportes and Hilhorst (2020). By using a subnational analysis of municipalities within the Philippines, this analysis provides greater accuracy as to where aid projects are going in relation to where disasters and conflict are impacting localities, providing more direct evidence as to the interdependencies between these three factors.

I find that local aid project placement and funding in disaster-affected municipalities are moderated by the level of territorial control the government. As territorial control shifts from the government to the rebels, I find that contested territories receive more aid than either fully government or rebel-controlled municipalities, but government-controlled municipalities (e.g., where 0% of the municipality is controlled by the rebels) are still more likely to receive aid and receive more funding than rebel-controlled municipalities (e.g., where 100% of the municipality is controlled by the rebels). While I do not find that government-controlled municipalities receive more aid when impacted by a natural disaster, this raises an interesting question for future research – if aid is not going to areas impacted by disasters when controlled by the government, what might be the explanation? These results, particularly for aid disbursements, are robust across a variety of checks. These findings further complicate the relationship between foreign aid, natural disasters, and conflict, highlighting further nuance in the literature. Further, these findings highlight that while international donors have some influence over aid placement, the interests of recipient states may still shape aid placement rather than solely the humanitarian need of those within the state, supporting previous research (Rosvold, 2020).

Literature Review

I argue that foreign aid, conflict, and natural disasters need to be considered simultaneously to understand state aid allocation to different localities. This leads me to consider findings from three key literatures – work on the relationships between foreign aid and conflict, disasters and foreign aid, and disasters and conflict. I summarize each of these literatures below.

Foreign Aid and Conflict

When looking at the broad effects of foreign aid in civil conflict, a rich body of research examines foreign aid's impact on conflict processes such as duration, onset, and intensity. Aid provision has often been found to increase violence (Findley et al., 2011; Sexton, 2016; Wood & Molfino, 2016). For instance, the presence of aid encourages rebel looting (Wood & Sullivan, 2015; Addison et al., 2002) while simultaneously being viewed as a challenge to rebel authority over local populations (Wood & Sullivan, 2015). Further, rebels contest government territory or otherwise co-opt international aid to receive material benefits and maintain the loyalty of civilians where possible (Wood & Molfino, 2016). For rebel-controlled territories, rebels may also target aid workers directly, leaving these territories effectively inaccessible to aid workers (Harvey, 2013) Aid can also lead to conflict being exacerbated (Nunn & Qian, 2014), whether it be through refugee relief supporting militants (Lischer, 2003) or increasing uncertainty about the relative strength of either side (Narang, 2015). While in these studies aid is often found to spur conflict or violence, this is not consistent across studies.

Lyall (2019), for example, suggests that humanitarian aid can decrease violence because it can reduce local grievances and casualties, thereby reducing rebels' recruitment abilities, or incentivize locals to cooperate with the counterinsurgency. de Ree and Nillesen (2009) additionally find that aid reduces the risk of conflict onset in sub-Saharan Africa. Given that

rebel authority is bolstered by aid provision in their territories (Carnegie et al., 2022a), whether rebels view aid as a threat or a boon is also potentially dependent upon their governance tactics and incentives. Furthermore, sharp decreases in aid can increase the probability of conflict onset (Nielsen et al., 2011). These findings together create uncertainty in this proposed detrimental relationship but emphasize the incentives that both the government and rebels face when considering (preventing the) exploitation of foreign aid to influence the larger conflict. Given these considerations, this study helps provide greater insights by investigating the placement of foreign aid during times of conflict and how natural disasters may impact that placement as well. Through doing so, this study investigates potential mediating factors that might bolster or hinder efforts on either side to take advantage of foreign aid to achieve strategic objectives. Further, this study investigates the impact of civil conflict and state influence on third party donors' potential ability to reach and maintain projects in localities that are in dire need of humanitarian support.

Natural Disasters and Foreign Aid

Governments also make strategic considerations regarding the acceptance and provision of disaster aid. Governmental influence can shape humanitarian aid responses, influencing what groups or regions get aid within the state's territory (Desportes, 2019), or even deny responses entirely as seen in the case of Myanmar's response to Cyclone Nargis in 2008 (Dany, 2020). Authoritarian governments accept aid based in part on survival and need: how aid might spur or otherwise alter international and domestic pressure against their regimes (Paik, 2011). Authoritarian states, therefore, may accept aid to use it as a heavily controlled tool to enhance state power or improve perceptions of the state, ensuring regime stability (Desportes and Hilhorst, 2020). This results in varying demands for foreign aid despite high humanitarian needs.

The supply of aid, however, is driven by both humanitarian needs and strategic factors. While aid increases post-disaster (Mogge et al., 2023; Becerra et al., 2014; Francken et al., 2012; Strömberg, 2007), the post-disaster humanitarian aid literature is divided on whether humanitarian need is a stronger influence on aid allocation than political or strategic interests (Mogge et al., 2023; Becerra et al., 2014) or if the latter may outweigh the former (Francken et al., 2012; Cheng and Minhas, 2021). Other factors can influence aid provision as well - media attention, for instance, can help provide larger inflows of aid (Becerra et al., 2012; Strömberg, 2007), contingent upon the type of disaster (Strömberg, 2007).

Because the literature highlights a potential tension between the strategic or political interests of the state and the humanitarian needs of the public, this study investigates how aid is dispersed and distributed within a given state to further illuminate the motivating factors that drive aid delivery. By looking at within-state variation in aid provisions, this study directly examines whether aid that country-level examinations would consider "post-disaster" is going towards localities stricken by natural disasters or is rather being dispensed elsewhere.

Given these findings, aid in conflict zones suffering from natural disasters should have differing dynamics. Media coverage will vary in whether reporting leans towards focusing on any disasters or conflict. Because of this, conflict intensity and disaster intensity could influence aid delivery. Strategic considerations may become more relevant in conflict environments as aid can be used to maintain the status quo, help end the conflict, or gain influence among the public. This study contributes to these discussions by focusing on how governments allocate supplied foreign aid within their territory given the donor-recipient dynamic as well as recipients' own strategic interest.

Natural Disasters and Conflict Dynamics

There is also a growing body of literature that explores the potential links between natural disasters and civil conflict dynamics. While this literature has grown, however, much of the current literature on how disasters may influence conflict present a debate about whether disasters are pacifiers of conflict onset (Slettebak, 2012; Caso et al., 2023; Ide, 2023a; Bergholt and Lujala, 2012) or instigators of conflict (Nelson, 2010; Ide, 2023a; Ide, 2023b; Bell and Keys, 2018; Nel and Righarts, 2008; Ide et al., 2021). Work investigating how disasters impact ongoing conflicts is more limited but demonstrates the importance of disasters in influencing both sides' incentives and capabilities to conduct conflict. For instance, natural disasters are found to increase the duration of conflict by decreasing state financial and military resources and damaging infrastructure, reducing state capacity for counterinsurgency, increasing the length of the war (Eastin, 2016). Much of the research on disasters and ongoing conflicts also suggests a potential pacifying effect of disasters on conflict. For example, disasters can also inhibit insurgent capabilities to mobilize resources, preventing them from seizing opportunities that disasters may provide them (Eastin, 2016). Alternatively, de-escalation can also occur if both parties are significantly impacted by disasters (Ide, 2023). Similarly, Nemeth and Lai (2022) find that disasters improve the likelihood of conflict negotiations when both sides are negatively impacted by natural disasters, increasing the costs of short-term conflict.

However, other works indicate that disasters may spur violence in ongoing conflicts. For example, extreme variation in abundance or scarcity of rainfall can spur rebel or communal conflicts in various contexts (Eastin, 2018; Raleigh & Kniveton, 2012; Salehyan & Hendrix, 2014). Further, the negative impacts of disasters on states may require a shift in resources from counterinsurgency elsewhere, creating vulnerabilities that terrorists can exploit to conduct more

attacks (Berebbi & Ostwald, 2011). Rebel strength may condition the influence of disasters on conflict, as strong rebels can take advantage of governments weakened by disasters, while weak rebel groups may focus on their own disaster response or are incapable of escalating their activities (Ide, 2023b).[1] Taken together with work suggesting a pacifying effect, the impact of natural disasters on conflict is shown to be dependent on how the natural disaster influences the balance of power in the conflict. This paper's exploration of the spatial distribution of disasters across conflict and zones of conflict and control by different sides during a civil war helps provide a direct investigation of how disasters located in certain regions within a country create varying effects in part because of what factions are predominant in said regions.

The focus has been on the direct impact of disasters on government and rebel strength. However, I argue that the provision of aid after disasters might also influence combatant strength. As states face civil conflicts, they face a myriad of choices and priorities for how they should approach conflict whilst governing and attempting to provide some level of public goods to the citizenry at large as well as those who support the current leadership. While large-scale disasters can provide an opportunity to de-escalate conflict in some contexts (Nemeth & Lai, 2022; Ide, 2023b), the uptick in foreign aid in the aftermath of disasters (Mogge et al., 2023; Becerra et al., 2014; Francken et al., 2012; Strömberg, 2007) provides the state with an opportunity to further shift relative power in its favor – through winning the "hearts and minds" of the public (Sexton, 2016), rewarding supporters (Desportes & Hilhorst, 2020), or challenging rebel control (Wood & Sullivan, 2015). Even if the state may seek to take steps towards

[1] Similar findings are also found in considering water scarcity in civil conflicts specifically (Keels, 2019).

cooperation or de-escalation, it can still simultaneously aim to strengthen its own position in the conflict through foreign aid.

Theory

I argue that conflict and disasters impact the delivery of foreign aid in two main ways: first, by incentivizing the state to consider aid strategically, pushing aid towards non-rebel controlled localities to prevent co-option or destruction of aid by rebel forces; and second, by exacerbating instability that could pose a risk to the government, incentivizing the state to deliver aid as reward and punishment to maintain power. Given these considerations, I argue that governments will simultaneously take both disasters and territorial control into consideration when determining foreign aid project locations. Further, given these mechanisms, I expect governments to prioritize aid based on whether the localities are within the government's control or not first, and where relief is needed second, to maximize assets and improve stability. I elaborate on each of these mechanisms and my subsequent expectations below.

Aid as a Strategic Item

Disasters during a civil conflict create a plethora of strategic and humanitarian challenges for states. Attempting to minimize suffering resulting from the disaster creates an inherent tradeoff with efforts spent on counterinsurgency (Eastin, 2016; Berrebi & Ostwald, 2011). Likewise, rebels also face a dilemma – prioritizing their own disaster response or, if they are capable enough, seizing an opportunity of state weakness (Ide, 2023b). Foreign aid, however, poses a potential strategic opportunity for both the state and the rebels, an opportunity that the state is disproportionately in control of shaping and wielding to its advantage. This control permits the state to act intentionally regarding allocation in conflict zones, especially when those zones have also been impacted by a natural disaster.

While rebels may exhibit influence in their territory, the state holds unequal sway over whether aid is dispensed in those territories to begin with. For example, in Pakistan's displacement crisis in 2009, the government heavily constrained the humanitarian aid response such that the government effectively controlled the response completely (Harvey, 2013). For instance, the government limited access for UN humanitarian workers to affected populations to the degree that it "...completely shaped and constrained the humanitarian response in much of the affected area" (Cosgrave et al., 2010, 3) to the point that "...UN agencies did not work in an impartial, independent or neutral manner, but instead strongly supported one party to the conflict, the Government" (Cosgrave et al., 2010, 3-4). Many international actors seek to provide aid to mitigate the humanitarian costs of war on an innocent public but face heavy government involvement that can prevent such objectives from being (fully) realized.

While the interests of donors are relevant, the state holds heavy influence over where aid can be placed and has various means to pressure local project managers and aid providers into doing what the state wants. For example, an international non-governmental organization (INGO) representative working in Myanmar had their ID card with their photograph printed in a state newspaper article that stated their organization supported the "illegal and dangerous Rohingya" in Myanmar for carrying out humanitarian aid in ways not condoned by the government (Desportes and Hilhorst, 2020). These types of pressures can lead to other INGOs or international organizations placing pressure on civil society organizations not to criticize the state too heavily if they fear punishment (Desportes and Hilhorst, 2020). Because of this, the state has both direct and indirect influence over disaster response through bureaucratic mechanisms such as the threat of expulsion, or even verbal and physical intimidation tactics for carrying out humanitarian mandates in non-condoned ways, forcing responders to balance good

relations with the state and fulfilling humanitarian needs (Desportes, 2019; Cosgrave et al., 2010). This influence over aid delivery gives the state the ability to spend aid money or distribute aid projects strategically rather than entirely based on humanitarian needs. Because of the power the state wields and the fungibility of aid resources, states will shift aid to regions they believe best help their cause politically and militarily.

Aid as a Tool for Stability

Disasters present an exogenous shock that might trigger popular contestation and the potential risk of regime change (Passeri, 2022). I argue that this type of security risk is only further exacerbated in times of civil conflict. Natural disasters create further instability, especially in times of weakness – weak institutions, regime control, or poor economic conditions are all factors that increase the vulnerability of states to the negative impact of natural disasters (Omelicheva, 2011). States not facing the political and socioeconomic stresses of conflict should be better equipped to manage such conditions, but the damage from natural disasters can be severe. Natural disasters create considerable economic damage at a subnational level, depriving locals of income alongside the grief that a severe natural disaster could bring. Even if the state at large is unimpacted by a natural disaster, locally impacted regions may feel strong losses economically, making aid a relevant tool to offset losses (Kousky, 2014). Because the impact of natural disasters can be exacerbated by conflict, sparking further instability, governments prioritize aid to their own controlled territory.

Allowing the risk of co-optation or destruction means permitting the risk of further destabilization of the state. Aid taken by the rebels means that much of the benefits of foreign aid (potential boosts in locals' opinion, support for that side's cause, the ability to use aid to supplement funding or resource costs in other areas) that should theoretically have gone to the

state are actively used against them. Destroyed aid cannot be utilized by the rebels, but it does not send the signal of competence and responsibility that states seeking further aid or support in the conflict are looking to send. Further, the destruction of aid helps foment long-term grievances that could further lead to instability, harming counterinsurgency efforts. Aid in government-controlled territory also permits the state greater control over how it is wielded for and against those in the region.

Political interests can be powerful motivators for governments determining where to allocate post-disaster aid (Desportes and Hilhorst, 2020). Disasters in and of themselves can be used to achieve political ends, whether it be "...to end the protests in Ethiopia, to marginalize ethnic and religious minorities in Myanmar, and to assert the dominant party's power in Zimbabwe" (Desportes and Hilhorst, 2020: 347-348). For instance, the resettlement of those impacted by the 2014 Tokwe-Mukosi flood disaster in Zimbabwe saw resettlement result in improper care for victims of the flooding, with little in the way of permanent housing, compensation, or care (Hove, 2016). Victims of the flood were resettled either through economic coercion from the government, physical violence by the government to force victims to relocate, or self-settlement by the victims to areas that preserved their autonomy from government (Hove, 2016; Mucherera & Spiegel, 2021). Aid distribution is another such tool that can be utilized to help accomplish state interests without expending military power like more violent coercion tactics such as forced relocation (Desportes and Hilhorst, 2020). In the case of Zimbabwe, one form of economic coercion was threatening the end of relief aid to the afflicted if they did not relocate (Hove, 2016; Mucherera & Spiegel, 2021). Aid can thus provide both strategic incentives to control its placement while serving as a desirable stabilizing tool when in the government's control.

Even if the government is not directly in control of aid, such as when donors provide aid to those not directly under the recipient state's control (often referred to as "bypass aid") through groups such as NGOs (local or international), private actors, or multilateral organizations, recipient states can still receive political benefits from that aid. For instance, bypass aid can still change locals' preferences to make them less likely to challenge authoritarian governments while simultaneously creating conditions where governments can concede less to locals because of the aid they are receiving to address their grievances (DiLorenzo, 2018). The recipient government can also instill pressure and punishments on these alternative aid dispensers to shape where aid is delivered (Desportes, 2019). While governments may restrict access to areas for security considerations relevant to the safety of aid workers, security can also provide a plausible scapegoat to restrict the location of humanitarian responses as it did in Pakistan (Cosgrave et al., 2010, 28). While many areas are impacted by conflict disproportionately, the state has a direct incentive to shape aid placement to regions and localities that are within its control. Through doing so, the state can attempt to bolster state capacity through aid development and resources or potentially shift resources away from public good provisions towards the conflict now that they have supplementary support.

Considerations of Control

In countries facing a tradeoff between allocating aid towards conflict-impacted or disaster-impacted territories, I argue that the government has apparent reasons to consider both its strategic weight as well as its potential to help bring stability to the region or state. I argue that these considerations lead the government to prioritize its objectives related to defeating the rebels over other political and humanitarian concerns. More specifically, I anticipate that control of the territory moderates the influence of a natural disaster's impact on how much foreign aid

that territory may receive. Providing aid to government-controlled localities helps minimize the risk that aid is not destroyed or co-opted by rebel forces for their own usage or dispersion or to otherwise prevent the government from receiving the benefits. I expand upon these considerations by examining the two other options the state has for where aid should be allocated – areas that are in the rebels' control and areas that are contested territory.

There are a number of incentives for states to shift aid to non-rebel-controlled territories. First, areas that are under rebel control pose a threat to ensuring aid achieves the objectives the state aims for. Aid in rebel or contested territory could prove to mitigate domestic gains among the public (Carnegie et al., 2022a), counteract government narratives of competency (Desportes and Hilhorst, 2020), or otherwise enrich the insurgents (Wood & Sullivan, 2015; Addison et al., 2002). Providing aid in areas that are firmly within their control, however, ensures that the state can attribute the aid to their own actions and good management of resources while attempting to signal good governance and care for the public because of potentially higher levels of media attention.

Second, natural disasters that impact rebel-controlled territory provide an opportunity for the government to strike against them. For instance, natural disasters create funding losses for rebels reliant on natural resource production because of rapid-onset disasters destroying such sources of income (Tominaga & Lee, 2021) as well as potentially weakening rebel recruitment efforts through weakening organizational structure and supply lines (Walch, 2018). In the case of Nigeria, flooding had aided government forces in accessing Boko Haram territory (Ide, 2023b); for the Philippines, natural disasters have also been shown to aid in efforts to change territorial control (Zhou, 2025). These reasons provide incentives against sending aid, but aid in rebel

territory provides advantages to the government as well which may offset the risks described above.

While the state has incentives to send aid elsewhere, there are reasons to provide aid even in rebel territory. Facing a natural disaster often increases the amount of media attention the country and the impacted area receive from those abroad, depending on the type of disaster (Strömberg, 2007). This creates an opportunity for the state to attempt to signal that they are actively working for civilian interests and care about their humanitarian needs to maximize the benefits of media attention, whether it be to receive aid or otherwise improve their image domestically and abroad. If the rebels are weakened by the disaster, aid in rebel territory can be an opportunity for the state to take advantage of media coverage and portray itself as a benevolent actor through permitting foreign aid in rebel territory. Further, the media attention that foreign aid projects bring provides an opportunity for the government to reestablish its presence through relief aid provisions as well as track rebel recruitment patterns and strategy (Walch, 2018). Given these considerations, I argue that aid allocations to impacted rebel-controlled territory may be reduced as a means of balancing the benefits of positive media coverage and an opportunity to monitor rebel activity with the strategic incentives to restrict aid.

While some territory can be considered strongly held, uncontested government or rebel-controlled areas, others serve as the forefront of combat and are thus actively contested by both rebels and the government. These contested territories pose a dilemma for all parties involved. First, foreign aid providers and workers may seek to avoid (or are prevented by the state from going to) areas facing active contestation or conflict out of safety concerns for their staff and projects. As mentioned previously, governments may at times restrict access to areas because of security considerations, providing another barrier for those who want to provide aid (Cosgrave et

al., 2010). These areas see more active conflict than uncontested territory, and parties on both sides have active stakes in ensuring that they can either receive any tangible benefits of aid or otherwise prevent their enemy from receiving those benefits.

Second, while the government has a chance to extract benefits from foreign aid in rebel territory, rebels also can extract benefits such as enhancing their legitimacy (Carnegie et al., 2022a) from the process as well. Contested areas do not provide this clear benefit to rebels and may be regions where rebels are more likely to consider aid attempts as challenges to their authority in that region and otherwise as opportunities to extract resources that can help shift the power dynamic back in their favor (Wood & Sullivan, 2015; Addison et al., 2002). Undermining rebels in contested territory may thus serve as a strategy that sparks further conflict, disincentivizing the state from providing aid to these regions (Sexton, 2016). Because contested territory results in unclear or more risk-laden benefits for both sides, it becomes less desirable to be chosen as an aid target as a result.

Third, aid in areas facing active contestation or conflict may still be more likely to be destroyed, looted, or otherwise rendered or determined to be unsafe for aid workers to operate within, even if the rebel group in question is much weaker than the government. For instance, in Afghanistan, government-provided counterinsurgency aid reduced insurgent violence in government-controlled areas while contested areas saw increases in violence (Sexton, 2016). The reasoning is clear: insurgents have limited resources and therefore choose targets for attacks carefully to minimize costs and retaliation while preventing government infrastructure from building up that can "win the hearts and minds" of the public (Sexton, 2016). Because of these considerations, I anticipate that actively contested territory is likely to receive the least amount of aid, whether it be to preserve the safety of aid projects and their workers or to maximize the

value to the state that these projects may provide. Given the reasons described above, I summarize my empirical expectations in the hypotheses and table below:

Prioritization Order for Foreign Aid		**State of Territorial Control**		
Impacted by Natural Disaster		**Government Control**	**Contested Territory**	**Rebel Control**
	Impact	High	Lowest	Medium
	No Impact	Medium	Lowest	Low

Table 1: Summarization of Hypotheses 1, 2, & 3 in tandem with colors indicating government priority from red (lowest priority) to blue (highest priority).

H1a: Rebel-controlled areas that are impacted by natural disasters will be less likely to receive foreign aid than government-controlled areas that are impacted.

H1b: Rebel-controlled areas that are not impacted by natural disasters will be less likely to receive foreign aid than government-controlled areas that are not impacted.

H2: Government-controlled areas that are impacted by natural disasters will be more likely to receive foreign aid than government-controlled areas that are not.

H3: Contested territories will be less likely to receive foreign aid than either rebel-controlled or government-controlled areas.

Methodology

The Philippines as a Case of Conflict, Disasters, and Foreign Aid

The Philippines has faced civil conflict since the late 1960s from a number of groups that have entered and exited the conflict over the years. In particular, during the time frame of this analysis, the Philippines faces challenges from multiple groups, such as the Communist Party of the Philippines/the New People's Army (CPP/NPA), the Moro Islamic Liberation Front (the MILF), the Moro National Liberation Front (MNLF), and the Abu Sayyaf Group (ASG), among others. The CPP/NPA have been the Philippines' most persistent opponents, having been engaged in conflict against the state since 1968. In just the conflict with the CPP/NPA alone,

over 40,000 lives have been lost (Engelbrecht, 2024); conflict in Mindanao has resulted in the deaths of over 120,000 and the displacement of millions (International Crisis Group, 2024). As the state has balanced priorities along multiple conflict fronts at various points in time, the state has also faced immense humanitarian pressures from its environment as well.

The Philippines faces frequent natural hazards, creating persistent tests of its infrastructure and resiliency at various scales. The Philippines is extremely at-risk from natural disasters, having lost over 70,000 lives since 1990 to over 560 disasters (World Bank, n.d.). Many of these disasters have seen a pronounced international response, such as Typhoon Haiyan (Field, 2018). The Philippines also faces a high amount of small-scale natural hazards as well, creating further impacts to localities, facing 225 small-scale natural hazard incidents in just 2024 alone (Del Prado, 2025). I focus the scope of my analysis on the Philippines from 2011 to 2014. There are two main reasons why this provides a beneficial scope that can provide a useful contribution to future research.

First, a growing body of research has examined the influence of foreign aid in the Philippines (Rosvold, 2019; Han, 2025; Field, 2018; Montinola et al., 2020; Trinidad, 2019). This study aims to contribute to this literature by examining how territorial control may serve as a moderating factor for the placement of foreign aid in the aftermath of a natural disaster in the case of the Philippines, helping detangle the relationship between aid and conflict (Findley, 2018). By doing so, this study builds on qualitative evidence that suggests that this dynamic may be in place (Field, 2018) and helps potentially validate quantitative evidence that the Philippines may impact aid flows from prominent organizations like the World Bank (Rosvold, 2019). Further, while this study focuses on aid from the World Bank, future studies may seek to investigate how state-provided aid may be more or less resilient to such dynamics as described

here, given that state relationships have been shown to impact the prevalence of aid (Trinidad, 2019).

Second, examining a single-country case rather than broader cross-national trends over a large period of time aids in testing underlying causal mechanisms and theories that would be more difficult to parse from a larger scope of cross-national data (Gerring, 2004). Given this, the Philippines serves as a useful case to examine how foreign aid is shaped by what governments view as a priority. Rosvold (2019), for instance, highlights that World Bank aid disbursement in the Philippines is likely subject to political favoritism, as areas where politically dominant ethnic groups are located are more likely to receive aid, even if other areas may need it more. Furthermore, Field (2018) highlights that the Philippines has previously faced challenges in aid allocation between disasters and conflict, with evidence suggesting that disaster-impacted territory took precedence over conflict-impacted territory for the allocation of international aid. Because of this, better understanding the dynamics at play in the Philippines during conflict may help inform future work in other civil conflict contexts.

Data and Variable Description

To test my hypotheses, I use data at the municipality-month level of analysis for the Philippines from 2011 to 2014, originally sourced from Zhao (2025). With 1,624 different municipalities, over forty-eight time periods, I start with an initial total sample of 77,952 observations. The municipality serves as the second smallest administrative unit in the Philippines, included in geocoded data projects for foreign aid and natural disasters, making it a viable means to see how foreign aid placement is influenced by local conflict and environmental dynamics. Using replication materials from Zhao (2025), this study focuses upon the conflict

between the CPP/NPA and the Philippines government. During this time period, the CPP/NPA is the most active combatant. According to the UCDP Georeferenced Event Dataset v. 25.1 (GED) (Davies et al., 2025; Sundberg et al., 2013), the CPP are involved in over a majority of conflict events from 2011-2014, making up 67% of government-rebel battles and the perpetrator of 43% of cases of violence against civilians during the same period.

For my dependent variable, I use the World Bank Geocoded Research Release, Version 1.4.2 from AidData (2017) for this analysis, which includes all World Bank aid projects from 1995 to 2014.

To help ensure that the projects listed are geographically within the municipality they would otherwise be associated with, I follow previous research and do not include aid projects that are coded at a precision level higher than 2 (projects geocoded to more than 25 kilometers of the correct location) to have high confidence that projects are being properly attributed to the correct municipality (Briggs, 2021; Briggs, 2018). To get these geocoded projects into the municipality-month level of analysis, I use GIS software and the provided coordinates for geocoded projects at this level of precision to identify which municipality each project falls within and transform the data to be at the municipality-month level using the provided start and end dates of the aid projects. I create several measures from this process. First, I create an indicator variable for whether or not there is a World Bank-funded local aid project in each municipality in a given month. Second, I create an average of *aid disbursements per month* for each project and aggregate them to the municipality-month level. For robustness, I also create an

estimate for aid commitments per month as well as the number of aid projects in each municipality in a given month for further analysis.[2]

To measure the presence of a natural disaster in a given territory, I first rely on replication data sourced from Zhao (2025), which codes the *presence of a natural disaster* in a municipality if the level of precipitation deviates substantially from normal. These data are originally sourced from the Integrated Multi-satellite Retrievals for GPM dataset (IMERG), version 6.0. This measure captures the most common incidences of natural disasters, such as landslides, floods, and storms, and is consistently available and can be considered accurate for each municipality across the time period.[3] While this data covers the most frequent disasters, it does not cover the whole scope of potential disasters that can occur. For instance, the Bohol earthquake in 2013 resulted in over two hundred deaths and significant destruction, resulting in the Philippines calling for international aid, contributing to the state's aid allocation dilemma (Field, 2018). Because of this, I conduct two robustness checks using an alternative data source.

To measure the level of territorial control in a given municipality, I rely on Zhao's (2025) data on yearly estimates of the *percentage of each municipality controlled by the CPP/NPA*. This data is sourced from Armed Forces of the Philippines (AFP) intelligence assessments, meant for internal use, and coded the degree to which the NPA was present in each barangay (Zhao, 2025). This measure at the barangay level is then aggregated to a municipality level, in which higher percentages indicate more barangays within the municipality are controlled by the CPP/NPA.

---

[2] To take total commitments to the municipality-month level, I follow previous research (e.g., Briggs, 2021) and average the total commitment to the project over the course of its duration. For example, if a municipality has one project with 1000 dollars in total commitments, and it lasts for 10 months, then each municipality-month for that municipality has an average commitment per month of 100 dollars for those 10 months. The same process is applied for aid disbursement.

[3] Specifically, precipitation that falls at or above 1.6 on a standardized scale is coded as the presence of a natural disaster in that given month in that municipality. For more details on the scale, see Zhao (2025, p. 14-15).

Most municipalities exist without the CPP/NPA's presence throughout the time period, with only about 13.36% of the municipality-months facing some level of contestation.

Finally, I control multiple factors that could confound the relationship between my key variables. Because of the limited data available at the municipality level, I incorporate a number of controls from the PRIO-GRID version 2.0 static and yearly datasets (Tollefson et al., 2012). Using GIS software, I match grid-cells to municipalities and subsequently aggregate grid-cell level data to the municipality level. In particular, I include estimates of the average *distance to the capital* (Weidmann, 2010), the highest estimated number of *excluded ethnic groups* in the municipality (Vogt et al., 2015), the average maximum *nighttime light intensity* (from the DMSP-OLS Nighttime Lights Time Series Version 4)[4], the average level of *forest ground cover* (Bontemps et al., 2009), level of *shrub ground cover* (Bontemps et al., 2009), whether or not there was a *natural resource deposit* in that location (Lujala, 2007; Gilmore et al., 2005; Lujala et al., 2005; Balestri, 2015; Balestri, 2012; Lujala, 2009), and the average maximum *infant mortality rate* (Storeygard et al., 2008; CIESIN, 2005) at a yearly level for each municipality.

To measure the level of violence in each municipality over time, I use UCDP's Georeferenced Event Dataset (GED) Global version 24.1 (Sundberg & Melander, 2013), which includes information on an estimate of how many individuals died on any side of the event (e.g., how many soldiers, rebels, or civilians died in that given event). Using GIS software and these event-level data, I aggregate all battle fatalities within a municipality-month and create a count variable, the *Number of Conflict Deaths,* which captures the total number of rebel, government,

[4] Because the maximum ethnic group and nighttime light intensity variables are missing for the year 2014, I code these values for 2014 with each municipality's value for the previous year. For robustness, I also conduct my analysis with the original coding, leaving those observations as missing. I do find that results vary based on this decision (figures and tables are reported in Appendix B and C), likely due to the 25% loss in sample size from losing a year's worth of data.

and civilian deaths that occurred within that municipality-month. Summary statistics for all key variables can be found in Table A1.

To account for the potential long-term temporal dynamic between local foreign aid provisions, the nature of the conflict, and natural disasters, I introduce time cubic polynomials, counting the number of months since the first month in the sample (January 2011), *Time*, $Time^2$, and $Time^3$. I include this for two primary reasons. First, theoretically, while the incident of a natural disaster is a discrete event, the impact of disasters is an ongoing process – vulnerabilities are created by disasters and coping mechanisms are utilized, potentially diminished in the aftermath, influenced by historical/political decision-making by the state (Caso et al., 2023). Including long-term trends helps account for this and other aspects of how the nature of the conflict and the nature of foreign aid provisions may change over time. Second, methodologically, using time cubic polynomials serves as a parsimonious way to account for baseline temporal dependence in the model (Carter & Signorino, 2010).

Modeling and Results

To test my hypotheses, I run two main sets of models. First, I run a set of logistic regressions where the dependent variable is the *presence of an aid project*. Second, I run a set of panel OLS regressions with municipality-level random effects in which the dependent variable is the *average aid disbursements per month*. Because the length of time between a natural disaster and foreign aid arriving in a given locality may vary, for each set, I estimate four models, each with a different window for when a natural disaster took place: first, where the presence of a natural disaster is coded as 1 if there was a disaster in that month, and 0 otherwise; second, where the presence is coded as a 1 if there was a disaster in the last four months, including the

present month; the third and fourth models use a disaster window of 8 months and 12 months, respectively.

First, looking at the results from the logistic regression, because of the interaction between natural disasters and territorial control, I investigate the relationship between these components and foreign aid by constructing predicted probability plots to model the relationship between natural disasters over varying levels of control. The interactions for Models 1 and 2 are reported in Figure 1, while the interactions for Models 3 and 4 are reported in Figure 2. Overall, in line with my expectations for H1a, I find that rebel-impacted territories are less likely to receive aid than government-impacted territories. Specifically, disaster-impacted municipalities are approximately ten percentage points less likely to have an aid project when fully rebel-controlled than when fully government-controlled. Interestingly, I do not find support for H1b, as non-impacted regions that are under the government and rebels' control do not have a statistically significant difference in their likelihood of receiving an aid project. Further, contrary to H3, contested regions are the *most* likely to receive an aid project, a statistically significant difference from government and rebel-controlled territories. Non-impacted contested territories are approximately twenty percentage points more likely to receive an aid project than fully government-controlled territories, and anywhere from 5-10 percentage points more likely to receive an aid project than fully rebel-controlled territories.

Puzzlingly, contested regions that are not impacted by natural disasters are more likely to receive an aid project than contested regions that are. These results remain consistent as the disaster window increases – heavily contested municipalities (e.g., 50% under rebel control) are expected to be 5-10 percentage points more likely to receive an aid project when not impacted by a disaster than when they are impacted by a disaster. This discrepancy in aid could be driven by a

number of factors. It could be that contested regions, already impacted by conflict, already suffer from infrastructure damage or other blocks that prevent access if permitted, making them less desirable for aid placement than other contested regions. It could also be a strategy of risk-management, where contested regions impacted by disasters are the most opportune for action by the government or rebels in the aftermath, making aid projects an obstacle or otherwise increasing the risk for aid workers, making them less desirable for either strategic or safety considerations.

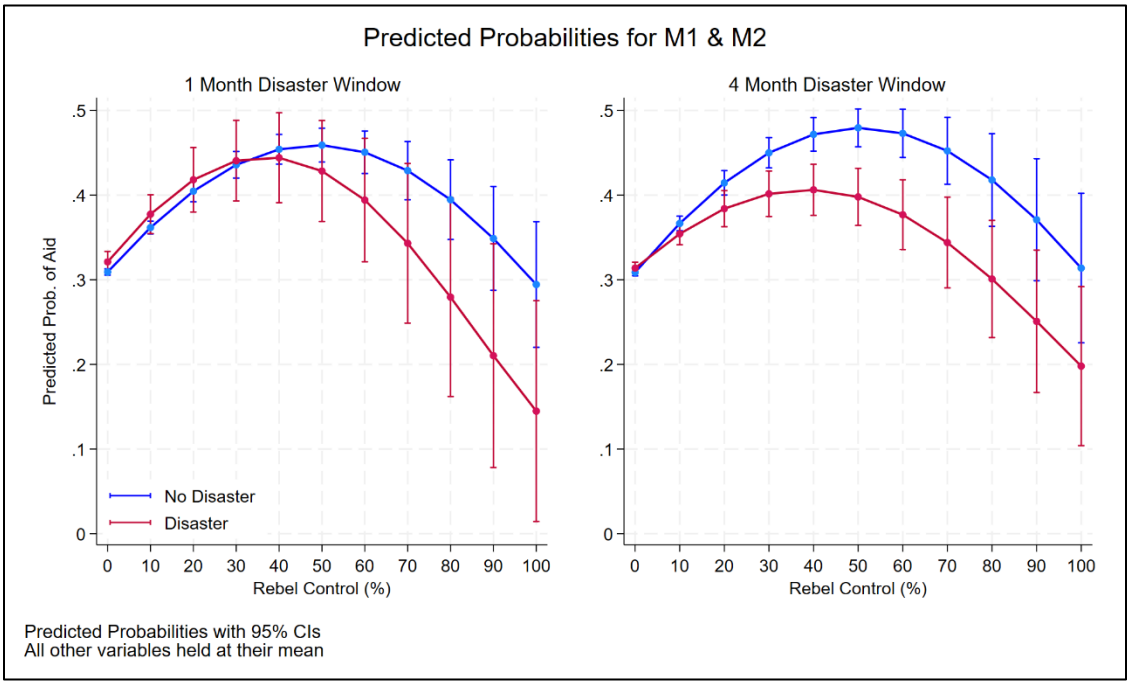

Figure 1: Predicted probability plots for the likelihood of a local aid project being installed, based on Models 1 and 2 of the logistic regression analysis.

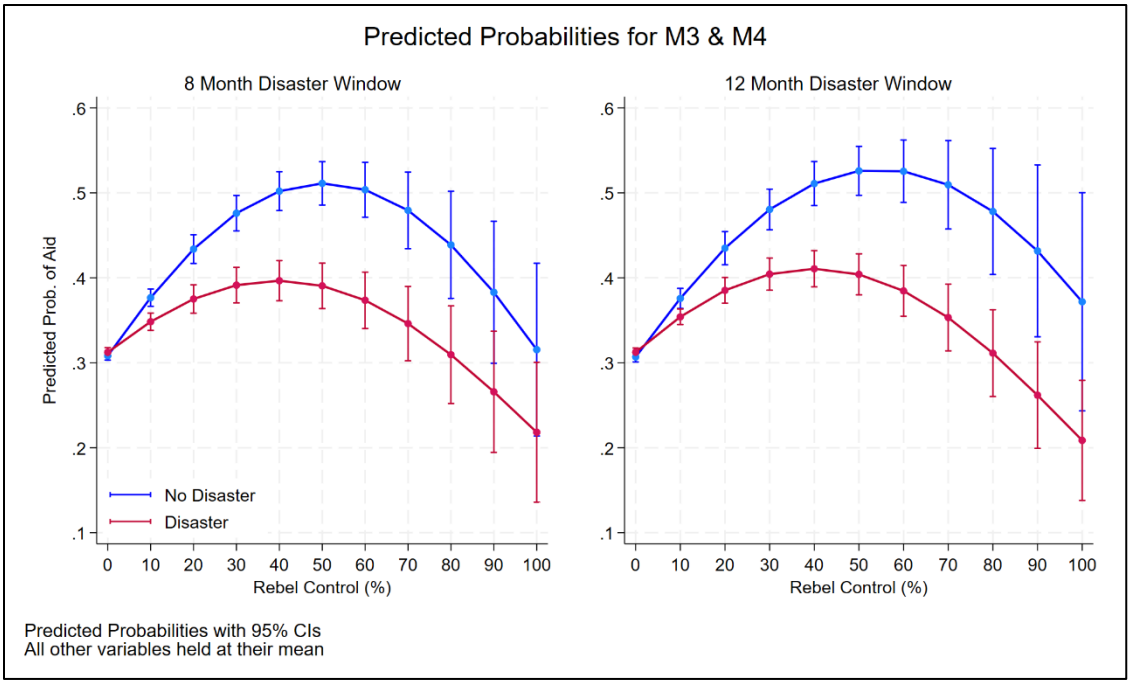

Figure 2: Predicted probability plots for the likelihood of a local aid project being installed, based on Models 3 and 4 of the logistic regression analysis.

Looking briefly at the controls from the first model, highlighted in Table 2, I find that as municipalities are on average further from the capital, they become more likely to receive an aid project. Likewise, as the maximum number of excluded ethnic groups increases, the likelihood of an aid project increases. This result creates an interesting contrast to findings by Rosvold (2019), who finds that aid is more likely to go where politically dominant ethnic groups are located. Further research should investigate this discrepancy to better explain this potential divergence in findings, whether it be that accounting for territorial control results in a different relationship between aid placement and the location of ethnic groups or the difference in unit of analysis drives this difference, for instance. Further, I find that areas with higher infant mortality rates are more likely to receive foreign aid, indicating that the presence of aid projects is influenced by traditional considerations of humanitarian need. Interestingly, I find that municipalities with natural resource deposits are less likely to receive World Bank aid, even after accounting for

where conflict events happen and where the CPP/NPA have some level of control, potentially indicating that these areas are in less need of aid or that the presence of the resource discourages aid placement in these localities.

Table 2 - Influence of Disasters & Control on Presence of Aid Projects

	(1) M1: 1 Month Window	(2) M2: 4 Months	(3) M3: 8 Months	(4) M4: 12 Months
Presence of Project				
Disaster (1 Month)	0.056^{+}			
	(0.030)			
Disaster (4 Months)		0.023		
		(0.020)		
Disaster (8 Months)			0.019	
			(0.019)	
Disaster (12 Months)				0.026
				(0.019)
Rebel Control (%)	0.026***	0.029***	0.034***	0.034***
	(0.002)	(0.002)	(0.003)	(0.003)
Rebel Control^2	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Disaster (1 Month) × Rebel Control	0.002			
	(0.006)			
Disaster (4 Months) × Rebel Control		-0.008^{+}		
		(0.004)		
Disaster (8 Months) × Rebel Control			-0.015***	
			(0.004)	
Disaster (12 Months) × Rebel Control				-0.012**
				(0.004)
Disaster (1 Month) × Rebel Control^2	-0.000			
	(0.000)			
Disaster (4 Months) × Rebel Control^2		0.000		
		(0.000)		
Disaster (8 Months) × Rebel Control^2			0.000	
			(0.000)	
Disaster (12 Months) × Rebel Control^2				0.000
				(0.000)
Avg. Distance to Capital	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)

Max. # of Excluded Ethnic Groups	0.149***	0.147***	0.143***	0.145***
	(0.015)	(0.015)	(0.015)	(0.016)
Avg. Maximum Nighttime Lights	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Avg. Forest Ground Cover	0.005***	0.005***	0.005***	0.005***
	(0.001)	(0.001)	(0.001)	(0.001)
Avg. Maximum Infant Mortality Rate	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Avg. Shrub Ground Cover	-0.175***	-0.175***	-0.175***	-0.175***
	(0.006)	(0.006)	(0.006)	(0.006)
Natural Resource Deposit	-0.051**	-0.050**	-0.049**	-0.049**
	(0.018)	(0.018)	(0.018)	(0.018)
Conflict-Related Deaths	-0.003	-0.003	-0.003	-0.003
	(0.008)	(0.008)	(0.008)	(0.008)
Time	0.005	0.004	0.005	0.005
	(0.006)	(0.006)	(0.006)	(0.006)
Time^2	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Time^3	-0.000+	-0.000+	-0.000+	-0.000+
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-1.298***	-1.288***	-1.289***	-1.298***
	(0.049)	(0.050)	(0.049)	(0.049)
Observations	77424	77424	77424	77424
Pseudo R-Squared	0.05	0.05	0.05	0.05

Standard errors in parentheses
+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Next, looking at the results from the panel OLS regressions, I report the results of the interactions for Models 1-4 in Figures 3 and 4. Looking at Figure 3, I find statistically significant evidence in line with both H1a and H1b – (non)impacted government-controlled municipalities receive greater amounts of aid disbursements per month than their rebel-controlled counterparts when looking at a disaster window of one month or four months. This also extends to the eight-month model showcased in Figure 4. Looking at the twelve-month window, I find results in support of H1a but not H1b; disaster-impacted government territories receive significantly more aid disbursements per month than impacted rebel territories, but not non-impacted territories. In addition, I continue to find no support for H2; government-controlled territories do not vary in how much aid disbursements they receive per month based on whether they were impacted by a

natural disaster in any disaster window. This result suggests that the quantity of aid funding is not driven by a humanitarian need in the aftermath of natural disasters, but by some other set of factors.

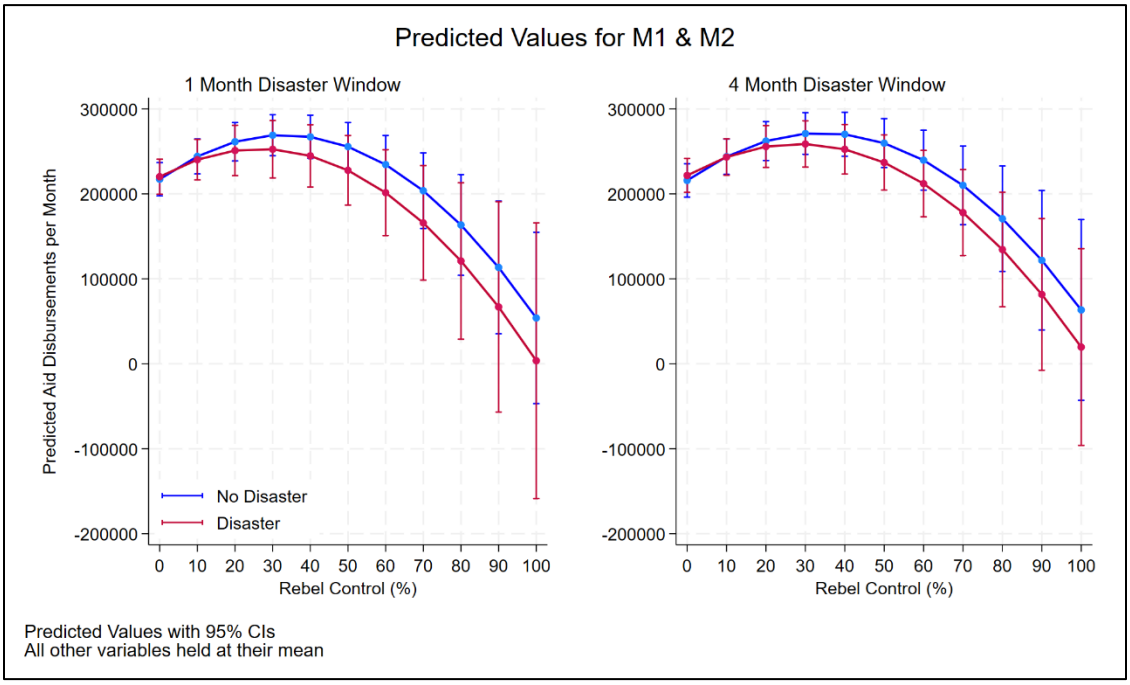

Figure 3: Marginal effect plots for the amount of aid disbursement funds that municipalities receive per month, based on Models 1 and 2 of the OLS regression analysis.

Lastly, I again find results contradictory to H3, where contested territories receive significantly more aid disbursements per month than non-contested territories on either side, regardless of whether the contested territory is impacted by a natural disaster or not in any of the four models. Unlike the logistic regression results, however, I find no statistically significant difference in aid disbursements within contested territories based on whether or not they were impacted by a natural disaster or not. Taken in conjunction with the previous results, it may be that foreign aid may be utilized to address the humanitarian need in these municipalities from the potential impacts of conflict or as a way to win over the "hearts and minds" of those in local

regions where such tactics may be more effective at making a difference in the level of territorial control within the municipality.

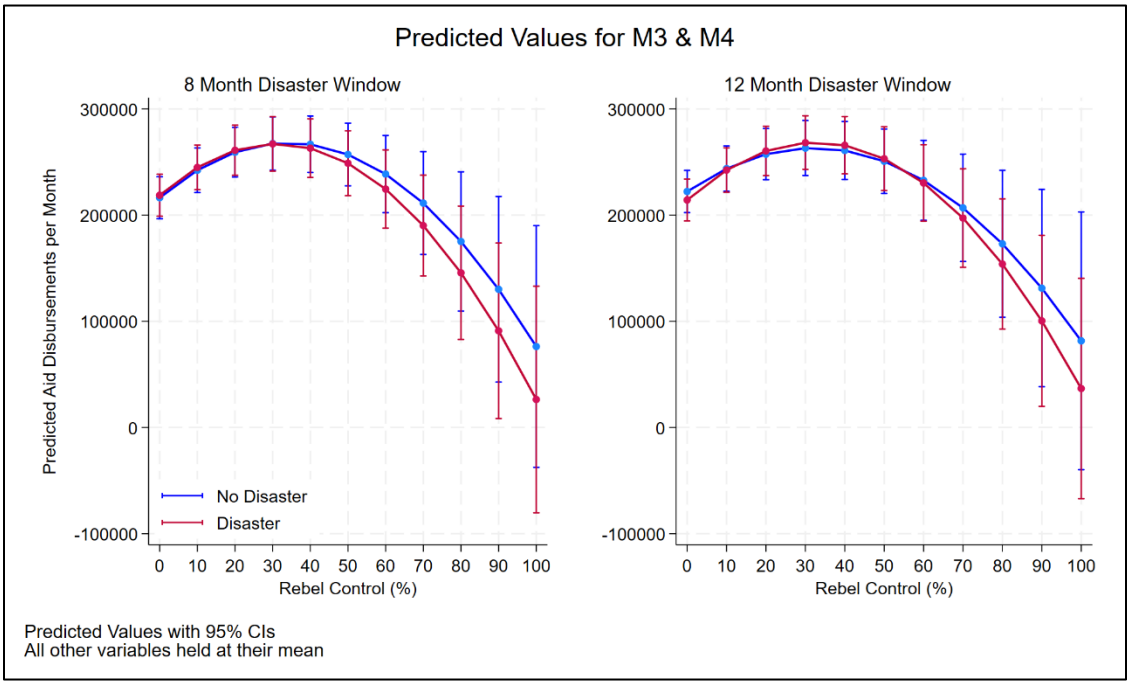

Figure 4: Marginal effect plots for the amount of aid disbursement funds that municipalities receive per month, based on Models 3 and 4 of the OLS regression analysis.

When looking at the results for the control variables, I find largely comparable results to the logistic regression analysis. There are a few differences worth noting, however. First, I find a statistically insignificant but negative coefficient for the role of excluded ethnic groups in aid disbursements, in line with Rosvold (2020) in terms of the expected direction. I also find statistically significant results for nighttime light intensity, a proxy for economic development and local population, in which higher levels of nighttime light intensity in a municipality results in less World Bank aid disbursements per month in that municipality. This suggests that aid disbursements are targeted less to urbanized regions of the country and more towards rural regions or areas with less infrastructure. Lastly, I find no statistical significance for the role of conflict deaths in the amount of aid disbursements per month a municipality receives, nor do I find

significance for the estimated infant mortality rate influencing average aid disbursements. These results suggest that perhaps humanitarian need has more influence over the placement of aid rather than the level of financing that aid projects may receive.

Table 3 - Influence of Disasters & Control on Aid Disbursements per Month

	(1) M1: 1 Month Window	(2) M2: 4 Months	(3) M3: 8 Months	(4) M4: 12 Months
Disaster (1 Month)	3008.402			
	(3696.456)			
Disaster (4 Months)		5898.102*		
		(2422.310)		
Disaster (8 Months)			2352.434	
			(2359.453)	
Disaster (12 Months)				-8023.868**
				(2514.069)
Rebel Control (%)	3167.916***	3279.883***	3029.319***	2548.176***
	(452.054)	(477.504)	(519.444)	(565.948)
Rebel Control (%)				
Rebel Control^2	-48.004***	-48.040***	-44.301***	-39.544***
	(8.519)	(9.055)	(9.843)	(10.678)
Disaster (1 Month) × Rebel Control	-702.513			
	(806.844)			
Disaster (4 Months) × Rebel Control		-651.295		
		(536.423)		
Disaster (8 Months) × Rebel Control			97.854	
			(513.730)	
Disaster (12 Months) × Rebel Control				783.447
				(544.012)
Disaster (1 Month) × Rebel Control^2	1.693			
	(13.793)			
Disaster (4 Months) × Rebel Control^2		1.552		
		(9.202)		
Disaster (8 Months) × Rebel Control^2			-6.202	
			(8.894)	
Disaster (12 Months) × Rebel Control^2				-11.518
				(9.456)
Avg. Distance to Capital	239.854***	239.682***	239.909***	240.723***

	(42.351)	(42.381)	(42.381)	(42.388)
Max. # of Excluded Ethnic Groups	-14402.877	-14057.612	-14174.835	-15611.719
	(19421.854)	(19436.372)	(19438.040)	(19442.682)
Avg. Maximum Nighttime Lights	-1318.477***	-1335.358***	-1313.293***	-1290.757**
	(397.773)	(397.960)	(397.953)	(397.919)
Avg. Forest Ground Cover	63.734	52.495	61.685	82.950
	(1107.851)	(1108.640)	(1108.650)	(1108.808)
Avg. Maximum Infant Mortality Rate	-27.956	-28.288	-28.078	-27.088
	(131.977)	(132.071)	(132.073)	(132.091)
Avg. Shrub Ground Cover	-10348.470+	-10278.398	-10326.507+	-10557.459+
	(6268.642)	(6273.133)	(6273.246)	(6274.260)
Natural Resource Deposit	5022.177	5049.939	4897.366	5188.935
	(21924.084)	(21939.643)	(21940.130)	(21943.144)
Conflict-Related Deaths	1855.986+	1861.086+	1848.560+	1825.639+
	(1021.957)	(1021.900)	(1021.938)	(1021.889)
Time	3194.370***	2990.497***	3043.085***	3953.679***
	(719.184)	(725.189)	(745.352)	(757.693)
Time^2	-212.161***	-201.096***	-205.024***	-243.969***
	(33.865)	(34.283)	(35.132)	(35.311)
Time^3	1.263**	1.121*	1.178*	1.603***
	(0.455)	(0.460)	(0.468)	(0.467)
Constant	233286.167***	232665.086***	232659.400***	234613.480***
	(44850.356)	(44882.497)	(44881.462)	(44884.847)
Observations	77424	77424	77424	77424
R-Squared				

Standard errors in parentheses
+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Because the disaster measure included here only includes disasters tied to precipitation, I use an alternative source to measure natural disasters using data provided by the Geocoded Disasters (GDIS) dataset (Rosvold and Buhaug, 2021a; Rosvold and Buhaug, 2021b). This dataset takes natural disasters data from the (EM-DAT) dataset (Guha-Sapir et al., 2014) and identifies the geographic location of the events based in part on the location information provided from EM-DAT, providing spatial data on where and when disasters such as floods, earthquakes, and droughts have taken place. I manually match the names of locations specified in GDIS to municipalities from Zhao (2025), coding a municipality-month as a 1 if a natural disaster took place in that municipality, and a 0 if not. If there was a disaster that impacted a

higher-level administrative unit (e.g., a region in the Philippines), that disaster was coded as a 1 for all constituent municipalities within that unit.

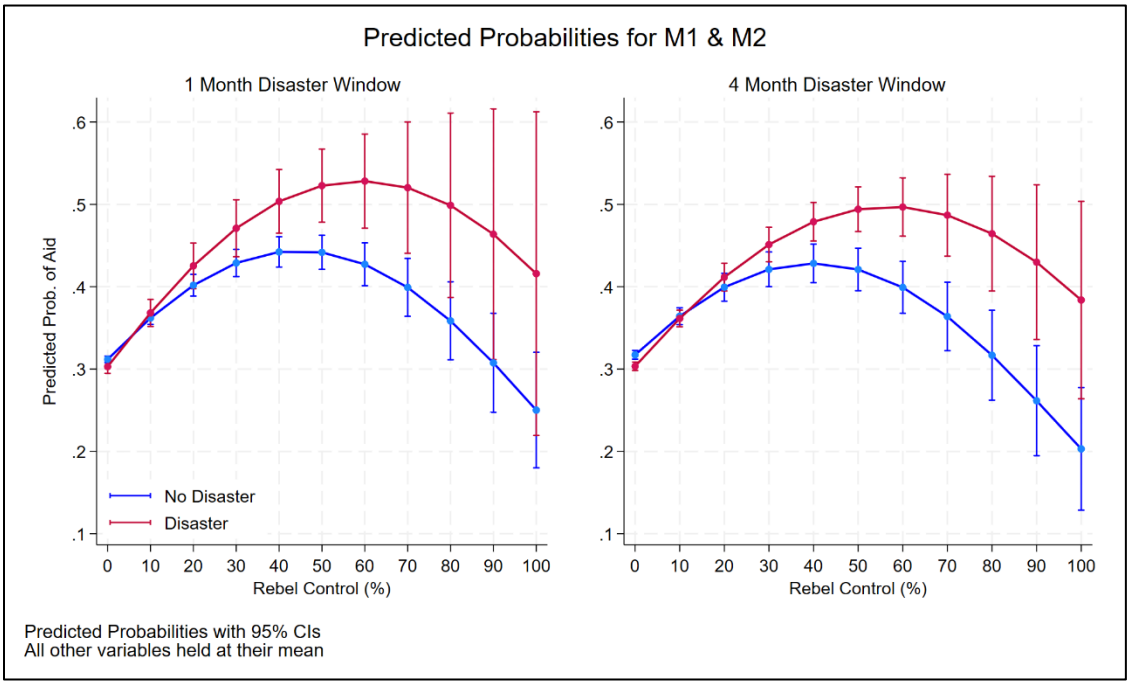

Figure 5: Predicted probability plots for the likelihood of a local aid project being installed, based on Models 1 and 2 of the EM-DAT logistic regression analysis.

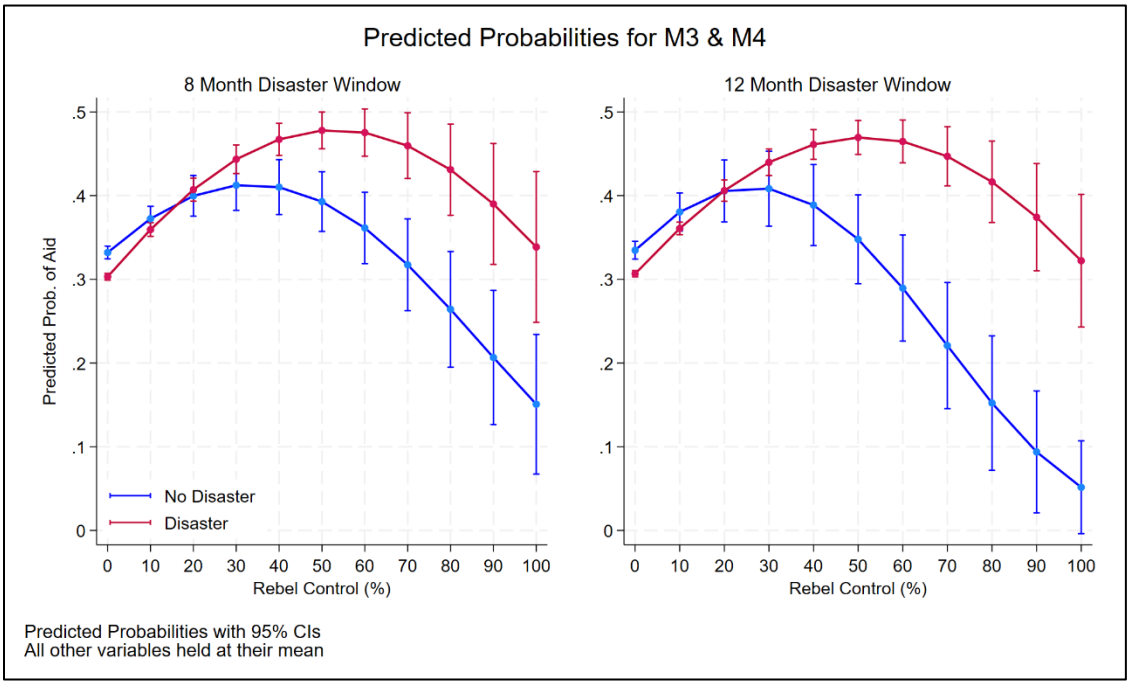

Figure 6: Predicted probability plots for the likelihood of a local aid project being installed, based on Models 3 and 4 of the EM-DAT logistic regression analysis.

Overall, findings vary based on the disaster measure used. When examining the interaction between the hand-coded EMDAT disasters and territorial control in Figures 5 and 6, I find little significance to indicate that territorial control moderates which locations receive an aid project, finding only significance in the twelve-month window that territorial control in non-impacted territories moderates foreign aid (H1b), and no significance for H1a. I further find results in the opposite direction regarding H2, where non-impacted government territories receive more aid than impacted government territories. The results maintain consistency regarding contested territories, however. For aid disbursements, shown in Figures 7 and 8, I continue to find support for H1a and H1b, in which government-controlled areas receive more aid disbursements per month than municipalities under rebel control. I also again find results contrary to H2, where non-impacted government territories receive more aid disbursements per month than impacted ones.

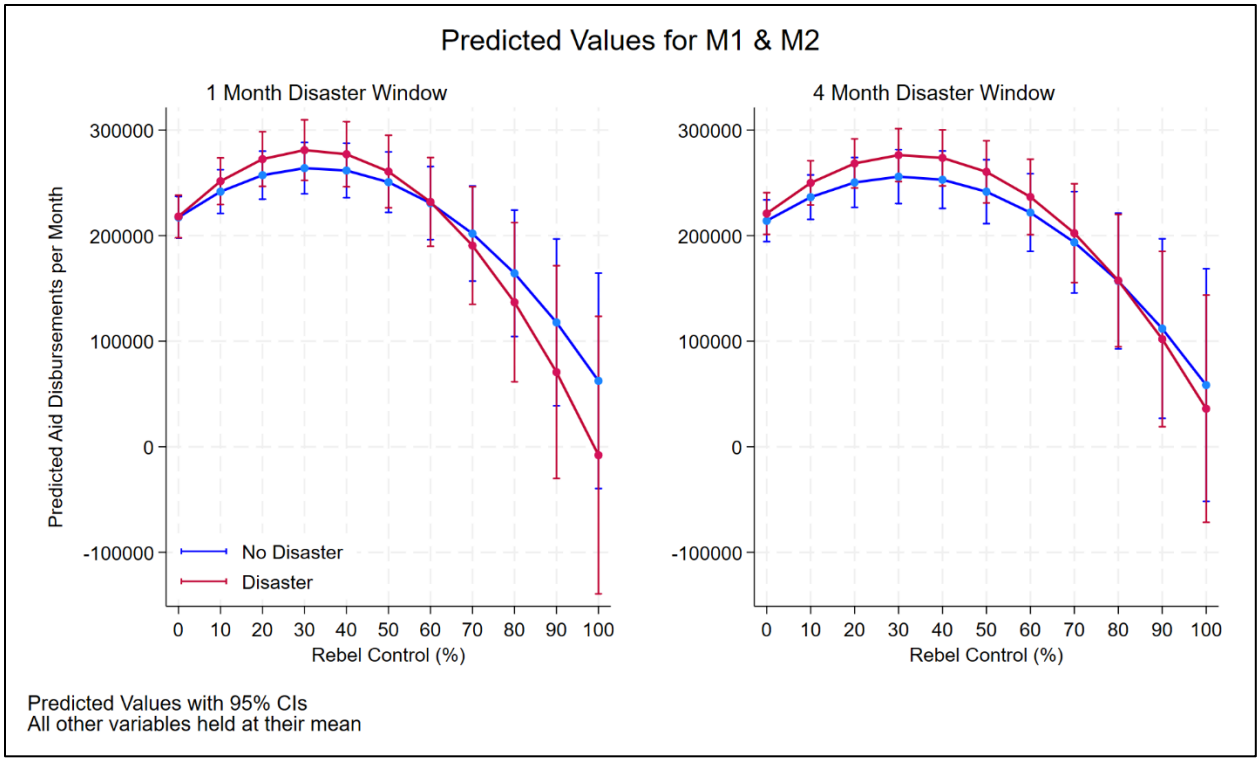

Figure 7: Marginal effect plots for aid disbursement funds that municipalities receive per month, Models 1 and 2 of the EM-DAT OLS regression analysis (Appendix A).

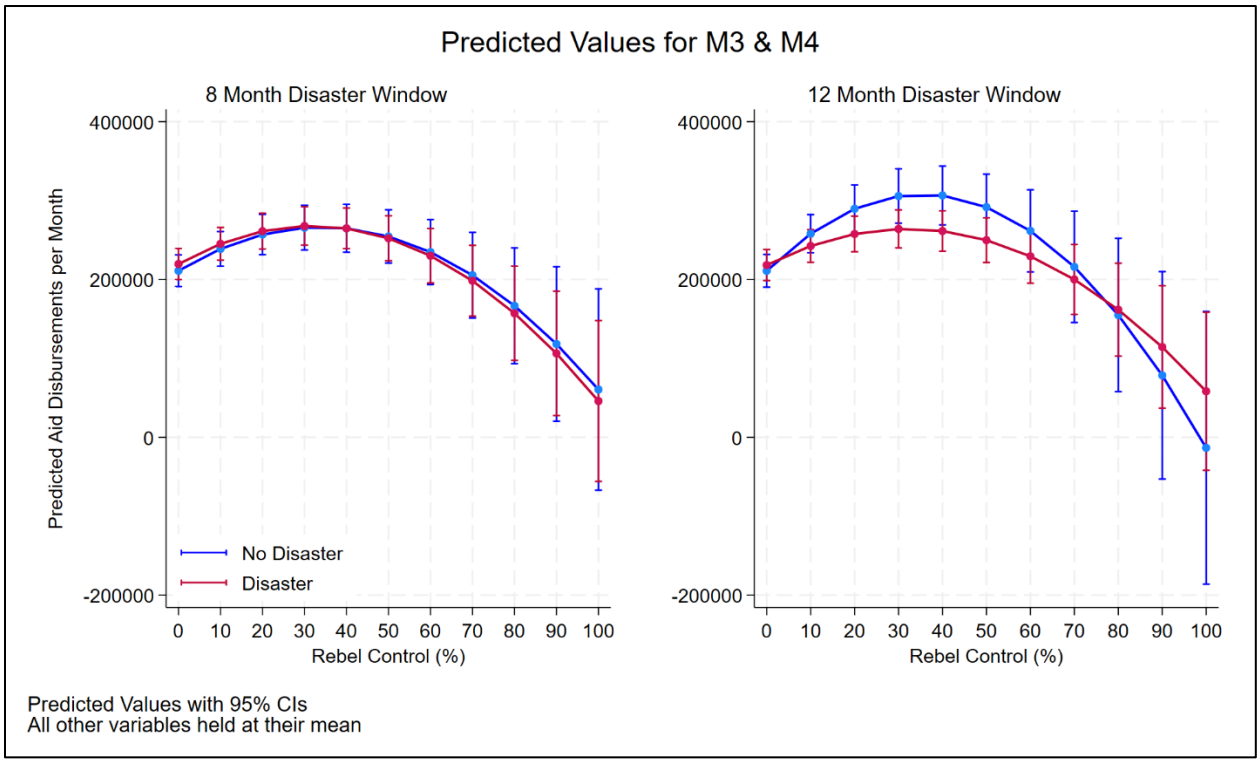

Figure 8: Marginal effect plots for aid disbursement funds that municipalities receive per month, Models 3 and 4 of the EM-DAT OLS regression analysis (Appendix A).

For robustness, I run a series of checks to help further (in)validate the findings reflected earlier. First, I also create a measure of natural disasters based only on where coordinate points provided by EM-DAT/GDIS are located, where only municipalities overlapping with the provided coordinates are coded as having been impacted by a natural disaster. Second, I also interact territorial control with the time since the last natural disaster in a municipality. Because I do not have information on natural disasters that took place before the first instance in each municipality, the resulting analysis does suffer from left-censoring, in which approximately 12.7% of the sample is missing as a result, and does not enter the subsequent analysis until the municipality has a natural disaster. Third, I then run the analysis using year-level fixed effects and another using region-level fixed effects to account for potential temporal or spatial autocorrelation that was otherwise uncaptured by the initial model specifications. Lastly, I also look to see how average aid commitments per month and the number of aid projects may be impacted by natural disasters and territorial control. To do this, I use panel OLS regression and negative binomial regression for each respective dependent variable. Further information on the results of these robustness checks can be found in Appendix B.

Overall, I find consistent results that the amount of aid disbursements an impacted municipality receives is moderated by the government's level of territorial control. Otherwise, I find inconsistent results on whether the placement of an aid project is influenced by the level of territorial control. I further find consistently insignificant results for H2, indicating that government placement of aid within its territory does not vary by whether it was impacted by a natural disaster. Lastly, I consistently find insignificant results in favor of H3, but continue to consistently find significant results indicating that contested areas receive more aid than non-

contested areas, with some models finding that non-impacted contested municipalities are more likely to receive aid than impacted ones.

Discussion and Conclusion

In this paper, I argue that when it comes to the placement and utilization of foreign aid, the saliency of both conflict and disasters poses a dilemma for governments to reconcile whether to prioritize strategic incentives to ensure resources are being used most effectively to counter the insurgency or to prioritize the humanitarian needs of those harmed by natural disasters and suffer from the consequences. I argue that states reconcile this dilemma by prioritizing disasters in contexts where they hold control over the territory, to better ensure that aid is not co-opted or destroyed, while also shifting media attention away from the conflict towards the delivery of aid to signal the state as a benevolent, responsible actor to the international community. Further, the state may consider providing aid to firmly held rebel territories that are impacted by a natural disaster as an opportunity to gain intelligence, win hearts and minds, or otherwise garner good favor or leverage over the rebels to aid in negotiations, at the risk of destruction or co-optation, making it secondary to state objectives to further stabilize the country.

Through conducting a subnational analysis on the Philippines from 2011 to 2014, I find support for the former claim – World Bank project aid projects are more likely to be placed and receive more funding in government-controlled territory that is impacted than impacted rebel-controlled territories. Territorial control serves as a considerable moderator in where foreign aid is placed. In addition, I find that within territories firmly controlled by the government, there is no statistically significant difference in the likelihood of aid placement or amount of aid disbursements per month between disaster-impacted and non-impacted territories. This raises a

puzzle for future scholars to further explore in other cases. It could be that the findings from Rosvold (2020) and Öhler and Nunnenkamp (2014) are the answer, in which the primary consideration within government-controlled territory is driven less by humanitarian need than by political needs for World Bank aid. Given the findings are tied to World Bank aid, future scholars may seek to conduct similar analysis, incorporating territorial control into their analysis, using UN disaster aid as a comparison given that current findings reflect humanitarian needs take precedent in such cases (Dellmuth et al., 2021). Lastly, contrary to my expectations, I consistently find that contested municipalities are the most likely and most funded places for World Bank aid, further indicating that states may seek to leverage foreign aid as a tactic to win the hearts and minds of the public or otherwise respond to counterinsurgency.

Looking to the Philippines' case for insight provides information that may generalize to other cases more broadly. First, like many civil conflicts, much of the time the Philippines has spent in conflict, including the timeframe examined here, has been at a minor intensity, with less than 1,000 battle-deaths in a given year (Gleditsch et al., 2002; Davies et al., 2025). This lower intensity may influence aid placement, in that states may be more willing to permit aid in contested territories when conflict is not high, as the risk of destruction may be lower than in times of total war, for instance. Second, for the period of 2011 to 2014, the Philippines aligns with the global average polyarchy score according to the Varieties of Democracy dataset (Coppedge et al., 2011, Coppedge 2021).[5] While qualitative work has examined the cases of more authoritarian states in how conflict and disasters may shape foreign aid (e.g., Desportes &

[5] According to the Varieties of Democracy dataset, the Philippines has an average polyarchy score of .55 for the years of 2011 to 2014, while the rest of the included sample has an average of .528.

Hilhorst, 2020), further research beyond the Philippines on more mixed regimes may prove insightful to highlight what extends beyond such cases.

Lastly, the Philippines faces conflict along multiple fronts from a multitude of rebel groups like many other states. Because of this, while the study only has data on one combatant, future research may seek to look at how multi-dyadic features of territorial control influence foreign aid placemen. Further, the Philippines experiences conflict with parties with a variety of ideological and/or separatist ideals, like the CPP/NPA in comparison to the goals of the MNLF and the MILF. While this study only examines control from the CPP/NPA, future research may seek to examine whether the moderating influence of control on foreign aid is exacerbated in separatist contexts, given the strategic weight that the state may place on preventing separatist movements from growing (Walter, 2006). Given these considerations, among others, future scholars ought to consider further examination of the interdependencies of natural disasters, territorial control, and civil conflict dynamics, like the utilization and placement of foreign aid within the country.

However, there are some considerations as to the uniqueness of the case. First, the Philippines has existed in a state of civil conflict for multiple decades with groups like the CPP/NPA among others, and so the dynamic captured in the brief timeframe analyzed is one with years of history and information exchanged through negotiations and battle. Conflicts that have just begun or are short-lived may have a different moderating relationship between territorial control and foreign aid, as the government may not see fit to adapt aid techniques early on in the conflict until they gather more information on the respective rebel groups' tactics and conduct. Further, the Philippines has engaged in a strategy of containment with groups like the CPP/NPA at various points during its conflict, while many other conflicts may be in states of

total war, for instance (Staniland, 2021). The Philippines is also a high-frequency case when it comes to natural disasters, ranking high on the World Risk Index (González, 2024). Further analysis on low-frequency cases where disasters are more uncommon, or where high-intensity disasters are less frequent, may prove to find different results.

References

Addison, T., Le Billon, P., & Murshed, S. M. (2002). Conflict in Africa: The Cost of Peaceful Behaviour. *Journal of African Economies*, *11*(3), 365–386. https://doi.org/10.1093/jae/11.3.365

Afghanistan 2020 | Financial Tracking Service. (n.d.). UN OCHA Services. Retrieved October 17, 2024, from https://fts.unocha.org/countries/1/summary/2020

AidData | World Bank Geocoded Research Release, Version 1.4.2. (2017). Retrieved July 15, 2024, from https://www.aiddata.org/data/world-bank-geocoded-research-release-level-1-v1-4-2

Balestri, S. (2012). Gold and Civil Conflict Intensity: Evidence from a spatially disaggregated analysis. *Peps*, *18*(3). https://doi.org/10.1515/peps-2012-0012

Balestri, S. (2015). *GOLDATA Codebook_1.2v*. Unpublished. https://doi.org/10.13140/RG.2.1.1730.8648

Becerra, O., Cavallo, E., & Noy, I. (2014). Foreign Aid in the Aftermath of Large Natural Disasters. *Review of Development Economics*, *18*(3), 445–460. https://doi.org/10.1111/rode.12095

Berrebi, C., & Ostwald, J. (2011). Earthquakes, hurricanes, and terrorism: Do natural disasters incite terror? *Public Choice*, *149*(3–4), 383–403. https://doi.org/10.1007/s11127-011-9868-x

Bontemps, Sophie; Pierre Defourny & Eric Van Bogaert (2009) Globcover 2009. Products Description and Validation Report. European Space Agency. (http://due. esrin.esa.int/files/GLOBCOVER2009_Validation_Report_2.2.pdf).

Briggs, R. C. (2018). Poor targeting: A gridded spatial analysis of the degree to which aid reaches the poor in Africa. *World Development*, *103*, 133–148. https://doi.org/10.1016/j.worlddev.2017.10.020

Briggs, R. C. (2021). Why Does Aid Not Target the Poorest? *International Studies Quarterly*, *65*(3), 739–752. https://doi.org/10.1093/isq/sqab035

Carnegie, A., Howe, K., Lichtenheld, A., & Mukhopadhyay, D. (2022a). The effects of foreign aid on rebel governance: Evidence from a large-scale US aid program in Syria. *Economics & Politics*, *34*(1), 41–66. https://doi.org/10.1111/ecpo.12178

Carnegie, A., Howe, K., Lichtenheld, A. G., & Mukhopadhyay, D. (2022b). Winning Hearts and Minds for Rebel Rulers: Foreign Aid and Military Contestation in Syria. *British Journal of Political Science*, *52*(3), 1333–1354. https://doi.org/10.1017/S0007123421000156

Carter, D. B., & Signorino, C. S. (2010). Back to the Future: Modeling Time Dependence in Binary Data. *Political Analysis*, *18*(3), 271–292. https://doi.org/10.1093/pan/mpq013

Center For International Earth Science Information Network-CIESIN-Columbia University. (2005). *Poverty Mapping Project: Global Subnational Infant Mortality Rates* (Version 1.00) [Dataset]. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). https://doi.org/10.7927/H4PZ56R2

Cheng, C., & Minhas, S. (2021). Keeping Friends Close, But Enemies Closer: Foreign Aid Responses to Natural Disasters. *British Journal of Political Science*, *51*(3), 940–962. https://doi.org/10.1017/S000712341900070X

Coppedge, M. (2021). *V-Dem Dataset 2021* [Dataset]. [object Object]. https://doi.org/10.23696/VDEMDS21

Coppedge, M., Gerring, J., Altman, D., Bernhard, M., Fish, S., Hicken, A., Kroenig, M., Lindberg, S. I., McMann, K., Paxton, P., Semetko, H. A., Skaaning, S.-E., Staton, J., & Teorell, J. (2011). Conceptualizing and Measuring Democracy: A New Approach. *Perspectives on Politics*, *9*(2), 247–267. https://doi.org/10.1017/S1537592711000880

Cordesman, A. H. (2022). *Reshaping U.S. Aid to Afghanistan: The Challenge of Lasting Progress*. https://www.csis.org/analysis/reshaping-us-aid-afghanistan-challenge-lasting-progress

Cosgrave, J., Polastro, R., & Zafar, F. (2010, August 9). *Inter-Agency Real Time Evaluation (IA RTE) of The Humanitarian Response to Pakistan's 2009 Displacement Crisis—Afghanistan | ReliefWeb*. https://reliefweb.int/report/afghanistan/inter-agency-real-time-evaluation-ia-rte-humanitarian-response-pakistans-2009

Dany, C. (2020). Failed cooperation in times of natural disasters: Explaining the rejection of humanitarian aid. *International Relations of the Asia-Pacific*, *20*(2), 193–223. https://doi.org/10.1093/irap/lcy025

Davies, S., Pettersson, T., Sollenberg, M., & Öberg, M. (2025). Organized violence 1989–2024, and the challenges of identifying civilian victims. *Journal of Peace Research*, *62*(4), 1223–1240. https://doi.org/10.1177/00223433251345636

de Ree, J., & Nillesen, E. (2009). Aiding violence or peace? The impact of foreign aid on the risk of civil conflict in sub-Saharan Africa. *Journal of Development Economics*, *88*(2), 301–313. https://doi.org/10.1016/j.jdeveco.2008.03.005

DEL PRADO, D. G. L. (2025, July 10). *A Total of 225 Small-Scale Natural Hazard Occurred in the Philippines in 2024 | Philippine Statistics Authority | Republic of the Philippines*. https://psa.gov.ph/content/total-225-small-scale-natural-hazard-occurred-philippines-2024

Dellmuth, L. M., Bender, F. A.-M., Jönsson, A. R., Rosvold, E. L., & von Uexkull, N. (2021). Humanitarian need drives multilateral disaster aid. *Proceedings of the National Academy of Sciences*, *118*(4), e2018293118. https://doi.org/10.1073/pnas.2018293118

Desportes, I. (2019). Getting relief to marginalised minorities: The response to cyclone Komen in 2015 in Myanmar. *Journal of International Humanitarian Action*, *4*(1), 7. https://doi.org/10.1186/s41018-019-0053-z

Desportes, I., & Hilhorst, D. (2020). Disaster Governance in Conflict-Affected Authoritarian Contexts: The Cases of Ethiopia, Myanmar, and Zimbabwe. *Politics and Governance*, *8*(4), 343–354. https://doi.org/10.17645/pag.v8i4.3127

DiLorenzo, M. (2018). Bypass Aid and Unrest in Autocracies. *International Studies Quarterly*, *62*(1), 208–219. https://doi.org/10.1093/isq/sqx084

Eastin, J. (2016). Fuel to the Fire: Natural Disasters and the Duration of Civil Conflict. *International Interactions*, *42*(2), 322–349. https://doi.org/10.1080/03050629.2016.1115402

Eastin, J. (2018). Hell and high water: Precipitation shocks and conflict violence in the Philippines. *Political Geography*, *63*, 116–134. https://doi.org/10.1016/j.polgeo.2016.12.001

Engelbracht, G. (2024, November 18). Following the Red Star: Tracking the Communist Rebellion in the Philippines | International Crisis Group. https://www.crisisgroup.org/asia/south-east-asia/philippines/following-red-star-tracking-communist-rebellion-philippines

Field, J. (2018). Divided disasters: Examining the impacts of the conflict–disaster nexus for distanced crises in the Philippines. *Disasters*, *42*(S2), S265–S286. https://doi.org/10.1111/disa.12305

Findley, M. G. (2018). Does Foreign Aid Build Peace? *Annual Review of Political Science*, *21*(Volume 21, 2018), 359–384. https://doi.org/10.1146/annurev-polisci-041916-015516

Findley, M. G., Powell, J., Strandow, D., & Tanner, J. (2011). The Localized Geography of Foreign Aid: A New Dataset and Application to Violent Armed Conflict. *World Development*, *39*(11), 1995–2009. https://doi.org/10.1016/j.worlddev.2011.07.022

Gerring, J. (2004). What Is a Case Study and What Is It Good for? *American Political Science Review*, *98*(2), 341–354. https://doi.org/10.1017/S0003055404001182

Gilmore, E., Gleditsch, N. P., Lujala, P., & Rod, J. K. (2005). Conflict Diamonds: A New Dataset. *Conflict Management and Peace Science*, *22*(3), 257–272.

Gleditsch, N. P. (2012). Whither the weather? Climate change and conflict. *Journal of Peace Research*, *49*(1), 3–9. https://doi.org/10.1177/0022343311431288

GLEDITSCH, N. P., WALLENSTEEN, P., ERIKSSON, M., SOLLENBERG, M., & STRAND, H. (2002). Armed Conflict 1946-2001: A New Dataset. *Journal of Peace Research*, *39*(5), 615–637. https://doi.org/10.1177/0022343302039005007

González, G. (2024, October 13). *Waiting for the 'big one': Natural hazards in the Philippines | United Nations DCO*. https://un-dco.org/stories/waiting-big-one-natural-hazards-philippines, https://un-dco.org/stories/waiting-big-one-natural-hazards-philippines

Han, J. Y. (2025). Foreign Aid, Violence, and Electoral Support in Developing Countries: Experimental Evidence From the Philippines. *Political Studies Review*, *23*(2), 504–528. https://doi.org/10.1177/14789299241249136

Harvey, P. (2013). International humanitarian actors and governments in areas of conflict: Challenges, obligations, and opportunities. *Disasters*, *37*(s2), S151–S170. https://doi.org/10.1111/disa.12019

Ide, T. (2023a). *Catastrophes, Confrontations, and Constraints: How Disasters Shape the Dynamics of Armed Conflicts*. https://direct.mit.edu/books/oa-monograph/5593/Catastrophes-Confrontations-and-ConstraintsHow

Ide, T. (2023b). Rise or Recede? How Climate Disasters Affect Armed Conflict Intensity. *International Security*, *47*(4), 50–78. https://doi.org/10.1162/isec_a_00459

Ide, T. (2023c, September 26). Disasters in Armed Conflict Zones: Silver Linings or Total Devastation? *New Security Beat*. https://www.newsecuritybeat.org/2023/09/disasters-armed-conflict-zones-silver-linings-total-devastation/

Ide, T., Kristensen, A., & Bartusevičius, H. (2021). First comes the river, then comes the conflict? A qualitative comparative analysis of flood-related political unrest. *Journal of Peace Research*, *58*(1), 83–97. https://doi.org/10.1177/0022343320966783

Image and data processing by NOAA's National Geophysical Data Center. DMSP data collected by US Air Force Weather Agency.

International Crisis Group. (2024, April 19). *Calming the Long War in the Philippine Countryside | Asia Report N°338*. https://www.crisisgroup.org/asia/south-east-asia/philippines/338-calming-long-war-philippine-countryside

Keels, E. (2019). Praying for Rain? Water Scarcity and the Duration and Outcomes of Civil Wars. *Defence and Peace Economics*, *30*(1), 27–45. https://doi.org/10.1080/10242694.2017.1320184

Kousky, C. (2014). Informing climate adaptation: A review of the economic costs of natural disasters. *Energy Economics*, *46*, 576–592. https://doi.org/10.1016/j.eneco.2013.09.029

Leigh, R., & Fallesen, F. (n.d.). *Disaster risk profile: Afghanistan* [Text/HTML]. World Bank. Retrieved July 13, 2024, from https://documents.worldbank.org/en/publication/documents-reports/documentdetail/284301491559464423/Disaster-risk-profile-Afghanistan

Lischer, S. K. (2003). Collateral Damage: Humanitarian Assistance as a Cause of Conflict. *International Security*, *28*(1), 79–109.

Lujala, P. (2009). Deadly Combat over Natural Resources: Gems, Petroleum, Drugs, and the Severity of Armed Civil Conflict. *The Journal of Conflict Resolution*, *53*(1), 50–71.

Lujala, P., Gleditsch, N. P., & Gilmore, E. (2005). A Diamond Curse?: Civil War and a Lootable Resource. *Journal of Conflict Resolution*, *49*(4), 538–562. https://doi.org/10.1177/0022002705277548

Lujala, P., Ketil Rod, J., & Thieme, N. (2007). Fighting over Oil: Introducing a New Dataset. *Conflict Management and Peace Science*, *24*(3), 239–256. https://doi.org/10.1080/07388940701468526

Lyall, J. (2019). Civilian Casualties, Humanitarian Aid, and Insurgent Violence in Civil Wars. *International Organization*, *73*(4), 901–926. https://doi.org/10.1017/S0020818319000262

Mena, R., & Hilhorst, D. (2021). The (im)possibilities of disaster risk reduction in the context of high-intensity conflict: The case of Afghanistan. *Environmental Hazards*, *20*(2), 188–208. https://doi.org/10.1080/17477891.2020.1771250

Montinola, G. R., Taylor, T. W., & Largoza, G. L. (2020). Foreign Aid, Government Spending, and Contributions toward Public Goods: Experimental Evidence from the Philippines. *Studies in Comparative International Development*, *55*(2), 204–227. https://doi.org/10.1007/s12116-020-09305-6

Narang, N. (2015). Assisting Uncertainty: How Humanitarian Aid can Inadvertently Prolong Civil War. *International Studies Quarterly*, *59*(1), 184–195. https://doi.org/10.1111/isqu.12151

Nelson, T. (2010). When disaster strikes: On the relationship between natural disaster and interstate conflict. *Global Change, Peace & Security*, *22*(2), 155–174. https://doi.org/10.1080/14781151003770788

Nemeth, S., & Lai, B. (2022). When do natural disasters lead to negotiations in a civil war? *Journal of Peace Research*, *59*(1), 28–42. https://doi.org/10.1177/00223433211061952

Nielsen, R. A., Findley, M. G., Davis, Z. S., Candland, T., & Nielson, D. L. (2011). Foreign Aid Shocks as a Cause of Violent Armed Conflict. *American Journal of Political Science*, *55*(2), 219–232. https://doi.org/10.1111/j.1540-5907.2010.00492.x

Nunn, N., & Qian, N. (2014). US Food Aid and Civil Conflict. *American Economic Review*, *104*(6), 1630–1666. https://doi.org/10.1257/aer.104.6.1630

Öhler, H., & Nunnenkamp, P. (2014). Needs-Based Targeting or Favoritism? The Regional Allocation of Multilateral Aid within Recipient Countries. *Kyklos*, *67*(3), 420–446. https://doi.org/10.1111/kykl.12061

Omelicheva, M. Y. (2011). Natural Disasters: Triggers of Political Instability? *International Interactions*. https://www.tandfonline.com/doi/abs/10.1080/03050629.2011.622653

Paik, W. (2011). Authoritarianism and humanitarian aid: Regime stability and external relief in China and Myanmar. *The Pacific Review*, *24*(4), 439–462. https://doi.org/10.1080/09512748.2011.596560

Passeri, A. (2022). Authoritarian Rule and the Weaponisation of Natural Disasters: The Case of Myanmar from Cyclone Nargis to the COVID-19 Pandemic (2008–2021). *Journal of Asian Security and International Affairs*, *9*(2), 280–300. https://doi.org/10.1177/23477970221098475

Raleigh, C., & Kniveton, D. (2012). Come rain or shine: An analysis of conflict and climate variability in East Africa. *Journal of Peace Research*, *49*(1), 51–64. https://doi.org/10.1177/0022343311427754

Rosvold, E., & Buhaug, H. (2021). *Geocoded Disasters (GDIS) Dataset* [Dataset]. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). https://doi.org/10.7927/ZZ3B-8Y61

Rosvold, E. L. (2020). Disaggregated determinants of aid: Development aid projects in the Philippines. *Development Policy Review*, *38*(6), 783–803. https://doi.org/10.1111/dpr.12465

Runde, D. F., Pforzheimer, A., Bryja, T., & Smutny, C. (2024, June 13). *The Future of Assistance for Afghanistan: A Dilemma*. https://www.csis.org/analysis/future-assistance-afghanistan-dilemma

Salehyan, I., & Hendrix, C. S. (2014). Climate shocks and political violence. *Global Environmental Change*, *28*, 239–250. https://doi.org/10.1016/j.gloenvcha.2014.07.007

Sexton, R. (2016). Aid as a Tool against Insurgency: Evidence from Contested and Controlled Territory in Afghanistan. *American Political Science Review*, *110*(4), 731–749. https://doi.org/10.1017/S0003055416000356

Staniland, P. (2021). *Ordering violence: Explaining armed group-state relations from conflict to cooperation*. Cornell University Press.

Storeygard, A., Balk, D., Levy, M., & Deane, G. (2008). The Global Distribution of Infant Mortality: A subnational spatial view. *Population, Space and Place*, *14*(3), 209–229. https://doi.org/10.1002/psp.484

Tollefsen, A. F., Strand, H., & Buhaug, H. (2012). PRIO-GRID: A unified spatial data structure. *Journal of Peace Research*, *49*(2), 363–374. https://doi.org/10.1177/0022343311431287

Tominaga, Y., & Lee, C. (2021). When Disasters Hit Civil Wars: Natural Resource Exploitation and Rebel Group Resilience. *International Studies Quarterly*, *65*(2), 423–434. https://doi.org/10.1093/isq/sqab014

Trinidad, D. (2019). Strategic Foreign Aid Competition: Japanese and Chinese Assistance in the Philippine Infrastructure Sector. *Asian Affairs: An American Review*, *46*(4), 89–122. https://doi.org/10.1080/00927678.2020.1723295

Vogt, M., Bormann, N.-C., Rüegger, S., Cederman, L.-E., Hunziker, P., & Girardin, L. (2015). Integrating Data on Ethnicity, Geography, and Conflict: The Ethnic Power Relations Data Set Family. *Journal of Conflict Resolution*, *59*(7), 1327–1342. https://doi.org/10.1177/0022002715591215

Walch, C. (2014). Collaboration or obstruction? Rebel group behavior during natural disaster relief in the Philippines. *Political Geography*, *43*, 40–50. https://doi.org/10.1016/j.polgeo.2014.09.007

Walch, C. (2016). *Rethinking Ripeness Theory: Explaining Progress and Failure in Civil War Negotiations in the Philippines and Colombia*. https://doi.org/10.1163/15718069-12341325

Walch, C. (2018). Weakened by the storm: Rebel group recruitment in the wake of natural disasters in the Philippines. *Journal of Peace Research*, *55*(3), 336–350. https://doi.org/10.1177/0022343317741535

Walter, B. F. (2006). Building Reputation: Why Governments Fight Some Separatists but Not Others. *American Journal of Political Science*, *50*(2), 313–330. https://doi.org/10.1111/j.1540-5907.2006.00186.x

Weidmann, N. B., Kuse, D., & Gleditsch, K. S. (2010). The Geography of the International System: The CShapes Dataset. *International Interactions*, *36*(1), 86–106. https://doi.org/10.1080/03050620903554614

Wood, R. M., & Molfino, E. (2016). Aiding Victims, Abetting Violence: The Influence of Humanitarian Aid on Violence Patterns During Civil Conflict. *Journal of Global Security Studies*, *1*(3), 186–203. https://doi.org/10.1093/jogss/ogw007

Wood, R. M., & Sullivan, C. (2015). Doing Harm by Doing Good? The Negative Externalities of Humanitarian Aid Provision during Civil Conflict. *The Journal of Politics*, *77*(3), 736–748. https://doi.org/10.1086/681239

Zhao, W. (2025). The Impact of Natural Disasters on the Ongoing Civil War: The Role of Spatial Configuration of Territorial Control. *Journal of Conflict Resolution*, 00220027251346912. https://doi.org/10.1177/00220027251346912

Zhou, Y.-Y., & Shaver, A. (2021). Reexamining the Effect of Refugees on Civil Conflict: A Global Subnational Analysis. *American Political Science Review*, *115*(4), 1175–1196. https://doi.org/10.1017/S0003055421000502

Appendix A – Descriptive Statistics