Terrorist Hostage-Taking in Civil War

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Abstract

Hostage-taking has reached unprecedented levels in civil war. Every year, thousands of individuals are abducted by militants. The incidence and sophistication of these attacks is increasing over time. Despite the upward trend, scholarly work on hostage-taking remains limited. To extend focus on this form of violence, this dissertation provides answers to important questions on the dynamics of hostage-taking in civil war.

First, I consider the most common form of hostage-taking: kidnapping. I ask why some insurgents resort to kidnapping in civil war and what explains variation in its selection and intensity over time and space. At a macro- and micro-level, I find organizations resort to kidnapping to generate support and reinstate bargaining capacity when they suffer losses on the battlefield, and to enforce loyalties and display strength when they face violent competition from other militants. Second, I consider why organizations decide to kill hostages. Using novel data on the Islamic State in Iraq, I find hostage victims accused of acts that undermine the rebel regime are more likely to be killed than those taken for other purposes. Finally, I move the discussion to the state and explore when governments negotiate with organizations for the release of hostages. Utilizing original data on the Philippines, I find states are more likely to negotiate for the release of high-profile victims compared to other victims.

This dissertation makes several contributions to existing work on conflict and development. By examining a diverse set of organizations across various conflicts, introducing novel data drawing attention to domestic victims of violence, and highlighting the unique nature of hostage-taking as a tactic employed in a demand-intensive environment, the dissertation emphasizes and deconstructs the politics deeply intertwined with violence and responses to it, offering informed insights to counter violent extremism in civil war.

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Peter was acting as a 'Medic' when captured. We have no doubt that these 'Medics' are nothing but another front in the battles between the Muslims and the imperial West… [W]e adopt a strict policy of 'an eye for an eye, a tooth for a tooth' giving the enemies of Islam a drink from their own bitter cup… Our Muslim prisoners in exchange for Peter.

— Email to the family of Peter Kassig from ISIS militants.

1
Introduction

Motivation

On 14 April 2022, a federal jury in the United States District Court for the Eastern District of Virginia convicted El Shafee Elsheikh of hostage-taking and conspiracy to murder. Elshekih was regarded as the highest-ranking member of the Islamic State of Iraq and al-Sham (ISIS) to face a jury trial in the United States (US Attorney's Office, 2022). The charges related to his leadership of an international hostage-taking scheme—under the ISIS cell referred to as 'the

Beatles'—that resulted in the deaths of American, British, and Japanese citizens in Syria.[1] According to evidence submitted to the Court, Elshekih encouraged prolonged patterns of physical and psychological violence against the hostages to compel the victims' family members and governments to pay large ransom sums or meet alternative demands set by the organization (see US District Court Alexandria, 2021).

Among the victims was Peter Kassig. On 1 October 2013, Kassig, an American aid worker from Indiana, was abducted by ISIS militants while traveling to Deir ez-Zor, in eastern Syria, on a humanitarian mission. Four months later, his family received an email, indicated above, demanding a prisoner exchange with the United States for his release (US District Court Alexandria, 2021, 9).[2] The United States was unable to successfully negotiate with the organization (see Malik et al., 2014). In turn, on 3 October 2014, ISIS published a press release containing a video of a militant beheading Kassig at a remote site in Syria. The video was one within a series of press releases capturing the execution of foreign hostages by the organization, under the instruction of El Shafee Elsheikh, including James Foley, Kenji Goto, and Alan Henning (US District Court Alexandria, 2021, 8). Their "extraordinary nature" sparked large policy discussions on global responses to terrorist demands involving hostages (White House Press Briefing, 2014).

While hostage-taking by ISIS, particularly of foreigners, has received large media attention in recent years, hostage-taking is not an act reserved solely for the terrorism of ISIS. Figure 1.1 indicates the level of hostage-taking for countries in civil war between 1989 and 2018.[3]

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[1] Elsheikh was part of a group of ISIS members—including Alexanda Kotey and Mohamed Emwazi—who spoke with British accents and were therefore referred to by the hostages as 'the Beatles' (see US Attorney's Office, 2022).

[2] This was one of many demands Kassig's family received while he was held hostage, including a ransom request of €100 million for his release (see British Broadcasting Corporation, 2022).

[3] All statistics are taken from the Global Terrorism Database (LaFree & Dugan, 2007) and original data collection efforts described in the dissertation unless stated otherwise. For Figure 1.1, a cutoff is assigned for visualization purposes. It follows: 0-100 attacks (low), 101-300 attacks (medium), 301-800 attacks (high), 801-1500 (very high).
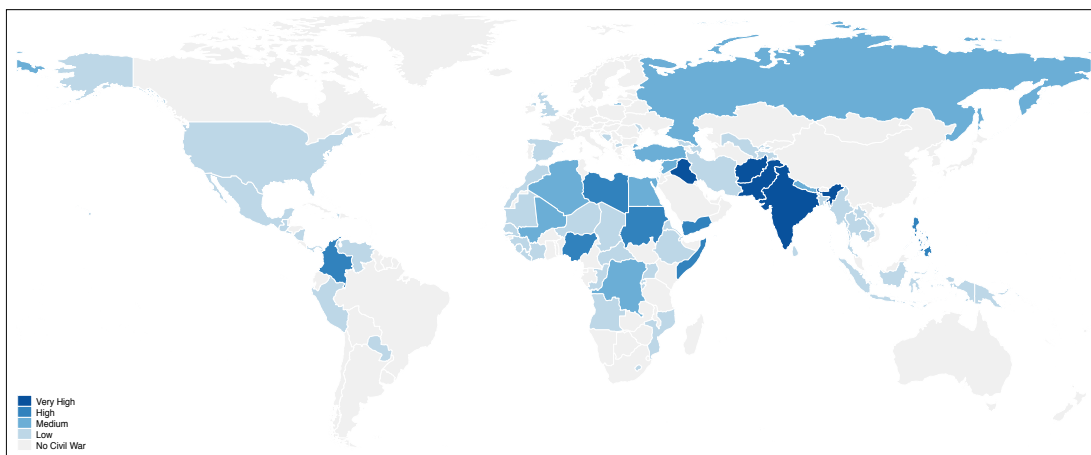
Figure 1.1: Map of Hostage-Taking in Civil War (1989-2018)

Hostage-taking has increased in intensity and lethality in recent years. Of organizations that use terrorism in civil war, 60% take hostages. As a tactic, it is regarded as an effective tool for pressuring governments into making concessions (Wright, 2009, 48). For example, the annual global income derived from kidnapping, specifically for ransom, is believed to be more than $500 million (Heinz, 2013).

Despite increasing concern for foreign victims, hostage-taking is far from a transnational phenomenon. Most victims of hostage-taking are, in fact, national civilians. Figure 1.2 displays the number of hostage-taking attacks alongside the share of those attacks with foreign and national victims over time. 82.3% of hostage-taking attacks in civil war involve national civilian victims—the increase in hostage-taking over time is driven almost exclusively by attacks on these individuals. The detention of foreign civilians by ISIS, while alarming, is not representative of the wealth of hostage-taking attacks by armed groups on national civilians that take place in many conflict-affected countries every day (Gilbert, 2020a, 3).

Research on the use of terrorism in civil war is expansive. Many investigate terrorism as a strategy (e.g., Fortna, 2015; Fortna et al., 2022; Piazza & Guler, 2021; Polo & Gleditsch, 2016; Stanton, 2013) as well as its variation over time and space (e.g., Findley & Young, 2012; Polo &

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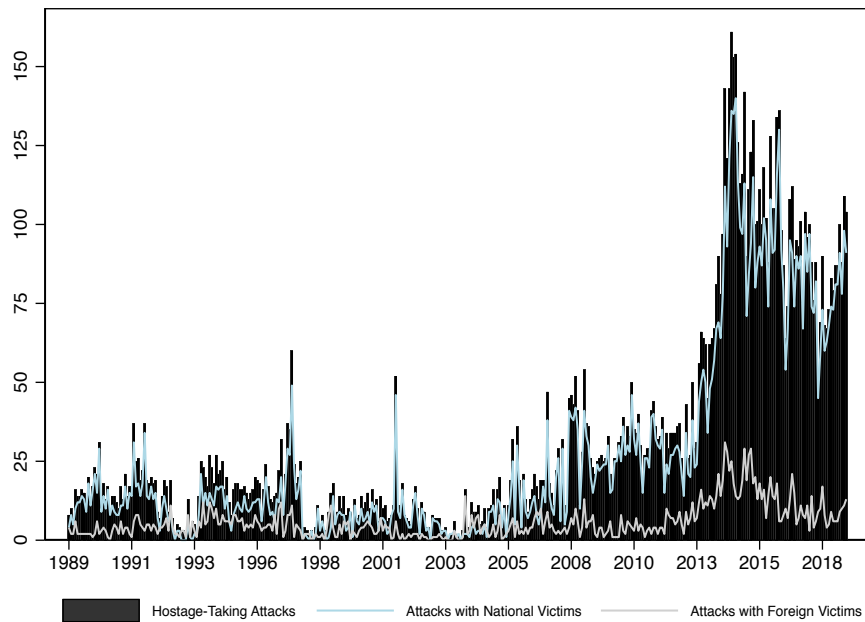
Figure 1.2: Hostage Victims in Civil War (1989-2018)

González, 2020). Much of this work also considers particular tactics, such as assassination (e.g., Mandala, 2017) and suicide bombing (e.g., Alakoc, 2017; Bloom, 2005; Pape, 2005; Thomas, 2021; Warner et al., 2019), as well as targets, including civilians (e.g., Polo, 2020b; Nemeth, 2013), foreign governments (e.g., Soules, 2023), and the media (e.g., Asal et al., 2022). Work on civilian targeting is equally large. Many have investigated the use of particular tactics (Cohen, 2013; Doctor, 2021; Faulkner & Welsh, 2022; Kalyvas, 2006) and variation in insurgents' use of violence over time and space (Oswald et al., 2020; Welsh, 2022; Wood, 2010).

There is a growing literature on hostage-taking as a tactic within insurgents' violence strategies in civil war. Many have investigated the increase in hostage-taking attacks over time and space at the domestic and transnational level (Hou et al., 2020; Kim et al., 2021; Okolie-Osemene & Okolie-Osemene, 2019). Among investigations, scholars focus on insurgents' reliance on the tactic from both a criminal and terrorist perspective (Asal et al., 2019; Gilbert, 2020a, 2022), across and within a variety of organizations (Gilbert, 2022; Restrepo et al., 2006),

as well as its consequences for civil war bargaining (Atkinson et al., 1987), negotiations (Gaibulloev & Sandler, 2009; Santifort & Sandler, 2013), state countermeasures (Brandt et al., 2016; Landes, 1978), and wider corporate infrastructure and insurance concerns (Brandt & Sandler, 2009; Lapan & Sandler, 1988; Shortland, 2019).

While important, existing work is limited in several ways. First, many studies focus predominately on financial and resource-based incentives for the use of hostage-taking violence in civil war (e.g., Asal et al., 2019; Gilbert, 2020a, 2022; Shortland, 2019). Studies that acknowledge political or behavioral incentives for hostage-taking draw largely from transnational bargaining agreements between state and non-state actors, which fail to capture the severity of these attacks for national security in conflict-affected countries (Atkinson et al., 1987; Gaibulloev & Sandler, 2009; Lapan & Sandler, 1988; Santifort & Sandler, 2013).

Second, work on hostage-taking often considers the tactic as a non-lethal form of violence (e.g., Gaibulloev & Sandler, 2009; Gilbert, 2020a, 2022; Santifort & Sandler, 2013). Upon the receipt of demands, victims are expected to be released alive. Despite this, there is growing evidence of organizations, such as Abu Sayyaf Group, the Islamic State in Iraq and Syria, and the Taliban in Afghanistan, taking hostages and never releasing the victim(s) or engaging in negotiations with third-party targets. These attacks often end with the victim being killed. This dynamic is important yet overlooked in current scholarship.

Finally, work aimed at uncovering trends in the victims of hostage-taking violence focuses largely on foreign, particularly Western, civilians (e.g., Loertscher & Milton, 2015); yet, these victims make up a relatively small portion of those affected by hostage-taking. The international focus makes it difficult to assess the risk and consequence of hostage-taking for those living under violent organizations that use the tactic. Civilians living in areas affected by the scourge of terrorist hostage-taking often bear a constant burden of insecurity and marginality (Heinz, 2013, 11). Only work focusing on national victims can assist efforts to alleviate reprisals in

these communities and remedy the detrimental impact hostage-taking has on socioeconomic and post-conflict development (see Heinz, 2013; Rosenthal, 2008; Wright, 2009).

What remains clear, therefore, is that more can be done to understand the dynamics of hostage-taking in civil war. To this end, in this dissertation, I explore four important questions on the use, spatiotemporal profile, and lethality of hostage-taking violence as well as hostage negotiation in civil war. In what follows, I provide a definitional framework for the dissertation, outline the central arguments and empirical strategies, and highlight their key contributions before mapping the organization of the dissertation as a whole.

Defining Key Terms

Before proceeding further, it is useful to clarify some key terms. Hostage-taking involves taking or holding individuals captive to obtain a political objective through the intimidation of a large audience beyond that of the immediate victims (c.f., Enders & Sandler, 2012; Gilbert, 2020a, 2022; Kim et al., 2021). Often, the objective is to compel a third party to do or abstain from doing an act as an explicit or implicit condition for the victim's release (Heinz, 2013, 4).

Hostage-taking attacks comprise one of three situations: kidnapping, siege, or hijacking. Kidnappings and sieges are often distinguished by how the organization handles the hostage(s). In kidnapping attacks, the organization moves and holds the victim in a new location. Sieges, however, involve holding the victim at the target location, with little or no intention to hold the victim for an extended period in a separate clandestine location (START, 2021, 26). In a hijacking attack, the organizations aim to take control of a vehicle to divert it to an unprogramed destination (START, 2021, 25).

Hostage-taking is a terrorist tactic. Terrorism is the deliberate creation and exploitation of fear through violence or threat of violence by non-state actors against non-combatant targets in the pursuit of political change (Hoffman, 2006; Enders & Sandler, 2012). It is a tactic of indirect

targeting which operates through the intimidation of a larger audience beyond the immediate victims or physical targets. Throughout this dissertation, I focus exclusively on hostage-taking by non-state organizations involved in an armed intrastate conflict.[4] An armed intrastate conflict is a contested incompatibility that concerns a government and a non-state party, resulting in at least 25 battle-related deaths in one calendar year (Pettersson, 2019, 1).[5] Importantly, this excludes hostage-taking by non-state actors that are not parties to a civil war, such as criminal organizations or pirates.[6]

The central arguments developed in this dissertation may be of some utility in explaining variation in hostage-taking outside of conflict. Many scholars draw parallels between insurgents and other non-state organizations, such as criminal groups (see Daxecker & Prins, 2021; Flanigan, 2012; Phillips, 2014; Williams, 2012), and there are similarities in how these groups govern territory (see Durán-Martínez, 2018; Phillips, 2015). Despite this, civil wars are inherently complex and unique environments. The use of terrorist violence, such as hostage-taking, in civil war is often associated with proximate goals aligned to the insurgency, with particular audiences as either the receivers or observers of such violence (e.g., Fuji, 2021; Polo & González, 2020). The strategic calculus behind hostage-taking, and the motivations for states to interact with organizations using such violence, are likely unique to civil war. Thus, while the arguments might speak to the behaviors of non-state actors more broadly, the theoretical foundations and empirical tests thereof are not intended to explain the use of the tactic beyond the defined context.

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[4] The terms insurgent and rebel organization are used interchangeably. Both refer to non-state organizations engaged in armed intrastate conflict.

[5] The unit of 25 battle-related deaths in one calendar year can be restrictive. I only apply this unit in Chapter 2. The other chapters explore micro-level dynamics of hostage-taking and therefore do not require the battle-related deaths limit for the organizations and countries under consideration.

[6] My focus is therefore on "terrorist hostage-taking" (see Heinz, 2013). For work on non-terrorist hostage-taking, see Ochoa (2012); Schoeman and Häefele (2013); Shortland (2019).

Central Arguments and Empirical Strategies in Brief

In this dissertation, I propose that the use of hostage-taking violence is a behavioral, often political, decision by non-state actors. Local and individual contexts matter in determining the outcomes under examination. Who the victims are, the environment within which the organization is based, and the context of the conflict in question ultimately shape the tactic's utility and responses to it at various points in time and space. I explore several facets of hostage-taking at the macro- and micro-level: the decision to use kidnapping in civil war; its variation over time and space; the decision to kill a hostage; and, from a state standpoint, the decision to engage in negotiations with organizations for the release of hostages.

In Chapter 2, I ask: Why do some insurgents resort to kidnapping in civil war while others do not? What explains variation in the selection and intensity of kidnapping over time and space? I develop an incentive-based approach and argue the decision to kidnap hostages is underpinned by rebel organizations' behavioral interactions in the conflict environment. Within this framework, kidnapping occurs under two conditions. First, to generate support and reinstate bargaining capacity where an organization suffers major military losses on the battlefield. Second, to enforce loyalties and display strength when the organization faces violent competition from other non-state actors. The decision to kidnap therefore becomes favorable when organizations need to gain support, encourage negotiations, and enforce loyalties.

I test the conditions at the macro- and micro-level. At the macro-level, I conduct a cross-group analysis (1989-2018) using Polo and Gleditsch's (2016) data linking organizations in the UCDP Armed Conflict Dataset with groups in the Global Terrorism Database. At the micro-level, I consider the case of the Taliban in Afghanistan (2010-2018). With more precise, sub-national data, the latter enables an investigation beyond kidnapping as a group-level strategy to consider the selection and intensity of the tactic over time and space, probing the spatial decision-making

processes and causal mechanisms at play.

The micro-level analysis is divided into two stages. I first use spatial econometric models on highly disaggregated geospatial data to determine the conditions under which the Taliban exacerbates or constrains its reliance on kidnapping across Afghanistan. Then, I perform a within-case assessment of Ghazni, in Afghanistan, between 2015 and 2018, with vector autoregressive orthogonalized impulse-response models. This follows previous work on the temporal dynamics of violence to assess the effect of a shock in the conflict system at a given point in time on the expected future values of kidnapping (see Brandt & Sandler, 2012; Polo & González, 2020). For shocks, here, I exploit monthly data on US airstrikes in Afghanistan and Islamic State Khorasan attacks on the Taliban. Taken together, the analyses provide robust support for the theory and indicate a behavioral logic for the decision to use kidnapping over time and space.

In Chapter 3, I ask: Why do some organizations kill hostages? I extend theories on rebel governance to develop a governance-centered explanation for hostage killing. I argue organizations kill hostages as part of a punitive governance strategy in their areas of operation. When hostages are of no bargaining value to the organization, hostage-taking and killing can be used as a corrective action to exercise control over the population. Hostage victims accused of acts that undermine the rebel regime are more likely to be killed than those taken for other purposes.

The theory is tested in the context of the Islamic State in Iraq with novel and rich event-level data. The data document hostage-takings and killings in the 31 districts the organization governed across Iraq between 2013 and 2018. The data are examined in a multipronged empirical strategy. First, I conduct a victim-level analysis with an exact matching technique to better support causal inference with observational data. Next, I probe the mechanisms in a within-case assessment of Mosul utilizing a dual, mixed-method causal identification strategy. More specifically, I first draw upon a synthetic control model examining the Islamic State's travel ban in Mosul in 2015 as the introduction of a formal punitive governance strategy and, second, exam-

ine qualitative evidence from causal process observation to trace justifications for violence. The analyses provide robust support for the theory and indicate hostage victims accused of acts that undermine the rebel regime are more likely to be killed than those taken for other purposes.

Finally, in Chapter 4, I ask: When do states negotiate with organizations for the release of hostages in civil war? Given the substantial costs associated with engaging in talks with terrorists, I argue governments only negotiate for the release of hostages where the victim is likely to attract attention, compelling state action. States are therefore more likely to engage in negotiations with organizations for the release of hostages where the hostages are high-profile victims. I test this theory in the context of the Philippines with original, fine-grained event-level data. The data document the universe of hostage-takings in the Philippines between 1975 and 2018 for six insurgent groups: Abu Sayyaf Group, Bangsamoro Islamic Freedom Movement, Maute Group, Moro Islamic Liberation Front, Moro National Liberation Front, and the New People's Army. The data also detail whether the event resulted in a negotiation with the government for the release of the hostage victim.

The data are examined in a two-pronged empirical strategy. First, I conduct an event-level analysis with a matching technique for causal inference using observational data. In this stage, I determine whether certain victim characteristics attract negotiations. Next, I probe the mechanism in a within-case examination of hostage-taking by the New People's Army in the Philippines between 2006 and 2018. Utilizing causal mediation analysis, I closely test the extent to which the hypothesized relationship is mediated by the amount of attention hostage-taking attacks with high-profile victims receive. The analyses robustly support the theory prescribed and suggest states are more likely to negotiate for the release of high-profile victims compared to other victims; this effect is largely mediated by the amount of attention attacks with high-profile victims receive.

Contribution

This research makes several important contributions. I introduce new data on hostage-taking, hostage killing, and hostage negotiation by a diverse set of organizations across various conflict environments. The data include information on hostage victims previously unavailable, such as their age, sex, ethnicity, and social status, as well as the justifications for hostage-taking and the amount of attention attacks receive. This effort is a valuable addition to work focusing on uncovering trends in the characteristics of victims in civil war beyond the binary of civilian and non-civilian targets (e.g., Asal et al., 2022; Polo & Wucherpfennig, 2022; Schulz, 2018). A holistic approach centered on the victims of violence both emphasizes and deconstructs the politics deeply intertwined with violence and responses to it as well as offers important pathways to combat terrorism (A. Meier, 2022).

Relatedly, the research draws further attention to domestic victims of political violence. It suggests, despite concern for foreign and Western victims of hostage-taking (e.g., Loertscher & Milton, 2015), a larger focus must be directed inward toward understanding how national governments respond to violent behavior and which victims are at risk of potentially fatal outcomes at the hands of armed non-state actors. This is of relevance to counterterrorism and counterinsurgency efforts. Understanding which individuals and communities are more at risk of violence can direct policy toward alleviating a constant burden of insecurity. It can also inform human rights organizations on which individuals and communities might require additional assistance for post-conflict development, given the severe and sustained impact this form of violence has on its victims, many of whom display symptoms of post-traumatic stress disorder (Alexander & Klein, 2009).

The exploration of hostage-taking at the macro- and micro-level is useful for highlighting that violence—which is often considered group-level behavior—can change over time and space in

response to the conflict environment in question. The focus on Afghanistan, Iraq, and the Philippines is of interest to researchers and policy-makers alike, in these regions and beyond, since the insurgencies under examination are of geo-strategic importance, and granular information on the victims of violence in these contexts remains limited.

Moreover, throughout the three chapters, I provide an in-depth analysis of the link between the use of terrorism, battlefield interactions, rebel governance, and negotiations. In each case, the work emphasizes the unique nature of hostage-taking as a tactic employed in a demand-intensive environment. This distinction is important for considering terrorist outcomes. It emphasizes the importance and idiosyncrasy of specific terrorist tactics, signaling a departure from work on the use of terrorism in civil war that favors universal application and homogenous examinations of violence (e.g., Fortna, 2015; Thomas, 2014).

The research also draws further attention to how selective violence operates within repertoires of rebel violence and strategy-building in civil war. It joins a growing literature that examines how governance and violence might work together (e.g., Arjona, 2016; Breslawski, 2020; Revkin, 2020; Revkin & Ahram, 2020), which is of relevance to counterterrorism and counterinsurgency policy aimed at surmounting and understanding the various facets of rebel governance in civil war. While these organizations can provide local communities with important services (see Stewart, 2021), their governance often increases the burden of insecurity as opposed to aiding challenges faced by these communities in the context of a civil war (Heinz, 2013, 11). Understanding how violence and governance work together, therefore, contributes to more informed responses to counter violent extremism.

Organization of the Dissertation

The remainder of the dissertation proceeds as follows. Chapter 2 introduces the most common form of hostage-taking in civil war: kidnapping. In this chapter, I examine why insurgents

resort to kidnapping in civil war and what explains variation in the selection and intensity of the tactic over time and space. Chapter 3 considers fatal outcomes in hostage-taking attacks to uncover the conditions under which organizations choose to kill hostages. Chapter 4 moves the discussion to a state-based perspective, exploring when states negotiate with organizations for the release of hostages in civil war. Chapter 5 brings the dissertation to a close. Here, I identify the main findings, discuss the limitations of the research, and conclude with a discussion on policy implications and directions for future research.

2

Terrorist Kidnapping in Civil War

Introduction

On 8 August 2016, Kevin King and Timothy Weekes were kidnapped from their vehicle in Kabul, Afghanistan. After three years in captivity, the Taliban released the pair following a prisoner exchange agreement with the Afghan government, which saw three Taliban fighters released "to facilitate direct peace negotiations" (Safi, 2019). Kidnappings are an integral feature of the Taliban's violent governance strategy across Afghanistan. However, the organization's

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reliance on the tactic is neither static nor universal. Figure 2.1 displays the spatiotemporal distribution of Taliban kidnapping attacks from 2010 until 2018. It is clear attacks are concentrated in particular spaces and points in time. In 2018, the Taliban committed 34 kidnapping attacks in Farah, which amounted to 32% of their terrorist strategy in the province for the year; an increase of 85% from 2017.[1] Conversely, the organization carried out few kidnapping attacks in Uruzgan and no attacks in Kapisa and Nimroz, despite launching alternative terrorist tactics in these locations. According to local sources, the Taliban have increased their reliance on kidnapping in recent years in response to local battlefield dynamics (e.g. Gul, 2016).

Though kidnapping in the region has received large media attention, insurgents' reliance on the tactic is not limited to the terrorism of the Taliban. Between 1989 and 2018, 60% of rebel organizations using terrorism in civil war kidnapped hostages.[2] Current explanations for kidnapping in civil war focus on financial incentives for its use (e.g., Asal et al., 2019; Gilbert, 2020a, 2022; Shortland, 2019). Hostage release packages can include large ransom payments. For example, it is estimated al-Qaeda in the Islamic Maghreb (AQIM) received $75 million from ransom payments between 2010 and 2014 (UNSC, 2014). Despite notable financial reward for kidnappings, ransom payments are only demanded approximately 10% of attacks in civil war.[3] As the case of the Taliban demonstrates, organizations might have alternative motivations for kidnapping extending beyond monetary benefits. Moreover, organizations might employ kidnapping sparingly, with attacks concentrated in specific locations and points in time. Current ransom-orientated, group-wide explanations for kidnapping, while useful, cannot explain this variation and the behavioral decision-making processes toward the selection and intensity of kidnapping in the conflict environment. What remains unclear, therefore, is why organizations

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[1] Unless stated otherwise, all statistics are taken from the Global Terrorism Database (GTD).

[2] The terms 'rebel' and 'insurgent' are used interchangeably.

[3] This small statistic might be a product of reporting issues. I discuss these problems in the Data and Research Design section.

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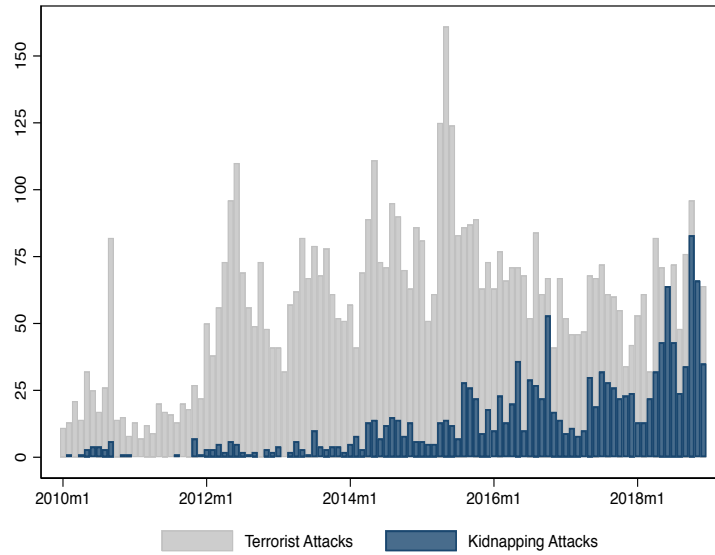
(a) Temporal Variation
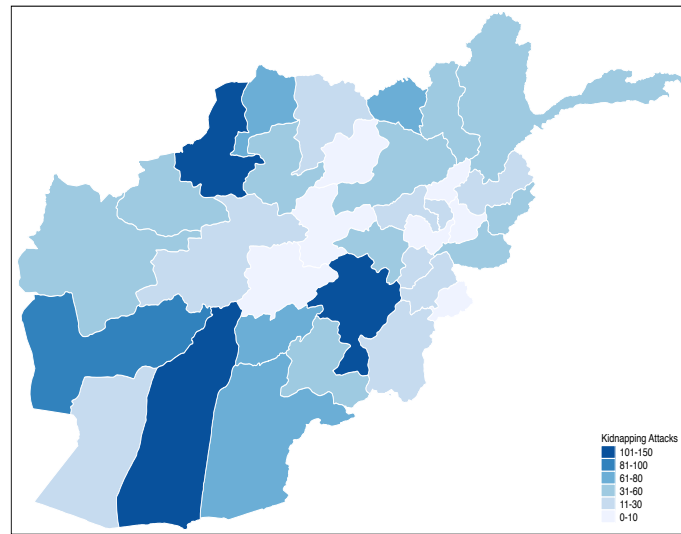
(b) Spatial Variation

Figure 2.1: Spatiotemporal Variation in Taliban Kidnapping Attacks (2010-2018)

might decide to kidnap in civil war and what explains variation in kidnapping attacks over time and space.

This article develops a framework to understand the selection and intensity of kidnapping in civil war over time and space. In what follows, I first review existing studies on hostage-taking

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and situate the tactic of kidnapping within the wider literature on terrorism and civilian targeting. Next, I develop an incentive-based approach and argue the decision to kidnap hostages is underpinned by rebel organizations' behavioral interactions in the conflict environment. Within this framework, kidnapping occurs under two conditions. First, to generate support and reinstate bargaining capacity where an organization suffers major military losses on the battlefield. Second, to enforce loyalties and display strength when the organization faces violent competition from other non-state actors. The decision to kidnap therefore becomes favorable when organizations need to gain support, encourage negotiations, and enforce loyalties.

After developing these conditions in more detail, I test them at the macro- and micro-level. At the macro-level, I conduct a cross-group analysis (1989-2018) using Polo and Gleditsch's (2016) data linking organizations in the UCDP Armed Conflict Dataset (ACD) with groups in the Global Terrorism Database (GTD). At the micro-level, I consider the case of the Taliban in Afghanistan (2010-2018). With more precise, sub-national data, the latter enables an investigation beyond kidnapping as a group-level strategy to consider the selection and intensity of the tactic over time and space, probing the spatial decision-making processes and causal mechanisms at play. Both analyses provide robust support for the theory. I conclude with a discussion on the implications of my findings and directions for future research.

This research makes several important contributions and accompanies existing studies on terrorism and civilian targeting. First, I identify two conditions underpinning the selection and intensity of kidnapping in civil war. The macro- and micro-level focus is useful, here, in demonstrating that violence—often considered as group-level behavior—can change over time and space in response to the conflict environment in question. This allows for the consideration of spatial decision-making processes and local conflict dynamics, which are often overlooked in studies of violence. The focus on the Taliban in Afghanistan is of interest to research and policy-makers alike, since the insurgency is of geo-strategic importance.

Second, I contribute to work on selective forms of violence and terrorism in civil war by considering the mechanisms underpinning a conditional and relatively non-lethal form of violence. While existing studies on selective violence focus largely on lethal violence (e.g., Zhukov, 2013; Thomas, 2021) and those examining kidnapping highlight financial or material motivations for its use (e.g., Asal et al., 2019; Gilbert, 2022), I demonstrate that kidnapping can also be used to lubricate the constraints of certain battlefield interactions on an organization's relationship with various conflict actors. The focus on a particular tactic emphasizes the importance and idiosyncrasy of specific terrorist tactics and signals a departure from work on the use of terrorism in civil war that favors universal application and homogenous examinations of violence (e.g., Fortna, 2015; Thomas, 2014).

Finally, I show that kidnapping has an inherently behavioral dynamic in civil war; it is attached to the conflict environment itself and non-state actor governance as opposed to simply actors' demands for funding. This is of relevance to counterterrorism policy focusing on combating kidnapping, rescue missions, and hostage negotiations. Understanding which organizations are more likely to use kidnapping and which communities are more at risk of violence can direct policy toward alleviating the burden of insecurity in conflict zones. It can also inform human rights organizations on which communities might require additional assistance for post-conflict development, given the severe and sustained impact this form of violence has on its victims, many of whom display symptoms of post-traumatic stress disorder (Alexander & Klein, 2009).

Previous Research

Terrorism is the deliberate creation and exploitation of fear through violence or the threat of violence by non-state actors against non-combatant targets in the pursuit of political change (Hoffman, 2006; Enders & Sandler, 2012). It is a method of indirect targeting, operating through the intimidation of an audience beyond the immediate victims or targets (Enders & Sandler,

2012, 4). Kidnapping is a form of terrorist violence. Kidnapping operations are among the most risky and complex terrorist tactics, demanding organizations to balance expected gains with substantial costs (see Brandt et al., 2016; Gilbert, 2020a; Wilson, 2000). With a human hostage, kidnapping is distinguishable and, arguably, more reliable than demand-driven attacks, such as the detonation of remote devices, as the targets are emotionally compelled to meet demands which release the victim.

I follow the definition provided by Gilbert, which views kidnappings as the "forceful abduction of non-combatants accompanied by demands that condition the victim's release" (2020a, 4). This conceptualization implies relative non-lethality, at least at the onset. While civilians may eventually be killed, the calculus here is to condition violence and the victim's release with a set of demands on a third-party target (Gilbert, 2020a, 4). I focus exclusively on kidnapping by insurgents, in which the organization is a party to a civil war. This excludes kidnapping by any other nonstate actor, such as criminal organizations or pirates.[4]

The literature on the use of terrorism in civil war is expansive. Many have investigated terrorism as a strategy (e.g., Fortna, 2015; Polo & Gleditsch, 2016; Stanton, 2013) as well as its variation over time and space (e.g., Findley & Young, 2012; Polo & González, 2020). This consideration extends to particular terrorist tactics, such as suicide bombing (e.g., Bloom, 2005; Pape, 2005; Warner et al., 2019), assassinations (e.g., Mandala, 2017), and other forms of hostage-taking (e.g., Alexander & Klein, 2010; Brandt & Sandler, 2009). The work on civilian targeting

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[4] I attach the term "terrorist" to kidnapping for conceptual and empirical reasons. Conceptually, kidnappings fall within the outlined definition of terrorism. It is more accurate to refer to kidnappings in this study as terrorist kidnappings in civil war as I do not account for nor theorize on non-terrorist kidnappings. Empirically, it is not possible to commit a kidnapping attack without engaging in terrorism, as per the GTD coding of kidnapping as a specific terrorist tactic. Civil wars are inherently complex and unique environments. The use of terrorist violence, such as kidnapping, in civil war is often associated with proximate goals aligned to the insurgency, with particular audiences as either the receivers or observers of such violence (e.g., Fuji, 2021; Polo & González, 2020). The strategic calculus behind hostage-taking, and the motivations for states to interact with organizations using such violence, are likely unique to civil war. Thus, while the arguments might speak to the behaviors of non-state actors more broadly, the theoretical foundations and empirical tests thereof are not intended to explain the use of the tactic beyond the defined context.

more generally is equally large. Many have investigated the use of particular tactics (Cohen, 2013; Doctor, 2021; Faulkner & Welsh, 2022; Kalyvas, 2006) as well as variation in the use of violence over time and space (Oswald et al., 2020; Welsh, 2022; Wood, 2010). Among explanations for violence, scholars consider regime characteristics (Balcells, 2010; Wood, 2010), group capacity (Hultman, 2007), resource mobilization (Weinstein, 2006), group goals (Akcinaroglu & Tokdemir, 2018), intergroup competition (Wood & Kathman, 2015), and state repression (Polo & González, 2020).

Few examine kidnapping as a tactic within insurgents' violence strategies in civil war. Among investigations, scholars focus on insurgents' reliance on the tactic from both a criminal and terrorist perspective, considering the tactic within a wider criminal strategy in civil war (Asal et al., 2019), within aggressive taxation systems to enforce their protection rackets (Gilbert, 2020a, 2022), and as a disequilibrium in the market for protection (Shortland, 2019). A wider literature on hostage-taking also considers the consequences of kidnapping for civil war bargaining (Atkinson et al., 1987), negotiations (Gaibulloev & Sandler, 2009; Santifort & Sandler, 2013), state countermeasures (Brandt et al., 2016; Landes, 1978; C. Lee, 2013), and wider corporate infrastructure and insurance concerns (Brandt & Sandler, 2009; Gilbert, 2020b; Shortland, 2019).

While important, existing studies on kidnapping are limited in at least two regards. First, there is an almost exclusive focus on kidnapping for ransom, assuming financial motivation for the perpetration of these attacks in civil war. Of course, organizations do kidnap for ransom and kidnapping is effective for receiving large payments. In 2014, the United Nations estimated ISIS alone received between $34-45 million in ransom (UNSC, 2014). However, ransom kidnappings make up a relatively small portion of kidnappings in civil war. Organizations also kidnap for alternative means. Gilbert (2020a, 81) suggests demands for the release of hostages can take four forms: policy change, press coverage, ransom payment, or prisoner exchange. In recent years, insurgents in Afghanistan, Colombia, Iraq, Mali, and Syria have used kidnappings

to receive prisoner swaps. Much of the work on hostage-taking fails to take demands alternative to finances into account when examining this form of violence empirically. Second, existing studies prioritize group-wide explanations for kidnapping over on-the-ground, situational motivations for violence. This ignores spatial and behavioral processes in the conflict environment which influence violent activity (see Buhaug & Gleditsch, 2008; Polo, 2020a; Welsh, 2022). In turn, these explanations do not account for variation in the selection and intensity of kidnapping over time and space. This is important as kidnappings have a notable spatiotemporal profile.

In what follows, I develop a framework to understand kidnapping in civil war. I argue the decision to kidnap is shaped by rebels' behavioral interactions in the conflict environment. Organizations use kidnapping to generate support, reinstate bargaining capacity, and enforce loyalties. The use of violence to gain support is not new to studies on civil conflict (Bloom, 2005; Kydd & Walter, 2006; Lake, 2002; Polo, 2020b). Other studies on violence more broadly also examine attacks as a means of enforcing loyalties (e.g., Durán-Martínez, 2018), with Gilbert (2020a, 2022) and Shortland (2019) highlighting the use of kidnapping within this framework. What is missing, however, is a consideration on the timing and location of kidnapping, particularly on how kidnapping can act as a function of response to battlefield dynamics for insurgents. I overcome this issue and complement existing work on kidnapping by considering its logic, location, and timing in civil war.

The Behavioral Logic of Terrorist Kidnapping

To develop a theory on kidnapping, I draw upon a rationalist framework, assuming organizations employ violence strategically by calculating its cost and benefit and weighing this calculation against organizational goals and anticipated responses from various audiences (Polo & González, 2020; Fortna et al., 2018). An organization's goals in civil war include displaying strength (e.g., Bloom, 2005), mobilizing support (e.g., Polo & González, 2020), and signaling

resolve (e.g., Filson & Werner, 2002). These goals are often directed toward, or in response to, a range of audiences. Audiences play an important role in incentivizing or restraining an organization's activity, particularly displays of violence (e.g., Salehyan et al., 2014). The most prominent audience in the civil war context is the national government; typically an organization's direct opponent. External audiences are also important in civil war. This external component includes outside observers as well as external state and non-state actors involved in the conflict, through financial or material means. Organizations also face local audiences, largely made up of non-combatants who reside either in government or insurgent constituencies. Signaling strength to each audience is important for an organization's survival (Bloom, 2005; Lake, 2002; Polo & González, 2020; Zhukov, 2013).

By taking an individual hostage, a rebel organization can reap significant benefits. A human hostage can be exchanged for political or monetary profits (Gilbert, 2022; Shortland, 2019) and the government are often compelled to intervene to save a victim from a potentially horrendous violent outcome (see Gilbert & Prather, 2022; Jenkins, 1982). Yet, the decision to use kidnapping as a strategy to communicate with audiences is fraught with risks and reputational costs. The organization must keep the victim alive with appropriate food, monitoring, and shelter (Gilbert, 2020a, 8). Additional resources are also required to thwart rescue missions. Moreover, kidnappings gain significantly more media attention than other terrorist tactics (e.g., Chermak & Gruenewald, 2006) and the public often form attachments to the victims (e.g., Gilbert, 2020b; Gilbert & Prather, 2022). This level of attention could result in reputational backlash from the organization's support base, which risks undermining the insurgency. Despite this, the cost of launching more lethal forms of violence might be considerably larger in comparison to using kidnapping, particularly in specific conflict settings. In the following sections, I outline two conditions which favor the selection of kidnapping within rebels' toolbox of tactics: when rebels face large military losses on the battlefield and during violent competitive episodes with other

non-state actors.

Rebels' Military Losses on the Battlefield

Interactions on the battlefield influence the selection and intensity of kidnapping in civil war. When rebel organizations suffer large military losses on the battlefield, they are likely to be viewed as militarily weak. In places and points in time where losses occur, rebels must make important calculations on what forms of violence are feasible for signaling capacity and generating support. I argue kidnapping can alleviate the constraints of military losses in two ways.

First, kidnapping can be used to generate support for the organization. Gaining support is difficult for organizations that appear weak on the battlefield. In their inability to provide services or rewards to supporters after major military losses, Polo and González (2020) suggest rebel organizations can consult more spectacular attack methods to mobilize the civilian support base. I argue kidnapping can serve as a basis to attract and retain support while demonstrating capacity. Taking hostages can result in reputational costs, but the cost is likely to be less for non-lethal than lethal violence in civil war (Polo & González, 2020). As non-lethal violence, kidnapping lowers the cost of backlash from more brutal attacks, such as large-scale suicide bombings, yet consolidates support through mobilizing supporters and showcasing strength in a capacity to hurt (see Schelling, 1966). Detonating a suicide bomb might be valuable here, but suicide terrorism is more resource-heavy and risks larger backlash, particularly if conducted in areas with unarmed civilians (Bloom, 2005); taking a hostage allows the organization to signal capacity in an isolated attack without the risk of undermining resources after large losses. Kidnappings also emotionally compel support and the meeting of demands in a way that other tactics are unable to offer the organization (see Gilbert, 2020a), which is valuable after suffering losses.[5] Overall,

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[5] While the emotional component risks reputational costs (see Gilbert & Prather, 2022), I argue this is unlikely to be as high as those attached to lethal forms of violence where unarmed civilians are killed.

kidnapping is attractive after large losses because it can generate support and capacity.

As an example, throughout its rebellion, the National Liberation Army have taken policy officials and journalists hostage to garner public support and reinstate their political and military capabilities. In 2003, the group released a statement after kidnapping a group of journalists "in the defence of the dignity of all the people of eastern Colombia," detailing the hostages release was contingent upon "political and military conditions" (Selsky, 2003). While considerably weak at the time in response to an international intervention, the organization was able to position their violence as a mark of support to the civilian population.

Second, kidnapping can reinstate rebels' bargaining capacity with the government. Hultman (2007, 208) suggests outcomes on the battlefield "serve to inform the government about the prospects and the costs of defeating rebels". Both parties want to win. Battlefield performance is a good indicator of the would-be willingness of both sides to pursue further violence or negotiate a settlement (Fearon, 1995; Hultman, 2007; Lake, 2002). Hultman (2007) argues a weak rebel organization can reasonably expect continued violence from the government. When organizations suffer major military losses, therefore, they might consider alternative strategies to continue pressuring the government to make concessions (Hultman, 2007, 209). It is possible to apply Hultman's (2007) discussion to kidnapping. Gilbert (2020a, 74) suggests, "As latent violence, kidnappings trade concessions for the prevention of prospective pain." Kidnapping therefore allows organizations to force the hand of the government and bring them to the negotiation table.

TThe distinct, on-demand nature of kidnapping can be used to reinstate rebels' bargaining capacity and perceived strength in the conflict environment. Rebels can demand large ransom payments, policy changes, or a prisoner exchange. When faced with substantial losses on the battlefield, the Taliban used kidnapping to conserve legitimacy and display strength in periods of relative weakness. This strategy is not limited to the Taliban. Abu Sayyaf Group resorted to

kidnapping as military losses increased on the battlefield (Abuza, 2003). In 2007, for example, the organization increased their reliance on ransom kidnappings to alleviate the constraints of increased counterterrorism and counterinsurgency efforts by the Philippine government (Fellman, 2011, 6). I therefore delineate the first hypothesis:

Hypothesis 1: Rebel groups are likely to resort to kidnapping when they have suffered major military losses on the battlefield.

Violent Competition and Interfield Battle Dynamics

Organizations must also display strength to their constituencies and national civilians. When the relationship between an insurgent and their constituency becomes constrained, I argue kidnapping is attractive. The relationship between an insurgent and civilians becomes constrained in the face of violent competition between the insurgent and other non-state actors. Under this constraint, rebels can use kidnapping to *intimidate* by demanding returns and enforcing loyalties and to *outbid* by displaying strength.

Scholarship is divided on how competition between non-state actors affects violence in conflict. There are two competing arguments in the literature. The first argues when multiple groups compete for a market share of support, violence intensifies in scope and number (e.g., Bloom, 2005; Nemeth, 2013). The second demonstrates the lack of a statistical relationship between intergroup competition and terrorist violence (e.g., Findley & Young, 2012). Despite scholarly uncertainty, intergroup competition has been shown to increase suicide bombings (Bloom, 2005) and attack diversity (Conrad & Greene, 2015; Horowitz et al., 2018). Aside from suicide bombing, we know little about the forms and types of violence that are likely to occur when groups are faced with competition in civil war. Moreover, we know little about how violent competition shapes tactic selection (see Polo & Welsh, 2022b).

When constrained to the same geographic space, groups have to compete for resources and

civilian support (Arjona, 2016; Rubin, 2019; Welsh, 2022). I apply Gilbert's (2022) argument on extraction to this competitive environment in civil war. To solidify cooperation, groups can use kidnapping to demand returns from civilians and other armed actors (Gilbert, 2022). This "supply-and-demand" nature of kidnapping differentiates its usage from other tactics and is likely to occur when the use of alternatives is risky (Gilbert, 2020a, 99). When faced with a violent competitor, organizations can impose demands on civilians, rival organizations, and the government. If the actor cooperates, the victim is released. If the actor fails to cooperate, the victim is often killed. Therefore, the target is faced with two options: meet the demands of the perpetrator or "suffer the possible consequences to the victim" (Gilbert, 2020a, 94). As Gilbert (2020a, 94) argues, "[a] human hostage can [...] provide a very large reward for the perpetrator, and [...] the group stands to benefit by keeping the victim alive." From an organizational perspective, therefore, kidnapping is a better form of punishment and offers a stronger guarantee of cooperation than alternative forms of more lethal violence.

Together with demanding returns, organizations can use kidnapping to enforce loyalties within the local population (Gilbert, 2020a, 2022). In the face of a violent rival, groups can directly coerce civilians into supporting their insurgency. This method of enforcement can occur by kidnapping to demand payments from civilians for protection (Gilbert, 2022; Shortland, 2019). This method of kidnapping to enforce loyalties is demonstrated by a number of kidnappings by the Taliban. In Pakistan, the police claim the Taliban use kidnapping to demand *bhatta* ("protection money") from civilians, particularly in locations where other militant groups are active. According to a local reporter, "when the Taliban come calling, you don't say no" (British Broadcasting Corporation, 2012). Kidnapping to enforce loyalties in the face of competition is also evident in Syria. In an increasingly competitive conflict environment, ISIS increased kidnapping for protection payments in locations throughout Syria (Karssen, 2016). The conditionality of kidnapping, here, gives the perpetrating group the direct transfer of (coerced) support, protec-

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tion payments, or policy arrangements without the use of lethal violence, which is attractive in periods of intense competition, where civilian loyalties are of paramount importance (see Kydd & Walter, 2006).

Finally, kidnapping can be used in the face of violent competition to display strength to these audiences. Groups impose large demands on a third party target with kidnappings, which can promote their cause, political standing, or ideology. When faced with violent competition, the opportunity to impose these demands and influence wider audiences is important. Kidnapping therefore occurs as an attempt by rebel organizations to outstrip their competitors by using an attention-grabbing attack while diminishing the risk of widescale backlash associated with more casualty-intensive attacks (see Wood, 2010). According to Watts (2016, 1), violent competition between al-Qaeda and the Islamic State has led to both franchises "aggressively pursuing attacks in an attempt to one up each other." During this period of competition, both organizations increased their reliance on kidnapping.

The two competing strategies—intimidation (through demands and enforcement) and outbidding (through displays of strength)—raise questions on how rebel organizations balance each of the strategies and when we can expect them. I argue the decision to use either kidnapping to intimidate or kidnapping to outbid is dependent on a local, spatial decision-making calculation. Where the group is active and the context of this location determines which strategy is favorable. In rebel constituencies, kidnapping attacks in response to violent competition are likely to be for intimidation purposes. Groups can kidnap constituents to demand returns and enforce loyalties (Gilbert, 2022). In rival constituencies, violent competition is likely to prompt an outbidding strategy, where groups can kidnap rival supporters, outgroup civilians, and rival soldiers to promote their cause in an attempt to outstrip their rival and display strength.[6] I therefore delineate

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[6] While I do not hypothesize on the kidnappings of specific victims, I probe these qualitative differences in the empirical section.

the second hypothesis:

Hypothesis 2: Rebel groups are likely to resort to kidnapping when faced with violent competition from other non-state actors.

Data and Research Design

To test my expectations, I utilize Polo and Gleditsch's (2016) data linking organizations in the UCDP Armed Conflict Dataset (ACD) with groups in the Global Terrorism Database (GTD). The data match all rebel organizations involved in an intrastate armed conflict with any relevant organizations in the GTD.[7] These are considered on a case-by-case basis (see Polo & Gleditsch, 2016; Polo & González, 2020). The matching process only considers the specific years a group is involved in a civil conflict that reaches the 25 battle-deaths threshold. The final dataset includes over 200 unique rebel organizations between 1989 and 2018.[8] The unit of analysis is the group-conflict-year.

Given the nature of kidnapping as an inherently underreported form of violence, particularly in the context of civil war, it would be transgressive to claim the data collected represent the full universe of cases. There are likely issues of systematic not-at-random missingness in the data, largely due to reporting biases in conflict zones. While the issue is not limited to this study and reflects a wider concern for data collection efforts on violence in civil war (e.g., Konstatinos & Andreas, 2006; Weidmann, 2016), it is important from a normative standpoint to highlight

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[7] The reliability of data on "terrorist" violence in civil war is contested. The GTD is considered the best available and most extensive data on domestic terrorism (Enders et al., 2011). It is possible to use the Big Allied and Dangerous dataset to consider kidnapping cases, but this does not include a count of kidnapping, which would obscure variation across groups over time. Some have expressed concerns about underreporting of events in the GTD, but this is less problematic for attacks by actors in civil war (see Polo & Gleditsch, 2016; Polo & Welsh, 2022a).

[8] Not all groups were active for the entire period. If a group was founded in 1989 or before, 1989 is the first year of coding. Groups were coded until 2018 unless the insurgency ceased to exist such as through disbandment or surrender to the government.

it here. The use of the ACD and GTD as hosts of the universe of cases provides some security for inferences since missingness and non-inclusion is independent of the outcome under study (see Allison, 2001). However, I outline a battery of tests in the results section to probe potential biases in the data and indicate the extent to which underreporting hinders the results reported.

The dependent variable is kidnapping. It is operationalized as a count variable, capturing the selection and intensity of kidnapping by a rebel organization in a given conflict-year. The variable is drawn from the GTD. The GTD draws information on attacks from publicly available, open-source materials, verifying each attack with multiple independent sources. The kidnappings reported are therefore known, targeted attacks by rebel organizations that meet the inclusion criteria.[9] Organizations are allocated as perpetrators of the attack if they are reported as the perpetrators in multiple local media accounts. The attack must involve holding an individual hostage to achieve a political objective. Express kidnappings—where the attack ends at the nearest cashpoint—are therefore excluded.[10] Victims of the kidnapping attacks in the GTD include civilians, government officials, and high-profile individuals, among others. Approximately 60% of organizations that use terrorism in civil war kidnap during their insurgency in the period under examination. Of the groups that did kidnap, there is significant variation across time and space regarding their reliance on this tactic. For example, groups that score some of the highest number of recorded kidnapping events (such as the Taliban, Ansarallah, or CPI-Maoist) also score zero at certain points in time.

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[9] Attacks are included in the GTD if they are intentional, entail some level of violence or immediate threat of violence, and if the perpetrator is a non-state actor. The attack must also be *terrorism*—aimed at attaining a political, economic, religious, or social goal to coerce, intimidate, or publicize, and outside of the context of legitimate warfare activity (START, 2021).

[10] This exclusion is important and helps distinguish terrorist kidnappings from non-terrorist kidnappings. Many criminal organizations target vehicles likely to hold wealthy victims, such as Toyota Landcruisers in Africa, and coerce victims into withdrawing large sums of money from cashpoints. This is not terrorist kidnapping. While criminal and terror organizations do often work together in kidnapping attacks, terrorist kidnapping is far more premeditated and targeted in the victim sense: Gilbert's (2020a) interviews with (ex-)combatants suggest organizations study the routine of their victim before attempting to take them hostage.

The first explanatory variable is rebels' military losses. This is operationalized as a count variable. I consult the UCDP Georeferenced Event Dataset (GED) to collect information on the number of reported battle deaths for the organization in a given conflict-year. This is a best estimate. The variable is continuous and time-varying, capturing the severity of insurgent losses throughout the conflict. There is significant variation in the number of losses for rebel organizations over time. The Islamic State in Syria, for example, lost 644 fighters in 2013, compared with a loss of over 15,000 in 2016. Moreover, the Taliban in Afghanistan lost 6,933 fighters in 2014, compared with a loss of over 11,000 fighters in 2015. There is also significant variation sub-nationally. In 2017, the Taliban lost 770 fighters in Ghazni. In 2018, the organization lost 2,528 in the same location. Given large dispersion, I take the natural log of the variable in the analysis.

The second explanatory variable is violent competition. Following Polo and Welsh (2022b), I measure competition as infighting between organizations using the GTD. It is operationalized as a dichotomous variable, denoting whether a group has committed at least one attack against another non-state actor active in the same conflict environment or not. Using the GTD target indicators, I include attacks on terrorist organizations and violent political organizations. I select a dichotomous over a count variable as my theory does not distinguish between the level and intensity of violent competition, but rather is concerned with its occurrence. The measure focuses on *violent* interactions between non-state actors. It differs from country- or group-level measures of competition, which capture the number of non-state actors active in the conflict or the change in the number of actors (e.g., Farrell, 2019; Findley & Young, 2012). While illustrative of competition, these alternative measures do not account for possible cooperation between organizations (see Christia, 2012; Phillips, 2019).

I include controls for several group-, conflict-, and country-level factors that are likely to influence the relationships between my variables of interest. At the group-level, I first control for

insurgent groups with territorial control since organizations with territorial control are likely to selectively target civilians (Kalyvas, 2006). The variable is operationalized from the Non-State Actor Dataset (D. E. Cunningham et al., 2009) and supplemented with original data collection using primary and secondary sources to ensure it is time-varying in nature. Second, I control for a number of ideologies (left, religious, and nationalist) since groups with certain ideologies may be more or less willing to use violence (Polo & Gleditsch, 2016). Third, I control for foreign sponsorship since organizations with foreign sponsors might be more or less willing to use violence. I draw upon the UCDP External Support Dataset for this variable (Högbladh et al., 2011; V. Meier, 2021). Fourth, I control for violence against civilians in the previous year and terrorist violence in the previous year using the GED and GTD, respectively. Finally, I include a one-year lag for the dependent variable to control for possible temporal dependence. At the conflict- and country-level, I control for government repression, ethnic fractionalization, population size (logged), GDP (logged), and regime type. For regime type, a value of 1 is democracy and 0 is non-democracy.

Estimation and Empirical Strategy

The empirical strategy takes form in several stages. In the first stage, I conduct a macro-level, cross-group analysis of the selection and intensity of kidnapping. To ease interpretation, I estimate linear models with a log-transformed count as the dependent variable.[11] I cluster the standard errors on the rebel organization to account for the nonindependence of observations within each group over time (Wooldridge, 2003).

In the next stage, I analyze the spatiotemporal character of my expectations in a micro-level examination of the Taliban in Afghanistan from 2010 until 2018. More specifically, I first use

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[11] I include alternative specifications of the main models in Appendix A.

highly disaggregated geospatial data to determine the conditions under which the Taliban exacerbates or constrains its reliance on kidnapping across Afghanistan at the provincial-year level. I adopt a spatial econometric modelling strategy, here, utilizing L. F. Lee and Yu's (2010) spatial autoregressive model for panel data with fixed effects. The model is defined as

$$\mathbf{y}_{nt} = \lambda \mathbf{W} \mathbf{y}_{nt} + \mathbf{X}_{nt} \beta + \mathbf{c}_n + \mathbf{u}_{nt}$$

$$\mathbf{u}_{nt} = \rho \mathbf{M} \mathbf{u}_{nt} + \mathbf{v}_{nt} \qquad t = 1, 2, ...T$$

where $\mathbf{y}_{nt} = (y_{1t}, y_{2t}, ..., y_{nt})'$ is an $n \times 1$ vector of observations on the dependent variable for time period t; $\mathbf{X}_{nt}$ is an $n \times k$ matrix of time-varying regressors for time period t; $\mathbf{c}_n$ is an $n \times 1$ vector of panel-level effects; $\mathbf{u}_{nt}$ is the spatially lagged error; $\mathbf{v}_{nt} = (v_{1t}, v_{2t}, ..., v_{nt})'$ is an $n \times 1$ vector of innovations, and v_{it} is independent and identically distributed across i and t with variance σ^2; and $\mathbf{W}$ and $\mathbf{M}$ are $n \times n$ spatial weighting matrices. The parameters are estimated using quasi-maximum likelihood.[12]

The spatial econometric analysis is effective for uncovering spatial processes in the dependent variable. To decipher the temporal character of kidnapping, I perform a within-case assessment of Ghazni, between 2015 and 2018, with vector autoregressive orthogonalized impulse-response models. This follows previous work utilizing vector autoregression to determine the temporal character of terrorist violence (e.g., Brandt & Sandler, 2012; Polo & González, 2020). Here, I examine how a shock in the conflict system at a given point in time shapes the expected future values of the dependent variable. For shocks, I exploit monthly data on US airstrikes in Afghanistan and monthly data on Islamic State Khorasan attacks on the Taliban.

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[12] I report linear model and negative binomial specifications in Appendix A.

Macro-Level Results

The empirical models estimate the selection and intensity of kidnapping.[13] Across all models, I find support for the hypotheses. All else equal, organizations are more likely to kidnap and do so at high rates where they face large losses on the battlefield and violent competition from non-state actors.

Figure 2.2a illustrates the substantive effect for rebel losses. The predicted values are shown with 0.95 confidence intervals. All other variables are held at their means. A cursory look at this relationship illustrates that organizations who do not face losses on the battlefield are less likely to engage in kidnapping, with an estimated 1.9 attacks in a given conflict-year. As the loss gradient increases, organizations become more likely to take hostages and are predicted to do so at higher rates, with an estimated 4.7 attacks. From the minimum to maximum of losses, the percentage increase is approximately 147%. This lends support for Hypothesis 1. Organizations are likely to resort to kidnapping when they have suffered major military losses on the battlefield.

Turning to the second hypothesis, Figure 2.2b displays the substantive effect for violent competition. The predicted values are shown with 0.95 confidence intervals. All other variables are held at their means. Where an organization does not face violent competition, the predicted number of kidnappings is 2.1 in a conflict-year. This increases by 133% to 4.9 kidnappings where an organization faces violent competition. This corroborates Hypothesis 2. An organization is more likely to kidnap hostages at higher rates when faced with violent competition from other non-state actors compared with organizations who do not face such competition.

Taken as a whole, the results provide indicative support for the theory constructed. Organizations are more likely to kidnap, and take hostages at high rates, when they suffer large military

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[13] Models are estimated in Stata 17. Figures are based on Model 2 in Table A.2, which displays the full results.
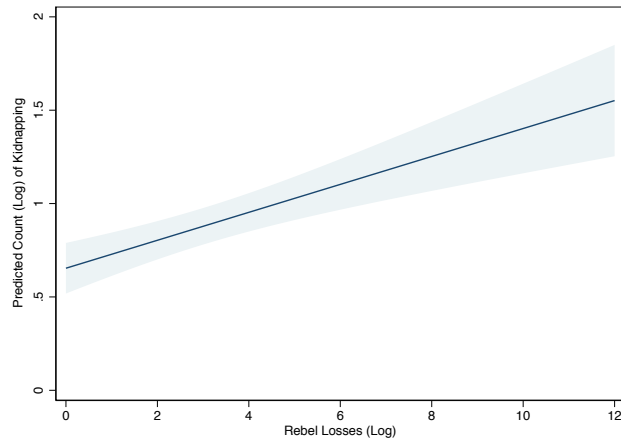
(a) Military Losses
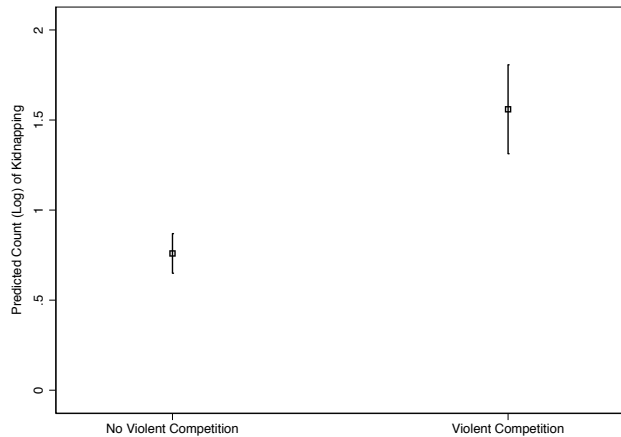
(b) Violent Competition

Figure 2.2: Predicted Count of Rebel Kidnapping

losses on the battlefield and when the organization faces violent competition from other non-state actors. The results also hold when controlling for possible alternative explanations of kidnapping, such as ideology and territorial control. The results speak to existing work on terrorism in civil war and the role of competition in conflict systems (e.g., Bloom, 2005; Fortna et al., 2018; Polo & González, 2020). Where this analysis differs, however, is in the attempt to understand the nature of kidnapping in civil war. Organizations use kidnapping to display strength, signal resolve, and provoke responses from various actors in the conflict environment.

Micro-Level Results

The macro-level analysis provides initial support for the theoretical expectations. Nonetheless, it mainly captures aggregate differences between groups. It does not allow for an examination of a specific organization at various points in time and space. To analyze the spatiotemporal character of my expectations, I turn to a micro-level analysis on the Taliban in Afghanistan from 2010 until 2018.

The Taliban in Afghanistan is a good case to examine for several reasons. Founded in 1996, the organization has established a sophisticated system of parallel governance across Afghanistan. Interactions on the battlefield are of paramount importance for communicating with domestic and international audiences. The Taliban's careful use of violence underpins its system of governance. In the first edition of the *layha*—the Taliban code of conduct—the organization sought to demonstrate a willingness to impose order on their fighters, with the use of violence to be ordered and strategic (Jackson, 2018, 8). This careful, ordered use of violence is important for the theoretical framework. Moreover, the Taliban faces violent competition from other non-state actors in certain locations, such as the Islamic State-Khorasan (IS-K) and local militias, but this form of competition is not universal (see Elias, 2022; Jadoon & Mines, 2023; Jadoon et al., 2023). There is also considerable variation in the timing and location of substantive battlefield losses for the Taliban in the period of examination. Over the last 10 years, the Taliban is reported to have lost a large number of fighters and supporters in certain locations. Beyond this, an examination of the Taliban is important contextually. In the shadows of uncertain domestic relations, a close look at when, where, and how the Taliban might exacerbate or constrain its reliance on kidnapping can unveil important implications for the dynamics and patterns of violence in Afghanistan.

Figure 2.3 maps the intensity of military losses and violent competition across 34 provinces
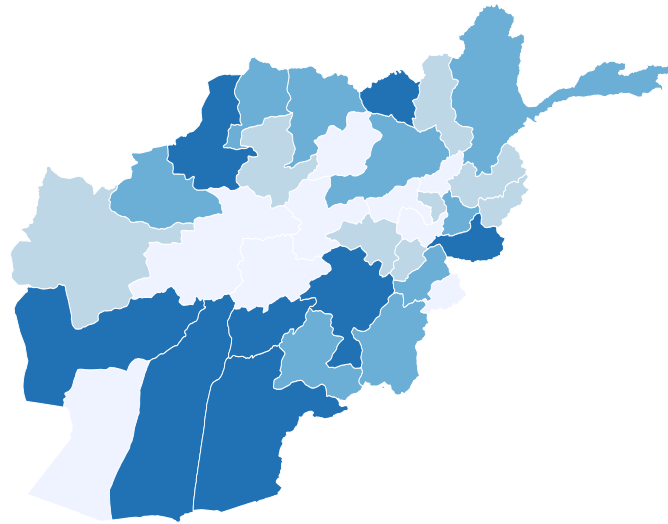
(a) Taliban Losses
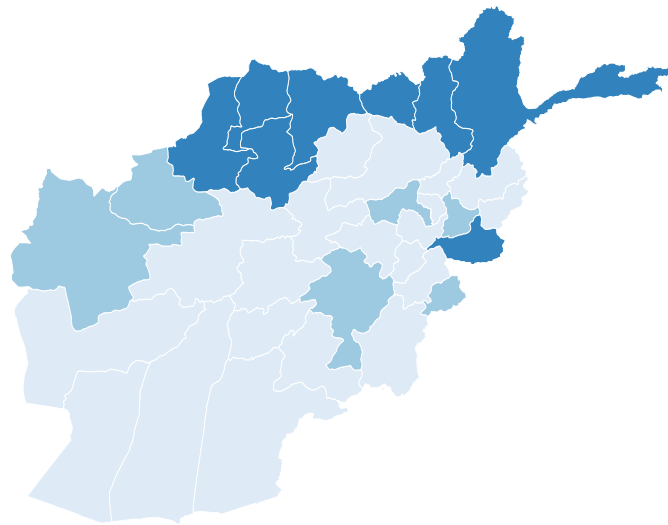
(b) Violent Competition

Figure 2.3: Taliban Losses and Competition in Afghanistan (2018)

in Afghanistan. Based on my expectations, the Taliban should increase its reliance on kidnapping, across space and time, where it faces substantial military losses on the battlefield. The allure of non-lethal violence in these locations and points in time, I argue, is more attractive than outright selective or indiscriminate violence. Moreover, the Taliban should increase kidnapping attacks in locations and at points in time where it faces violent competition from other

non-state actors. Kidnapping in the face of competition allows for the enforcement of loyalties, the guarantee of resources, and a display of strength to wider audiences.

Spatial Econometric Model of Taliban Kidnapping

To examine spatiotemporal changes in Taliban kidnapping attacks, I first employ spatial econometric models on highly disaggregated geospatial data. The data are collected from the GTD and reports from the United States' Special Inspector General for Afghan Reconstruction. I use a province-year unit of analysis, with provincial-level fixed effects, controlling for population size and territorial control as well as kidnapping, one-sided, and (non-kidnapping) terrorist violence in the previous year.[14] The results from a spatial autoregressive model are displayed in Figures 2.4 and 2.5.[15]

Figure 2.4 displays the computed direct (local), indirect (spill-over), and total effect for a unit change in military losses. The direct and indirect effects are positive and statistically significant. This suggests military losses increase the likelihood of kidnapping for the Taliban at a local level, and contain spill-over effects, providing additional support for the first hypothesis. Military losses for the Taliban impact perceptions of governance, which is consequential for its success. Military losses for the Taliban impact perceptions of governance, which is consequential for its success. Military losses also have the potential to signal weakness; for example, to external sponsors such as al-Qaeda and Qatar (e.g., Giustozzi, 2017; Kirkpatrick, 2014). Kidnapping here allows for a display of strength and negotiating power without undermining the credibility of support. From 2014-2018, the Taliban suffered substantial military losses in the province of Hilmand, losing over 7,000 fighters in four years. In the face of such losses, the

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[14] The spatial unit corresponds well with the geo-precision of most events coded in the GTD for Afghanistan and thus reduces the risk of spatial aggregation problems in the use of event data (see Cook & Weidmann, 2022).

[15] Due to space limitations, I plot only the spatial effects. I report the tables in Appendix A (Table A.15). The substantive effects are based on Model 2.
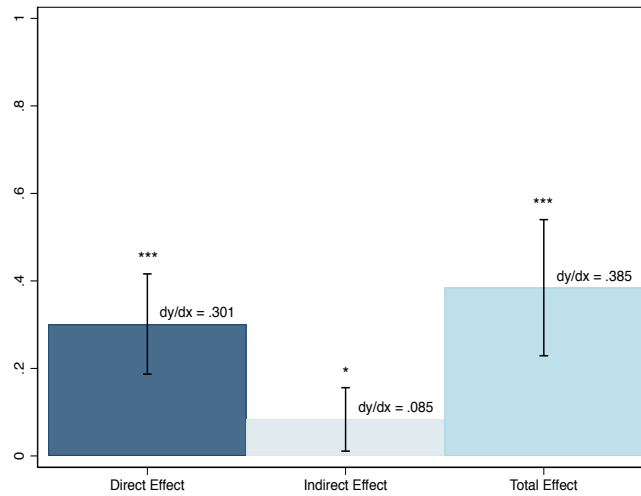
Figure 2.4: Military Losses on Taliban Kidnapping

organization increased its reliance on kidnapping by 32%. The increase in kidnapping in the province indicates a call to both generate support and display capacity to domestic and international audiences.

Figure 2.5 displays the computed direct (local), indirect (spill-over), and total effect for a unit change in violent competition. The direct effect is positive and statistically significant. The indirect effect is not significant. This suggests violent competition increases the likelihood of kidnapping for the Taliban only at a local level, providing additional support for the second hypothesis and emphasizing the local character of the expectation. The use of kidnapping in the face of violent competition is advantageous as it allows for the enforcement of loyalties and a display of strength to wider audiences. The Taliban faces competition from IS-K in provinces such as Jowzjan and Faryab. In response to violent competition, the Taliban increased its reliance on kidnapping. In a statement on the Taliban's interactions with IS-K in Faryab, in 2018, Zabihullah Mujahid vowed to "drive out" the Islamic State (Sahak, 2018). In the district of Kohistan, the Taliban issued a *shabnama* ("night letter") to civilians offering support in the fight against rival organizations, where villagers were asked to comply with Taliban policy and
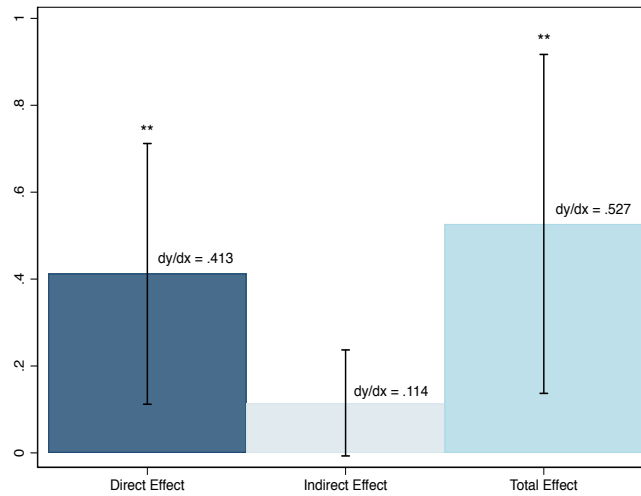
Figure 2.5: Violent Competition on Taliban Kidnapping

provide assistance (Giustozzi & Reuter, 2011). Where community members fail to cooperate, the Taliban have taken them as hostages (Giustozzi, 2009). In addition to policing civilian interactions, the Taliban have also kidnapped members of rival organizations to display strength and re-instate their position in local and national conflict environments. In 2018, for example, the Taliban kidnapped members of IS-K in the shadows of fierce competition in the district of Balcharagh (Kohi, 2018).

Temporal Model of Taliban Kidnapping

To probe the temporal character of the expectations, I follow Brandt and Sandler (2012) and Polo and González (2020) in performing a within-case assessment of the Taliban's kidnapping strategy in Ghazni (2015-2018) using vector autoregression models. This allows for an examination of the endogenous relationship between military losses, violent competition, and the decision to engage in kidnapping. The effects are calculated by examining how shocks propagate to the system (Polo & González, 2020, 2051). The Taliban suffered losses and faced violent competition in Ghazni. It is also a location prone to kidnapping. It is therefore a good test for the

(a) US Drone Strikes in Ghazni   **(b)** Attacks on Taliban in Ghazni
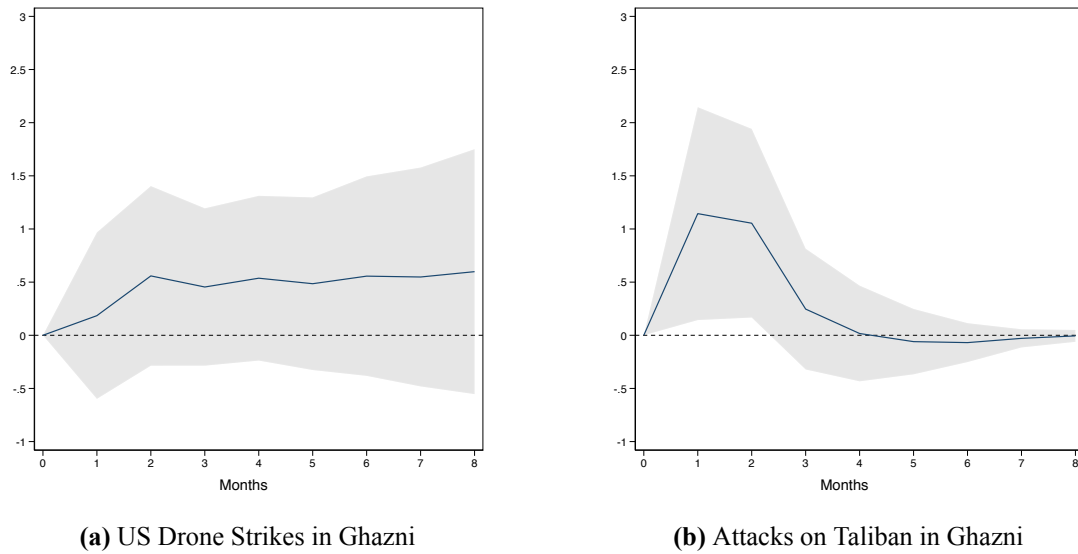
Figure 2.6: VAR Orthogonalized Impulse-Response Functions

theory—any effect of the proposed dynamics on the timing of kidnapping should be apparent here. Since the analyses are only on one province, I treat the results as descriptive, with the aim of assessing the temporal character of the expectations.

For military losses, I use shocks caused by United States' drone strikes in Ghazni, Afghanistan, using highly disaggregated geocoded data from the Bureau of Investigative Journalism.[16] For violent competition, I exploit physical attacks on the Taliban by non-state actors, such as IS-K. The results are displayed in Figure 2.6, which plots the time path of kidnappings following a positive unit shock to drone strikes and violent attacks on the Taliban.[17] In Figure 2.6a, I visualize the impulse response for United States' drone strikes on Taliban kidnapping. A unit shock to

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[16] I follow Polo and González (2020) here, who use strikes as a proxy for rebel losses in a vector autoregression framework.

[17] I compute information criteria and a sequence of likelihood ratio tests for each model to determine optimal lag specification for the vector autoregression. For a given lag p, the test compares a vector autoregression with p lags and one with $p - 1$ lags. There are small differences in the results for each lag. In Figure 2.6, I display each with two lags and no covariates. In Appendix A, I display the results for alternative lags. Each broadly support the conclusions here. An additional lag prompts a more immediate effect on timing. Strikes and physical attacks therefore positively influence the *immediate* timing of Taliban kidnapping.

the intensity of drone strikes leads to an increase in Taliban kidnappings in the following months. In Figure 2.6b, I plot the impulse response for physical attacks on the Taliban on kidnapping. A unit shock to the intensity of violent competition leads to an increase in Taliban kidnappings. The effect is more short-term. The increase is positive for approximately 3 months.

Overall, the case of the Taliban in Afghanistan nicely illustrates the behavioural nature of kidnapping in civil war. In places and points in time where the organization suffers large military losses on the battlefield, they are more likely to kidnap at high levels. The Taliban are also likely to kidnap highly in locations and points in time where they face violent competition from other non-state actors. Taken together, the results support the theory prescribed. The case also demonstrates qualitative differences in battlefield losses and violent competition. In turn, battlefield losses and violent competition offer related yet discrete motivations for kidnapping.

Robustness

The results are robust to several alternative empirical specifications and estimations. I outline these tests and their results in Appendix A. For the macro-level analysis, I check the results' robustness to a binary dependent variable (Table A.3), negative binomial and zero-inflated negative binomial estimations (Table A.4), fractional logistic regressions with the dependent variable as a proportion of the organization's terrorist strategy (Table A.5), alternative measures of violent competition and battlefield losses (Table A.6), fixed-effects (Table A.7), additional controls for the age of the organization (Table A.8), and a reduced sample without the Taliban (Table A.10). I also check the robustness of the results to a sample without the yearly battle deaths limitation (Table A.9). All results are consistent with those reported in the main text. For the micro-level analysis, I report the spatial model with a dichotomous dependent variable (Table A.16). I also run the models in a non-spatial environment with a linear model (Table A.17) and binary dependent variable (Table A.18). The results are consistent in all tests.

Extensions

To test the theory further, I run a number of placebo tests. First, I isolate ransom and non-ransom kidnappings to decipher whether the behavioral logic applies only specific kidnapping attacks (Table A.11). The results illustrate the theory applies in ransom and non-ransom cases. Second, I investigate whether the theory applies to certain victims, such as government officials, civilians, or foreigners (Table A.12). The hypotheses are supported in all cases, but the results suggest the theory is more profound in civilian kidnappings. Third, I investigate issues of attribution (Table A.13). Given the nature of the open-source data, it is possible that a kidnapping is attributed to an organization that did not commit the attack. For example, in conflict zones, attacks could be assigned to insurgents based on local sources when they were committed by smaller criminal organizations. I therefore run tests to exclude attacks that are not expressly claimed by the perpetrating organization. The theory is supported in this stricter empirical environment.[18]

It is also possible that, in the duration of the attack, hostages are sold to criminal organizations for countries or insurers to facilitate ransom payments in compliance with international law. This is most likely the case for organizations that are formally proscribed as terrorists on designation lists (see Shortland, 2018). For example, al-Shabaab are known to (in)formally sell hostages to pirates for a cut of a large ransom payment (Lough, 2011). This could affect the observed intensity of kidnapping and attack attribution. I run several tests to probe this issue, utilizing Jeyabraba and Phillips's (2022) data on designation, such as controlling for designation and running the models with and without designated organizations (Table A.14). The findings are supported in all tests, giving further credibility to the theory.

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[18] It is important to note that, in most cases, it is difficult for militants not to claim kidnapping attacks as many attacks require the communication of demands. Recent work on credit-claiming suggests organizations are likely to claim attacks to signal resolve (see Onder, 2023).

I also run a battery of additional tests at the micro-level to further probe the robustness of the results and eliminate alternative mechanisms. First, I explore the possibility that the theory predicts terrorist violence beyond kidnapping, particularly soft terrorism. To do so, I run models at the micro-level to compare kidnapping attacks against the Taliban's terrorist strategy more broadly (Table A.19). I find that the theory prescribed does not explain terrorist attacks on civilians by the Taliban, only kidnapping. Second, it is possible that the finding for battlefield losses can be interpreted as a disequilibrium, particularly in relation to the Taliban's territorial control (e.g., Shortland, 2019). If battle losses result in territory being newly contested (i.e., locals do not know whether to still pay the rebels for protection), more kidnappings would be expected. Alternatively, if battle losses result in formerly contested territory coming firmly under state control, less kidnapping would be expected. While I do not formally theorize on levels of control, I investigate the validity of this proposition using lags of battlefield losses and data on territorial control and takeovers (Table A.20). I find these expectations are not empirically supported, bolstering the theorized mechanisms. Third, I investigate whether resource extraction and cultivation is associated with Taliban kidnappings. Utilizing data on opium extraction in Afghanistan from the United Nations Office on Drugs and Crime, I control for its extraction and cultivation, both inside and outside of Taliban territories (Table A.22).[19] The results mirror those reported.

The theory predicts that violent competition unveils two spatial strategies for kidnapping: intimidation and outbidding. In rebel constituencies, I argue kidnapping attacks in response to violent competition are likely to be for intimidation purposes. Groups can kidnap constituents to demand returns and enforce loyalties. In rival constituencies, I argue violent competition is likely to prompt an outbidding strategy, where groups can kidnap rival supporters, outgroup

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[19] It is not possible to hold resource extraction constant in the macro-level models since existing datasets on resources in armed conflict use kidnapping as a selection condition for many key variables.

civilians, and rival soldiers to promote their cause in an attempt to outstrip their rival and display strength. It is not possible to directly test this argument without further data collection on the victims of violence in Afghanistan, but it is possible to investigate the plausibility of competing strategies.[20] To do so, I collect data on civilian kidnappings in Taliban and IS-K constituencies. If the theory is plausible, violent competition should increase outbidding kidnappings for the Taliban in IS-K constituencies and intimidation kidnappings for the Taliban in their own constituencies. If the theory is incorrect, violent competition should increase only one response strategy. The results are displayed in the Appendix (Table A.23). I find the Taliban increase civilian kidnappings in both their own and IS-K constituencies across Afghanistan. This suggests further support for the competing mechanisms.

At both the macro- and micro-level, I investigate potential biases in the data. First, I estimate coefficients of proportionality (δ) for those reported in Table A2. Following Oster (2019), δ represents the degree of selection on unobservables relative to observables which would be necessary to explain away the estimated effect. For the effect of violent competition, δ equals 2.07. For the effect of battlefield losses, δ equals 0.975. The positive δ indicates that unobservables would have to be approximately 2 and 1 times more important than observables to produce an effect of zero. The test builds confidence that the results are not driven by unobserved biases in the data. Second, I employ a variant of the test suggested by Weidmann (2016) to assess the nature of sub-national reporting biases in the data as a result of expanding cell phone coverage. The logic of this test is that if reporting biases owing to expanding network coverage are affecting data, an overwhelming number of attacks should be reported in these locations. I find no statistical relationship between expanding cell phone coverage and media reporting of kidnapping attacks in Afghanistan (Table A.21), bolstering the results displayed.

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[20] This spatial decision-making test is taken from Polo and Welsh's (2022b) work on violent competition and terrorist violence. Similar tests are present in work on sub-national terrorist strategies more broadly (e.g., Polo & González, 2020).

Conclusion

This article investigates terrorist kidnapping in civil war. It presents a novel approach to understanding the selection and intensity of kidnapping as an insurgent tactic. Unlike previous studies which focus on kidnapping in a political economy framework, this article suggests that kidnapping has an inherently behavioral profile, influenced by spatial decision-making in the conflict environment. Kidnapping is likely to occur under two conditions. First, to generate support and reinstate bargaining capacity where an organization suffers major military losses on the battlefield. Second, to enforce loyalties and display strength when the organization faces violent competition from other non-state actors. The decision to kidnap, therefore, is shaped by behavioral interactions and spatial processes in the conflict environment. Kidnapping becomes favorable when organizations need to generate support, bargaining capacity, and loyalty.

I test these expectations at the macro- and micro-level. The results support the propositions. Organizations are likely to resort to kidnapping, and kidnap at high levels, when they have suffered major military losses on the battlefield. Moreover, organizations are likely to kidnap hostages at high rates when they face violent competition from other non-state actors. The micro-level study on the Taliban in Afghanistan provides additional support for the theoretical expectations, highlighting the spatiotemporal dimensions of kidnapping in civil war. The case also provides anecdotal evidence to suggest the proposed mechanisms are driving the statistical relationships.

The results hold significant implications. For further research, the study encourages examinations of specific terrorist tactics in civil war, suggesting unique motivations. Moreover, by focusing on the behavioral logic of kidnapping, it identifies specific conditions where kidnapping is useful for gaining support, enforcing loyalties, and communicating strength. This complements previous financially-dominated and ransom-orientated considerations of kidnapping.

Finally, it considers the spatiotemporal profile of violence and behavioral decision-making processes behind violent intensification and restraint.

More practically, the study provides comprehensive evidence on the emergence and intensification of kidnapping strategies across diverse conflict environments. This is important for the application of counterterrorism policy across the international community. Governments can be better prepared to assess the risk of kidnapping in conflict and avoid counterproductive responses. Moreover, governments can diversify pre-emptive counterterrorism policy by looking more closely at interactions within and between rebel organizations in addition to looking at kidnapping as a means of financing rebellion.

While the analysis helps uncover the selection and intensity of kidnapping in civil war, I acknowledge that more work can be done. This study finds support for the conventional wisdom of terrorism as a weapon of the weak. Given recent work debunking this frame for indiscriminate terrorism (e.g., Fortna, 2023), examined with an aggregated unit, future work could explore this conventional wisdom for other terrorist tactics in a disaggregated form. Future research could also look at dimensions of kidnapping that remain unexplored in this study. First, it is possible to further consider kidnapping at the victim level, looking specifically at *who* is being kidnapped and whether this matters for attack outcomes. Second, we know little about the relative non-lethality of kidnapping and the conditions under which kidnappings turn lethal. Finally, if kidnapping is a useful battlefield strategy, it is important to consider its consequences and the extent to which rebels might achieve concessions in civil war for the use of the tactic.

Beware of blood. Beware of shedding blood unjustly… [B]y
Allah, no case is reported to us involving the bloodshed of an
innocent person… that isn't backed up by clear evidence of
what he did to deserve his blood being shed.

Abu Hamzah al-Muhajir, 2007 (Ingram et al., 2020, 99).

3

The Lethality of Hostage-Taking in Civil War

Introduction

On November 11, 2016, the Islamic State in Iraq (ISI) captured and kidnapped 40 civilians from their residences in Mosul. The victims were accused of treason and collaboration with enemy forces. They were later executed in front of a large crowd, with their bodies placed on display and left to hang from electricity poles across the district. The victims' clothes were marked with the words, 'traitors and agents of the [Iraqi Security Forces]' (British Broadcasting Corporation,

2016). This vision of hostage killing and the public nature of violence is not uncommon for ISI. As the above quotation indicates, the organization offers clear justifications for violence, including the execution of hostages. Yet, the killing of hostages is not an act reserved solely for the terrorism of the Islamic State. Figure 3.1 details global trends in hostage-taking and hostage killing between 1970 and 2018. Approximately 20% of hostage victims are killed in civil war.[1] In 2009, Abu Sayyaf Group left the severed head of a kidnapped school teacher in a gas station after the victim's family refused to pay a $42,000 ransom sum (British Broadcasting Corporation, 2009). In 2011, the Revolutionary Armed Forces of Colombia shot four hostages following suspected collaboration with security forces (Cable News Network, 2011).

While the killing of hostage victims receives large media attention and often prompts international concern, research on hostage-taking generally considers the tactic as non-lethal in nature (e.g., Gaibulloev & Sandler, 2009; Gilbert, 2020a, 2022; Santifort & Sandler, 2013). Upon the receipt of demands, victims are expected to be released alive. The *threat* of violence replaces outright violence (Gilbert, 2020a). Moreover, broader literature on the lethality of terrorism has yet to consider the unique nature of hostage-taking, as a victim-centered and purportedly non-lethal tactic (see Asal & Rethemeyer, 2008; Levy, 2021). It, therefore, remains unclear when, and under what conditions, this non-lethal tactic turns lethal.

To this end, this article offers plausibly causal evidence on the lethality of hostage-taking. In what follows, I first review existing studies on hostage-taking and the lethality of terrorism in civil war. Next, I extend theories on rebel governance to develop a governance-centered explanation for understanding hostage killing. I argue organizations kill hostages as part of a punitive governance strategy in their areas of operation. When hostages are of no bargaining value to the organization, hostage-taking and killing can be used as a corrective action to exercise control over the population. Hostage victims accused of acts that undermine the rebel regime are more

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[1] Global statistics are estimated from the Global Terrorism Database (LaFree & Dugan, 2007).
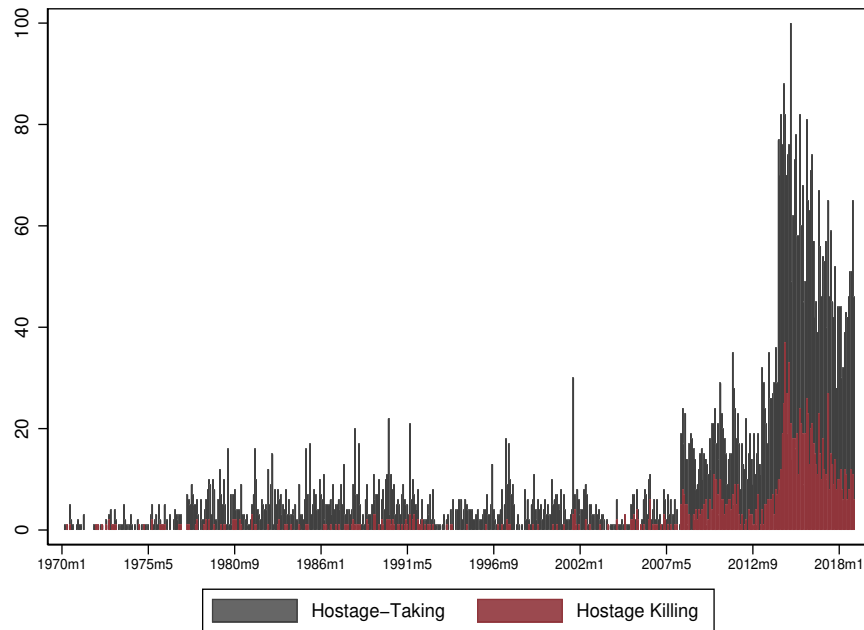
Figure 3.1: Global Trends in Hostage-Taking and Hostage Killing (1970-2018)

likely to be killed than those taken for other purposes.

The theory is tested in the context of ISI with novel and rich event-level data. The data document hostage-takings and killings in the 31 districts the organization governed across Iraq between 2013 and 2018. The data are examined in a multipronged empirical strategy. First, I conduct a victim-level analysis with an exact matching technique. Next, I probe the mechanisms in a within-case assessment of Mosul utilizing a dual causal identification strategy. More specifically, I draw upon a synthetic control model examining ISI's travel ban in Mosul in 2015 as the introduction of a punitive governance strategy. I supplement this with the examination of qualitative data to trace justifications for violence. The analyses provide robust support for the theory. I conclude with a discussion of the implications of the findings.

This research makes several important contributions, both theoretically and empirically. First, I introduce new data on hostage-taking and killings by ISI between 2013 and 2018. The data include information on hostage victims previously unavailable, such as their age, sex, ethnicity,

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and social status, as well as the justifications for hostage-taking. This effort is a valuable addition to work focusing on uncovering trends in the characteristics of victims in civil war beyond the binary of civilian and non-civilian targets (e.g., Polo & Wucherpfennig, 2022; Schulz, 2018). A holistic approach centered on the victims of violence both emphasizes and deconstructs the politics deeply intertwined with violence and responses to it as well as offers important pathways to combat terrorism. Moreover, the focus on ISI is of interest to researchers and policy-makers alike. The Islamic State's insurgency is of geo-strategic importance and granular information on the victims of violence remains limited (Revkin, 2020, 758).

Second, I draw a distinction between lethal and non-lethal hostage-taking to consider the conditions under which organizations might decide to kill hostages as opposed to entering negotiations with third parties. The distinction emphasizes the importance and idiosyncrasy of specific violent tactics, signaling a departure from work on the use of terrorism in civil war that favors universal application and homogenous examinations of violence.

Finally, the research draws further attention to how selective violence operates within strategies of rebel governance in civil war. It joins a growing literature that examines how governance and violence might work together (e.g., Arjona, 2016; Breslawski, 2020; Revkin, 2020; Revkin & Ahram, 2020; Stewart, 2021). This is of relevance to counterterrorism and counterinsurgency policy on combating hostage-taking, rescue missions, and hostage negotiations, as well as surmounting and understanding non-state actor governance.

Hostage-Taking in Civil War

Hostage-taking involves taking or holding individuals captive to obtain a political objective through the intimidation of an audience beyond that of the immediate victims (c.f., Enders &

Sandler, 2012; Gilbert, 2020a, 2022; Kim et al., 2021).[2] Hostage-taking attacks include kidnappings, sieges, and hijackings. I focus exclusively on hostage-taking events in civil war, in which the perpetrating organization is engaged in a civil conflict.[3] Hostage-taking events in civil war can be domestic or transnational in nature. Victims of hostage-taking are referred to as both hostages and victims as opposed to detainees or captives, though, all victims of hostage-taking are, conceptually speaking, considered detainees.[4]

There is a growing literature on hostage-taking as a tactic in civil war. Many have investigated the increase in hostage-taking attacks over time and space at both the domestic and transnational level (Hou et al., 2020; Kim et al., 2021; Okolie-Osemene & Okolie-Osemene, 2019). Among investigations, scholars focus on insurgents' reliance on the tactic from both a criminal and terrorist perspective (Asal et al., 2019; Gilbert, 2020a, 2022), across and within a variety of organizations (Gilbert, 2022; Restrepo et al., 2006), as well as its consequences for civil war bargaining (Atkinson et al., 1987), negotiations (Gaibulloev & Sandler, 2009; Santifort & Sandler, 2013), state countermeasures (Brandt et al., 2016; Landes, 1978), and wider corporate infrastructure and insurance concerns (Brandt & Sandler, 2009; Lapan & Sandler, 1988; Shortland, 2019).

While important, existing work holds several assumptions that do not always play out in practice. First, that hostage demands are given and often met by third-party targets. Second, organizations intend to release the victim. There is large evidence of organizations, such as

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[2] Hostage-taking is a terrorist tactic. Terrorism is the deliberate creation and exploitation of fear through violence or threat of violence by non-state actors against non-combatant targets in the pursuit of political change (c.f., Hoffman, 2006; Enders & Sandler, 2012).

[3] Organizations that use terrorist tactics such as hostage-taking in civil war use their violence to target constituents, outgroup civilians, and the government. Civil wars are therefore unique environments (Polo & González, 2020). While not within the focus of this article, I suspect organizations using hostage-taking outside of a civil war to exhibit different behaviors. Their reasons to use hostage-taking and kill hostages might therefore be different from those outlined here.

[4] It is important to note that not all victims of hostage-taking are prisoners which is why the abduction of civilians is referred to as kidnapping as opposed to an arrest. I differentiate between hostage-taking and nascent criminal justice strategies in the next section.

Abu Sayyaf Group, the Islamic State in Iraq and Syria, and the Taliban in Afghanistan, taking hostages and never releasing the victim(s) or engaging in negotiations with third-party targets. Instead, many organizations use hostage-taking to coerce victim behavior change by punishing local defectors. Moreover, approximately 20% of hostage-taking events in civil war end in lethal violence, with the victims being killed. These dynamics are important yet overlooked in current scholarship.[5]

Scholars have investigated the lethality of terrorism more generally alongside other terrorist tactics. Among explanations for lethality, recent work considers organizational characteristics (e.g., Asal & Rethemeyer, 2008), ideology (e.g., Levy, 2021), and strategic decisions made by individual perpetrators (e.g., Alakoc, 2017). Moreover, Thomas (2021) argues lax security protocols toward women, informed by societal gender stereotypes and norms, facilitate more lethal suicide attacks by female terrorists. The literature has also investigated lethal violence in tandem with hostage-taking events, such as beheadings (e.g., Fuji, 2013). However, there is a lack of focus on hostage-taking as a tactic. It, therefore, remains unclear when this purportedly non-lethal form of violence turns violent.

The lack of differentiation between tactics is important. In comparison to other tactics, there is a direct emphasis on the victim in cases of hostage-taking. The profile of the victim—who they are, their status, age, sex—usually gains attention, whether locally, nationally, or internationally (e.g., Gilbert, 2020b), and is important to the organization (Loertscher & Milton, 2015). Structural or organizational characteristics are therefore unlikely to explain variation in hostage

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[5] There are three exceptions. First, Yun and Roth (2008) examine the fate of hostage victims within a schemata processing system. Second, Shortland (2019) argues criminal gangs' decision to kill hostages may be strategic in terms of undermining the opposition. Third, Gilbert (2021) considers the outcome of hostage events in civil war by focusing on rebel recruitment practices. While useful, these studies rely on an organizational perspective that assumes engagement in negotiation and at least some intent to release the victim. I show that this is not always the case.

killing.[6] Moreover, other terrorist tactics such as suicide bombing attacks are generally used to inflict large-scale violence. Lethality is assumed and specific tactics are used to inflict the most damage (Alakoc, 2017). With hostage-taking, however, the choice of lethality is much more intricate and intentional—we expect victims to be killed and large-scale violence to be inflicted with other tactics such as suicide bombings but, in hostage cases, we expect restraint. The known presence of hostage killing is therefore puzzling. When, then, does the *threat of violence* become *violent*?

Hostage Killing Under Rebel Governance

To answer this question, and build a theory on hostage killing, I link literatures on governance, coercion, and punishment. I assume rebel organizations use violence in pursuit of their goals within a wider governance strategy (Asal et al., 2022; Fortna, 2015; Polo & González, 2020). Within this framework, lethal violence is calculated and serves a strategic purpose (Arjona, 2016; Mampilly, 2011; Stanton, 2013; Weinstein, 2006). I start by considering two distinct modes of hostage-taking from an organization-victim perspective. This allows for a consideration on when we can expect the killing of victims.

Organizations typically use hostage-taking as one of at least two distinct coercive strategies: taking to *bargain* or taking to *kill*. The former is driven by a demand and compliance dynamic— the larger aim is to impose demands on a third-party target for the release of the victim. The demands can include ransom, prisoner exchanges, or material agreements (Asal et al., 2019; Gilbert, 2022; Hou et al., 2020; Kim et al., 2021). The latter is driven by a punishment signaling logic and details events in which the organization has no incentive to bargain. The main dis-

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[6] It is important to note hostage-takings are, however, ordered from an organization's leadership and are rarely a result of a commanders' lack of control over the rank-in-file (Gilbert, 2020a).

tinction between the two strategies is the timing of the threat: in the former, the hostage-taking happens before the threat is made; in the latter, a threat is made first and then hostages are taken.

Under taking to *kill*, the victim is not ripe for negotiation and, instead, hostage-taking is used as staged, performative violence for the purposes of behavioral change. The aim is not to receive demands or material goods but, rather, to make an example of the victim as a form of punishment to send a signal of compliance to local, often ingroup, populations (e.g., Grossman, 1995; Kalyvas, 2006; Richards, 1996; Wintrobe, 1998).[7] As an instrument of symbolic coercion, taking to *kill* works both directly and indirectly, by eliminating those who refuse to comply with organizational standards and by warning those who contemplate non-compliance (Keister & Slantchev, 2014, 6). The ingroup focus distinguishes this form of violence from others.[8] For example, while the Islamic State used other forms of selective violence against the outgroup in Iraq, and targeted the outgroup more heavily than the ingroup, the killing of hostages is a predominately ingroup phenomenon.

Groups can choose to target ingroup populations with selective violence in many ways. I differentiate forms of ingroup individual targeting in Table 3.1. While similarities exist with extrajudicial violence, hostage-taking is a distinct form of violence. The key difference is a lack of due process in hostage-taking attacks. When civilians disobey a formal law, they are taken into custody to await trial. This formality is rare for victims of hostage-taking. But in extrajudicial cases, victims are formally charged and trialed in Court. In the case of ISI, cases heard before the Islamic Court tend to be for violations of crimes explicitly forbidden in the Qur'an. The Islamic State's justice system is a process of due diligence and due process. For example, the Islamic State claims to guarantee certain rights for detainees, including a pre-trial detention

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[7] These categories are not mutually exclusive. Hostage victims used for bargaining purposes may eventually be killed. Nonetheless, the differences in motivation is helpful for considering outcomes.

[8] Ingroup, here, refers to an organizations' constituents and those who share the same ethnicity or religion. Coercion on the ingroup increases support for the ruler through a 'substitution effect' (Wintrobe, 1998).

Table 3.1: Typology of Individual Ingroup Targeting Strategies

Violence	Held Captive	Public	Due Process
Armed Attack	✗	✓	✗
Extrajudicial	✓	✓	✓
Forced Disappearance	✓	✗	✗
Hostage-Taking	✓	✓	✗

limit of seven days before the accused person is entitled to a court hearing (Revkin, 2016).[9] This differentiates this form of violence and strategy from hostage-taking.

There are also noticeable differences between hostage-taking and other forms of selective violence, such as an armed attack, even if both result in an individual being killed. In hostage-taking attacks, the organization holds the victim captive for a period of time, adding to the horrors of violence. If the organization kills the victim on the spot in an armed attack, there is less of a public spectacle. This would make it difficult to communicate and signal demands for wider population compliance, which I argue is important for the decision to kill a hostage.

Having outlined the decision to *kill* from the decision to *take* hostages, I use literature on rebel governance and civilian punishment to theorize. Rebels' governance arrangements are often tied to legitimacy-seeking aims, mobilization, and punitive tactics (see Arjona, 2016; Breslawski, 2020; Kalyvas, 2006; Mampilly & Stewart, 2019; Weinstein, 2006). Within a social contract, organizations govern with appetites and aversions (Hobbes, 1651 [2007]; Revkin, 2016; Neumann, 2015). The use of violence should be linked to target audiences; that is, local spectators or constituents (Fuji, 2013; Grossman, 1995; Kalyvas, 2006). Organizations should use lethal and performative violence strategically to gain or maintain support for their rule; a shift from mobilization and more conciliatory governance strategies to punitive tactics is based on groups' needs and control. Where power is contested or defected, we should expect large displays of

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[9] While the pre-trial detention limit was widely recognised to have been present in judicial hearings, it is important to note that this was not guaranteed in every case (Revkin, 2016).

violence (Fuji, 2021).

The decision to kill hostages is part of a punitive governance strategy. When hostages are of no negotiable value to the organization, hostage-taking and killing can be used as a corrective action to exercise control over the population and enforce broader behavior change and compliance. The killing of hostages tends to be ceremonial and performative. Hostage victims are often killed in public, whether in front of a large crowd, in private with the body displayed afterward, or in front of a video camera at a remote site, in which the recording is later published online. This nature of killing is useful to the organization for two reasons. First, it reinforces power hierarchies. It enables the organization to signal capacity (e.g., Foucault, 1975). Second, and relatedly, it tells the victims who they are and reinforces social order (e.g., Duran-Martinez, 2015; Fuji, 2021; Lessing, 2015). It provides the organization with the opportunity to correct civilian behavior by sending a clear message of punishment and control.

This argument differs from previous work on selective violence and control. Kalyvas (2006) expects violence and the punishment of defectors where control is fragmented or contested; yet, does not offer an indication on what *forms* of selective violence might be beneficial to obtain control and order. Hostage-taking to kill is effective in extending an organizations' control over a local population. But, in the absence of governing power, this strategy is unlikely to be useful or available. The argument therefore complements existing work on the use of violence in the acquisition of control and governance (e.g., Oswald et al., 2020; Welsh, 2022).

Hostage killing is therefore used to punish defectors of the social contract and display performative, egregious violence as a signaling mechanism to the wider population. Where victims are accused of acts that undermine the rebel regime, the organization is likely to use hostage-taking to kill the victims in a spectacle of violence. Such acts include collaborating with enemy forces or threatening to escape rebel-held territory. Within this context, the victims serve little bargaining purpose or monetary value to the organization. Instead, the victim is a symbol within

a system of punitive governance. I, therefore, outline the following hypothesis:

Hypothesis 1: Hostage victims accused of acts which risk undermining the rebel regime are more likely to be killed than those taken for other purposes.

The Case of the Islamic State in Iraq

To test my theory, I study hostage killings during the Islamic State's insurgency in Iraq between 2013 and 2018. ISI is a Sunni Islamist organization. It operated a rigorous governance structure in Iraq, maintaining social control and local services while engaging in large-scale violence. On 8 April 2013, al-Baghdadi announced the formation of the organization, declaring that the al-Qaeda-aligned Jabhat al-Nusra had been subsumed into the group under his leadership (Chulov, 2019). A year later, he announced the creation of the organization's 'caliphate' from the Great Mosque of al-Nuri in Mosul.[10] This set the stage for what would become an incredibly large, often seemingly unstoppable, global insurgency. ISI operated before 2013, but this is the point at which, as Revkin (2016, 8) indicates, it began to express 'unprecedented ambitions' for governance.

While the Islamic State operated its governance project in Syria as well as Iraq, and in other locations such as Libya, I test the theory exclusively in Iraq. ISI is a good case to examine for several reasons. First, the organization pursued an ambitious governance strategy across Iraq, capturing large swaths of territory, providing local services, jurisprudence, and systems of government (Revkin, 2020; Revkin & Ahram, 2020). Aside from governance, ISI pursued a 'reign of terror' across Iraq, unleashing egregious forms of violence, including hostage-taking, to exhibit control and attract international attention (Shatz, 2014). The organization is therefore

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[10] The 'caliphate' stretched from Aleppo in northwestern Syria to Diyala in northeastern Iraq.

a good fit for the theoretical model.[11] Second, ISI executed several hostages, of both Iraqi and foreign nationality, between 2013 and 2018. Many executions were documented and took place in view of local and international audiences, whether in front of large crowds or on tape to be released on social media and messaging platforms. The public display and documentation of hostage killing is useful for data collection efforts and the triangulation of execution claims.

In selection terms, ISI presents an *extreme* case. An extreme case is one that unveils extreme values on the dependent variable and where its underlying causal mechanisms, even when considered alone, should strongly determine a particular outcome as a paradigmatic example of the process (George & Bennett, 2005; Gerring & Cojocaru, 2016). ISI's engagement in hostage-taking and hostage killing is well-documented (e.g., Briggs & Wallace, 2022; Weiner & Jackman, 2021). Approximately 20% of the organization's hostage victims were killed between 2013 and 2018. This aligns with global estimations of hostage killings for other organizations in the period under examination. The case therefore hosts strong capability for investigating the proposed relationship and underlying causal mechanisms while, simultaneously, providing a generalizable framework for understanding hostage killing beyond the Islamic State.

Data and Research Design

To assess my hypothesis, I leverage new data on hostage-taking and hostage killings by ISI. The data cover 31 districts the organization governed between 2013 and 2018.[12] Districts are confirmed as areas of ISI operation through careful consideration of sensitive and classified data

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[11] While arguably the strategy in Iraq is mirrored in Syria, the conflict in Syria features a large number of external and additional actors which make the confirmation of violence, governance, and control difficult at certain points in time. ISI governance is relatively consistent during the period of examination in Iraq, at least in terms of its presence.

[12] Each attack is reported as event$_i$ occuring in district$_j$ at time$_t$.
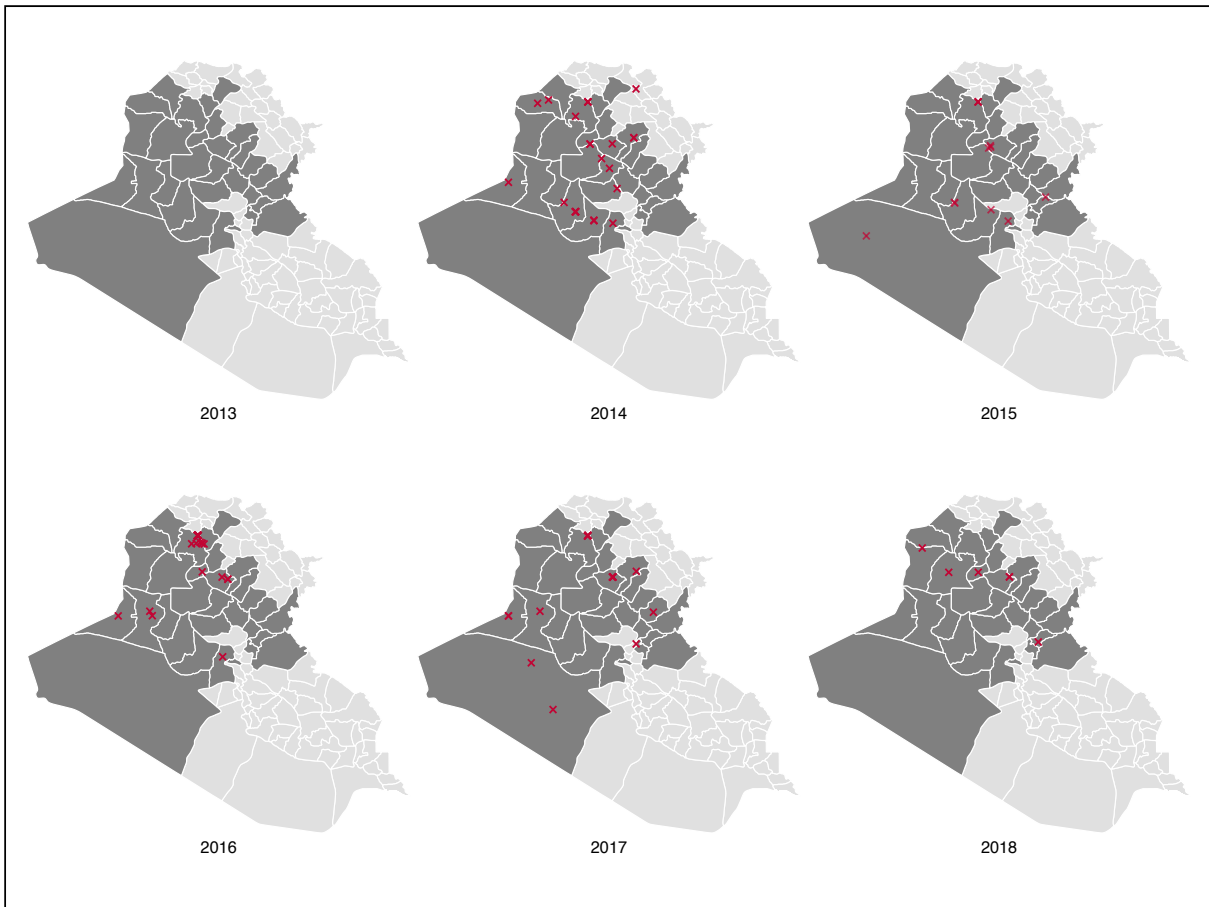
Figure 3.2: Hostage Executions (2013-2018)

Note: Districts are indicated in grey if ISI operated in the location from 2013-2018.
Executions are marked yearly with a cross.

from the United Nations' Institute of Migration.[13] Figure 3.2 highlights the districts alongside

the change in the number of hostage executions over time. The final dataset contains 478 unique

hostage-taking events. The unit of analysis is the individual hostage event.

I collect information on the events using the Global Terrorism Database (GTD) as a starting

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[13] The level of organizational governance across Iraq remains debated and measurements unclear. The data covers 31 districts where hostage-taking events took place. In these locations, ISI's governance and control ranges from full occupation to small yet sustained attacks. ISI did not engage in hostage-taking in districts outside of its occupation in the period under examination.

point. Each event is investigated to ensure the exclusive and explicit taking of hostages. To determine accuracy, I triangulate events in the GTD with local Arabic language media sources, national and international newspapers, social media data, as well as official ISI texts.[14] Social media posts are taken from user profiles on Twitter. Following Mitts (2019), I rely on users identified as within ISI-controlled territories or organization supporters by the hacktivist network @CtrlSec.[15]

Given the nature of hostage-taking and hostage killing as inherently underreported forms of violence, particularly in the context of civil war, it would be transgressive to claim the data collected represent the full universe of cases. There are likely issues of systematic not-at-random missingness in the data, largely due to reporting biases in conflict zones. While the issue is not limited to this study and reflects a wider concern for data collection efforts on violence in civil war (e.g., Konstatinos & Andreas, 2006; Weidmann, 2016), it is important from a normative standpoint to highlight it here. The use of the GTD as a host of a universe of cases provides some security for inferences since missingness and non-inclusion are independent of the outcome under study (see Allison, 2001).[16] However, I outline a battery of tests in the results section to probe potential biases in the data and indicate the extent to which missingness hinders the results reported.

The dependent variable is hostage killing. This is operationalized as a dichotomous variable, indicating whether or not the hostage victim was killed. To collect information on the fate of victims, I draw upon local, national, and international media sources as well as official ISI documents. The variable is coded strictly and conservatively. It captures the execution of

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[14] Some events in the GTD apply an ambiguous definition of hostage-taking. Moreover, some events include multiple tactics in which the information surrounding hostages is unclear. I exclude these events from the data.

[15] See https://reportonlineterrorism.com/.

[16] There are statistical tools to address these issues, particularly in the GTD, such as imputation methods. I refrain from using these as they are often only effective when missingness is random; this might be the case for attribution of attacks but is unlikely to occur in general reporting patterns.

Table 3.2: District Count of Hostage Killings

District	N. Executions	District	N. Executions
al-Ba'aj	2	Hatra	3
al-Daur	1	Hit	8
al-Hamdaniya	4	Khanaqin	1
al-Hawiga	11	Kifri	0
al-Khalis	0	Kirkuk	7
al-Muqdadiya	0	Makhmur	1
al-Qa'im	4	Mosul	51
al-Shirqat	5	Nassriya	0
Ana	1	Ra'ua	2
Ar-Rutb	2	Ramadi	5
Ba'quba	4	Samarra	1
Baiji	1	Sinjar	2
Baladrooz	0	Telafar	2
Daquq	0	Tikrit	1
Falluja	3	Tuz Khurmatu	1
Haditha	0		

the victim(s). Those killed unintentionally during government rescue missions are not coded as killed. Hostage victims who died during captivity are also excluded from the coding of killing. I outline the count of executions for each district in the period of examination in Table 3.2. Mosul and al-Hawīja have the largest number of killings throughout the period of examination.

The independent variable is corrective hostage victim(s). The variable is operationalized as dichotomous, capturing whether or not the victim(s) in question were corrective hostages during the event in question.[17] A corrective hostage is an individual taken because they have committed acts that undermine the rebel regime. The coding of this variable includes acts deemed nonconformist in organizational standards, such as spying for enemy forces or organizing anti-regime protests. While the Islamic State uses its legal system to regulate and control the behavior of civilians, it is important to note the coding of this variable captures only acts which undermine

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[17] The term 'corrective' is taken from the Arabic *taqwim*, meaning punishment.

the rebel regime. Therefore, it is not simply a companion to crimes under Shari'a law. An act only undermines the rebel regime if it is capable of directly interfering with the workings of the organization. Many violations of *haad* crimes (i.e. those specifically defined in the Qur'an) are not considered acts that undermine the rebel regime. These exclusions include blasphemy of the Prophet and sodomy.[18] In my sample, 20% of victims are coded as corrective victims.

The analyses include several covariates which capture factors at the event, organization, and country-level that likely influence the relationships between my variables of interest. At the event-level, I include the sex of the victim. ISI's virulent victimization of women is well-documented (e.g., Vale, 2019) and females may be more likely to be taken hostage and killed as well as viewed as a corrective victim. For this variable, female victims are coded as 1 and males 0. I also include other victim-level attributes, such as whether they are a soft civilian target (see Polo & Gleditsch, 2016), a member of the outgroup (i.e., Shi'a, Christian, and Kurdish), and a high-value hostage. I define a high-value hostage as an individual of prominence to the organization, whether it be for material, political, or social purposes. These victims have a certain status and notoriety. An ordinary civilian, tribesman, or laborer is not considered high-value. However, a senior member of a rival organization, journalist, police major, or family members of government officials are considered high-value. Moreover, I include the duration of the hostage event in question, as victims might be more likely to be killed as the duration of the event (in days) increases.

At the organization-level, I include the number of attacks by ISI in the district in the previous month to account for overall levels of violence and brutality. I also include territorial control. While all districts in the dataset are subject to ISI governance, the organization has explicit ter-

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[18] If an individual is accused of engaging in sodomy, the engagement within itself does not directly hinder the workings of the rebel regime, despite sodomy being forbidden. Since the delineation of acts that do and do not constitute behavior that undermines the regime, particularly sodomy, involves dividing along thin and often blurred lines, I run additional tests with their inclusion in the coding of this variable (see Table B.13).

ritorial control during 93% of the events. In addition, I include ISI battle deaths in the district in the previous month.[19] Finally, at the country-level, I include the estimated size of the population in each district.

Empirical Strategy and Estimation

The empirical strategy takes form in several stages. First, I conduct a victim-level analysis with a matching technique for causal inference using observational data. In this stage, I perform coarsened exact matching to prune the observational data and control for pre-treatment covariates. I match only on pre-treatment victim characteristics. More specifically, pre-processing matching is applied to test the theorized relationship in a more homogenous sub-sample to improve causal inference, estimation, and efficiency by reducing possible bias, model dependence, and imbalance (Iacus et al., 2012).

As a modelling strategy, here, I adopt a linear probability model with yearly and district fixed effects. With the matching method, I focus on the sample average treatment effect, where the treatment effect for unit i, TE_i, is denoted as:

$$\frac{1}{n_T} \sum_{i \in T} \text{TE}_i,$$

where $n_T = \sum_{i=1}^{n} T_i$ and $T = \{1 \leq i \leq n : T_i = 1\}$.[20] There are a total of 123 matched treatment and 314 matched control units. The unmatched units (41 in total) are disregarded for the analyses. A measure of imbalance is based on the $\mathcal{L}_1$ difference between the multidimensional histogram of all pre-treatment covariates in the treated group and that in the control group. The $\mathcal{L}_1$ measure varies from 0 to 1. A perfect global balance results in $\mathcal{L}_1 = 0$, while

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[19] Additional tests include controls for oil extraction and the timing of the Yazidi genocide (Table B.11).
[20] This method assumes the treatment assignment is ignorable conditional on X.

$\mathcal{L}_1 = 1$ indicates complete separation of the multidimensional histograms. The $\mathcal{L}_1$ statistic in the matched sample is 0.07. In the unmatched sample, the $\mathcal{L}_1$ statistic is 0.23. After matching, there is therefore a sizeable reduction in imbalance (approximately 0.16) suggesting appropriate model choice.[21]

In the next stage, I probe the mechanisms in a within-case assessment of Mosul utilizing a dual, mixed-method causal identification strategy. More specifically, I first draw upon a synthetic control model examining ISI's travel ban in Mosul in 2015 as the introduction of a formal punitive governance strategy and, second, examine qualitative evidence from causal process observation, a method of inductively tracing causal mechanisms (Brady et al., 2006).

The synthetic control model chooses 'a set of weights which when applied to a group of corresponding units produce an optimally estimated counterfactual to the unit that received the treatment. This counterfactual, called the "synthetic unit," serves to outline what would have happened to the aggregate treated unit had the treatment never occurred' (S. Cunningham, 2021, 584).[22] More formally, Y_{jt} is the outcome of interest for unit j of $J+1$ aggregate units at time t and the treatment group $j = 1$. In my case, Mosul (Nineveh) is the case affected by the travel ban intervention. Units $j = 2, ..., J+2$ remain the untreated, or control, pool. The synthetic control estimator models the effect of the intervention at time T_0 on the treatment group using a linear combination of alternative units (i.e. the other districts). For the post-intervention period, the synthetic control estimator measures the causal effect as

$$Y_{1t} - \sum_{j=2}^{J+1} w_j^* Y_{jt},$$

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[21] The statistics for individual variables are displayed in Table B.4. Since imbalance in the unmatched sample is reasonably low, I include tests of the main analyses without matching in the appendix (Table B.6).

[22] I apply the same weights as Abadie, Diamond, and Hainmueller (2010).

Table 3.3: Synthetic Control Weights for Iraq

Governorates	Weight
Al Anbar	0.025
Babil	0
Baghdad	0
Basra	0
Dhi Qar	0
Diyala	0
Dohuk	0
Erbil	0
Halabja	0
Karbala	0
Kirkuk	0.001
Maysan	0
Muthanna	0
Najaf	0
Qadisiyyah	0
Saladin	0.973
Sulaymaniyah	0
Wasit	0

where w_j^* is a vector of weights outlined in Table 3.3, aggregated at the governorate level in Iraq. The synthetic control is therefore the weighted average of the units in the control pool.[23]

Identifying Assumptions

Effective use of this strategy hinges on three assumptions. First, I assume only the treated location is affected by the travel ban for all years in the pre-treatment period used to create the synthetic control and afterward. Nineveh, particularly the city of Mosul and surrounding areas, is often regarded as the epicenter of Islamic State governance in Iraq. The organization

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[23] The synthetic control model is simulated with only ISI hostage killing attacks. I include more sophisticated models with additional covariates, such as battle deaths, territorial control, and terrorist attacks more broadly in the Appendix (see Figure B.3). The results are not substantively different.

controlled other locations in Iraq but the extent to which they were able to extend their power insofar as to restrict movement is particularly unique to Nineveh.

Second, I assume the travel ban has no effect before it is enacted. While travel restrictions were in place from November 2014, the organization did not impose an explicit ban until March 2015. Before the ban, civilians could leave Mosul. Several studies examine the civilians' propensity to so do (e.g., Revkin, 2021). Moreover, regulations on behavior and implementation of rules, while increasingly restrictive, were not fully policed until March 2015. As Revkin (2021, 56) indicates, 'On March 10, 2015, an IS official warned in a speech broadcast over loudspeakers that anyone who left Mosul from then on would be considered an "apostate" and their property would be confiscated.'[24] Finally, I assume the counterfactual outcome can be approximated by a fixed combination of non-treated governorates. This approach mirrors previous studies and is a fixture of the method (e.g., Abadie et al., 2010).

Results

Before turning to the empirical models and estimation, I first present descriptive statistics on the relationship between hostage victims and killing. Figure 3.3 details victim-level characteristics in the data. Moreover, Table 3.4 provides an indication on the number of victims executed for the treatment (i.e., corrective victim) and control units.

Table 3.4: Treatment Distribution

	Executed	Not Executed
Treatment	107	28
Control	15	328

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[24] To account for the possibility that the theory could apply in the lead-up to the ban, I simulate the synthetic control accounting for pre-treatment levels of violence.
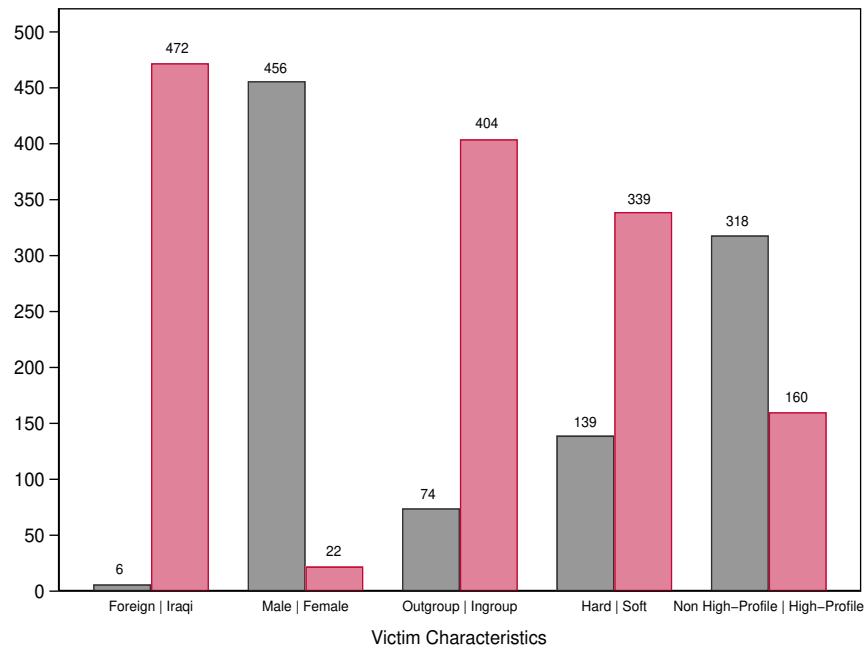
Figure 3.3: Victim Statistics

Over 90% of corrective hostage victims were killed by ISI, suggesting indicative support for the proposed hypothesis.[25] In the sample of 478 recorded hostage-taking events, only 1% of victims are foreign, suggesting a focus on Iraqi nations. 85% of the victims are Sunni Muslims, which further suggests an ingroup targeting strategy. 70% of ISI victims are soft civilian targets. Approximately 33% are identified as high-value targets. Only 5% of hostage victims are female. Of the women taken by ISI, 60% are Sunni Muslim. Yazidi and Shi'a women are also targeted. I now turn to the statistical analysis to examine the hypothesized trend systematically.

The empirical models estimate the likelihood of hostage killing based on victim characteristics.[26] The results are displayed in Table 3.5.[27] Model 1 presents the bivariate specification with yearly and district fixed effects while Model 2 includes covariates. Fixed effects account

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[25] A Fisher's exact test suggests an association between the two variables ($p < 0.05$).
[26] All models are estimated in Stata 17.
[27] The full model is displayed in Table B.5.

Table 3.5: Event-Level Prediction of Hostage Execution (Linear Model)

	Model 1	Model 2
Corrective Hostage	0.704***	0.718***
	(0.063)	(0.062)
Covariates		✓
Year FE	✓	✓
District FE	✓	✓
R^2	0.635	0.649
Observations	438	438

Standard errors are clustered by district and reported in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

for unobserved heterogeneity across space and time as well as aid issues of underreporting in the data. Figure 3.4 depicts the predicted probability of killing for corrective and non-corrective victims. The predicted values are shown with 0.90 and 0.95 confidence intervals. Standard errors are clustered on the district to account for possible non-independence of observations over time (Wooldridge, 2003). CConsistent with the expectation, corrective hostage victims are more likely to be killed than non-corrective victims. All else equal, the probability of execution for a non-corrective victim is approximately 4%. On the other hand, the probability of being killed for a corrective victim is approximately 77%. This marks an increase of 1825% in the probability of killing for corrective victims.

To probe the robustness of these results, I report several alternative empirical specifications and estimations in Appendix B. Specifically, I check the results' robustness to OLS without coarsened exact matching (Table B.6), logistic regression (Table B.7), and adjustments for spatial dependence in clustering (Table B.14). I also examine the results' sensitivity to controls for the concurrent Yazidi genocide and district-level oil production (Table B.11). The decision to use violence could be related to the number of individuals fleeing ISI territory. Utilizing data from the United Nations' Institute for Migration, I therefore examine the robustness of the re-
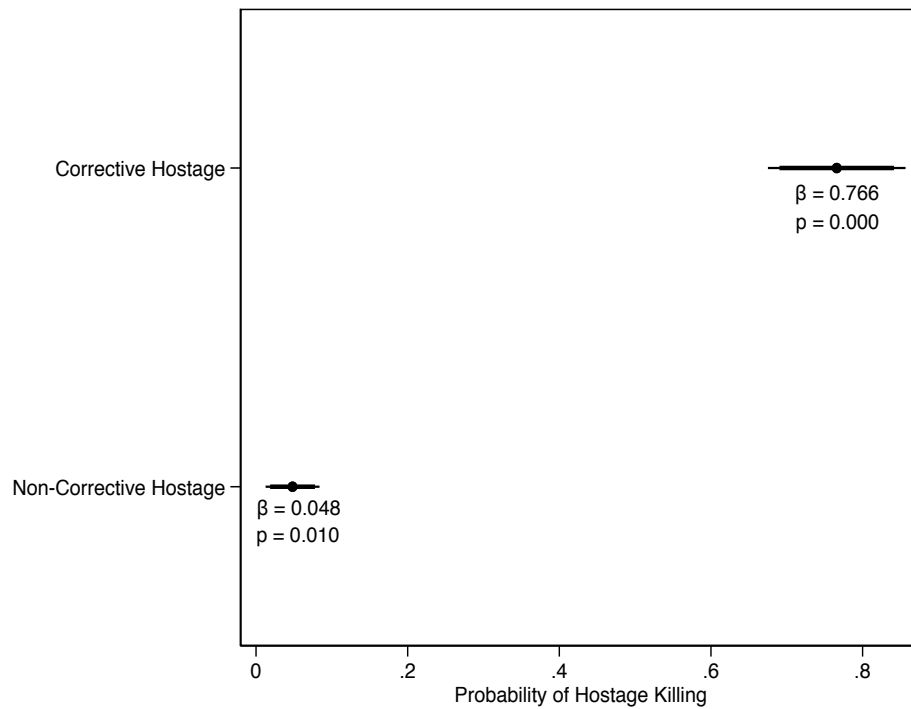
Figure 3.4: Substantive Effect of Treatment on Hostage Killing

sults to internal displacement (Table B.12). All tests corroborate those reported here.

To formally investigate potential biases in the data, I run a number of tests. First, I estimate coefficients of proportionality (δ) for Model 2 reported in Table 3.5. Following Oster (2019), δ represents the degree of selection on unobservables relative to observables which would be necessary to explain away the estimated effect. For Model 2, δ equals 1.145 for the effect of a corrective victim on hostage execution. The positive δ indicates that unobservables would have to be 1.145 times more important than observables in order to attrite the observed positive point estimate of corrective hostages on hostage killing. The test builds confidence that the results are not driven by unobserved bias in the data. Second, I employ a variant of the test suggested by Weidmann (2016) to assess the nature of subnational reporting biases in the data as a result of expanding cell phone coverage. The logic of this test is that if reporting biases owing to expanding network coverage are affecting data, an overwhelming number of attacks should

be reported in these locations. To implement this test, I collect data on expanding cell phone coverage from OpenCelliD. Results show no evidence that the effect of expanding cell phone coverage significantly increases reports of hostage-taking, hostage executions, and attacks by the Islamic State in Iraq (Table B.15).[28]

Probing the Mechanism

The first set of analyses provide robust support for the hypothesis. However, they offer little investigation into the proposed mechanism. To provide stronger evidence and infer the presence of causal mechanisms, I dive into the case of Mosul. Utilizing a dual, mixed-method causal identification strategy, I first perform a quantitative within-case comparison with a synthetic control model before drawing upon causal process observation to consider ISI's punitive governance strategy in Mosul from 2014 to 2018.

An in-depth examination of Mosul is useful for several reasons. First, within-case analysis allows for the probing of mechanisms linking specific type of hostage victims to the outcome of killing. It provides an opportunity to investigate the victim's case in detail, uncovering the events leading to killing and the wider public and organizational response. Second, in the period under examination, Mosul quickly became the epicentre of ISI governance in Iraq. It is also the district exposed to the most violence. It therefore provides an opportunity to investigate how the strategy of killing links with governance practices. Finally, the period under examination marks full confirmation of a punitive governance system. ISI increased its reliance on both hostage-taking and hostage executions after the implementation of the travel ban. This provides suggested support for killing explanations based on strategies of governance.

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[28] The models also control for population density and include district and year fixed effects.

Synthetic Control Model

To trace ISI's pattern of hostage killing across its governance strategy more formally, I implement a synthetic control model. ISI's travel ban across Nineveh in 2015 represents a punitive form of governance and an attempt to control the population, particularly in Mosul. Since the theory is attached to governance and social control, we should expect ISI to increase their reliance on hostage killing in the period after the implementation of the travel ban, punishing those who defect. Moreover, if the theory is correct, there should be a noticeable difference in the practice of hostage killing in Mosul compared with districts with ISI presence but no travel ban. The synthetic control model allows for this comparison.

The results for the model are displayed in Figure 3.5. Panel (a) plots the outcome for Mosul and its synthetic control; panel (b) plots the effect trend. The red line references the implementation of the travel ban. The estimate of the effect of the travel ban on hostage killing is the difference between hostage killing in Mosul and its synthetic version after the passage of the travel ban. After the implementation of a more punitive governance strategy, represented by the travel ban, the two lines begin to diverge. Hostage killing in synthetic Mosul is rare, while hostage executions in Mosul increase heavily after the introduction of the travel ban. More hostage victims are killed in treated Mosul (i.e. where the travel ban is implemented) compared with synthetic Mosul (i.e. with no travel ban). Panel (b) suggests the effect is not linear and there are noticeable differences across time. The overall predicted difference is generally statistically significant at $p < 0.05$. However, the effect is lost ($p > .10$) after ISI lose Mosul to counterinsurgency forces in March 2017.[29]

To examine the robustness of the tests, I include additional predictors among the variables used to construct the synthetic control. The results presented are simulated only using previous

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[29] As a robustness test, I end the treatment day when ISI loses Mosul to counterinsurgency forces (Figure B.10).

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(a) Treatment versus Control   **(b)** Effect
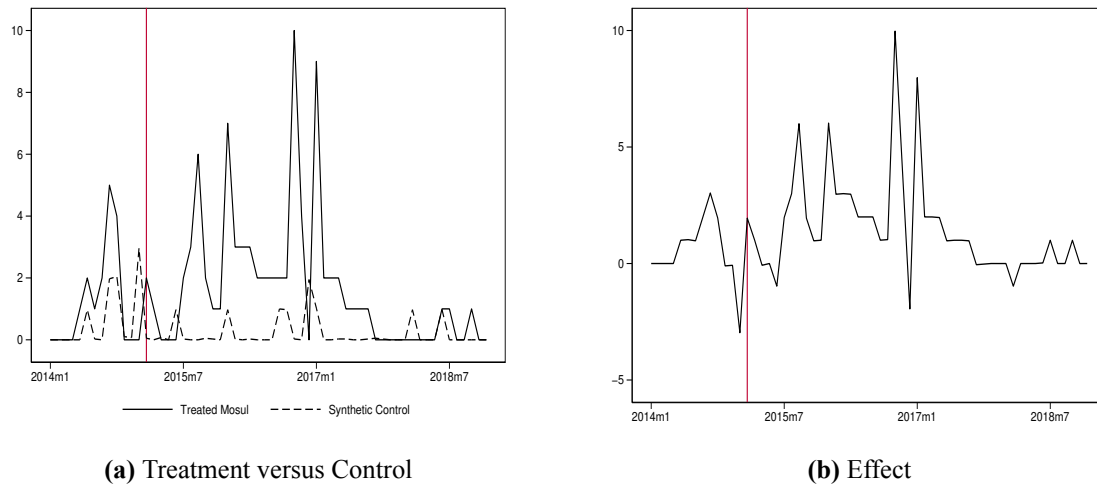
Figure 3.5: Simulated Synthetic Control

counts of violence. However, the results are unaffected by the inclusion of other predictors, such as battle deaths, terrorist attacks, population size, the number of individuals fleeing the territory, and district-level oil production.

To evaluate the significance of the estimates, I pose the question of whether the results could be driven entirely by chance. To answer it, I follow Abadie et al. (2010) and use a series of placebo tests. If the placebo tests create gaps of a magnitude similar to the estimated effect for Mosul, the interpretation is that the analysis does not provide significant evidence of a positive effect of punitive governance (i.e., the travel ban) on hostage killing. However, if the result indicates that the gap is unusually large for Mosul relative to other locations, the interpretation is that the analysis provides significant evidence of the effect.

To run the placebo tests, I iteratively apply the synthetic control method used to estimate the effect in Mosul to every other governorate in the control pool. In each iteration, Mosul is shifted to the control pool and the treatment is reassigned to one of the control locations. In other words, following Abadie et al. (2015, 501), I compute the effect as if the organization implemented the ban in one of the other locations in the control pool instead of Mosul, which provides a distribu-

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(a) Outcome Trends **(b)** Effects
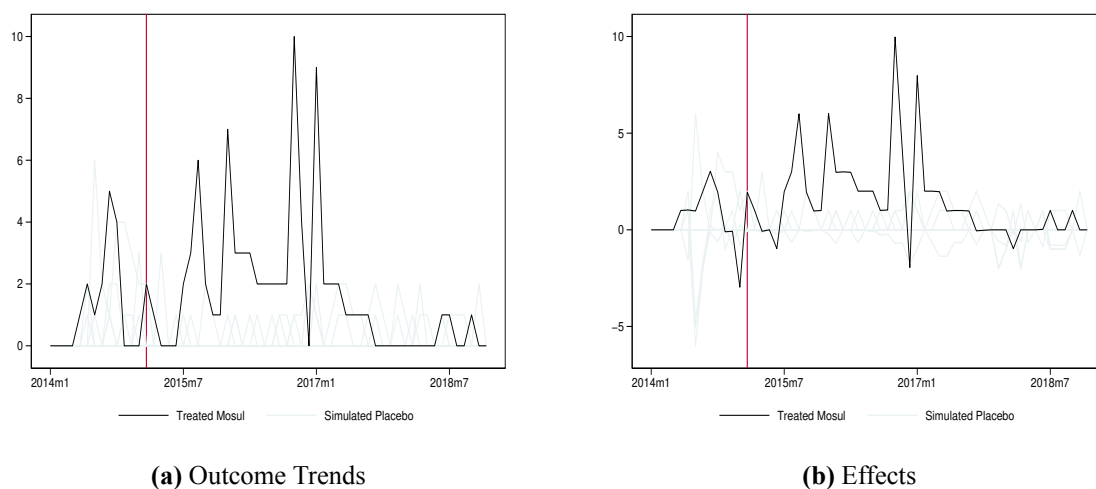
Figure 3.6: Simulated Placebo

tion of estimated gaps for the locations where no intervention took place. Figure 3.6 graphs the results of the placebo test. The blue lines are associated with each simulation and represent the difference in hostage killings between each location in the control pool and its synthetic control. The black line denotes the gap for Mosul. It is clear the estimated gap for Mosul is unusually large relative to the distribution of the control pool.

While the previous test affirms confidence in the result, it is important to consider lack of fit and the construction of weights in the control pool. Placebo runs with poor fit prior to the implementation of the travel ban provide little information on the rarity of estimating a large effect for Mosul. In turn, I run leave-one-out tests to provide several different versions of Figure 3.6, each excluding states with substantial control weights including Saladin and Kirkuk (Figure B.4). The results mirror those presented and indicate a sustained irregularly large effect for Mosul, further strengthening the robustness of the result presented.

In a final effort to evaluate the sensitivity of the result, I leverage tests suggested by Abadie et al. (2015) and consider the ratio of root mean squared prediction errors between the pre-treatment and post-treatment period for each location. In Figure B.5, Mosul is a clear outlier. If

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a location was picked at random in the sample, the chances of obtaining a ratio as high as Mosul would be $1/19 \simeq 0.0526$. Taking all additional tests together, the increase in hostage killing following the implementation of the travel ban is particularly stark.

Causal Process Observation

In a final effort to probe the mechanism further and identify the relationship between punitive governance and hostage killing, I turn to causal process observation with qualitative data. Causal process observation is a method of inductively tracing causal mechanisms that is often coupled with quantitative analyses (see Blair et al., 2022; Brady et al., 2006). This method is particularly useful because, while the previous analyses endorse the causal mechanism, they fail to sufficiently justify organizational motives. There is large evidence of hostage-taking and victim killing for corrective purposes in Mosul. AApproximately 31% of victims captured by ISI in Mosul were identified as corrective victims, taken for putting the rebel regime at risk. ISI killed 87% of corrective hostage victims in Mosul. If the theory is true, the justification for killing should extend to punishing those who undermine the rebel regime and signalling (un)acceptable standards of behavior to the wider community.

The data for this analysis include official ISI documents, social media posts, local newspapers, and reports by human rights organizations. Multiple sources are used to triangulate, cross-check, and corroborate hostage events recorded in the GTD. I ultimately trace and code 40 cases of ISI hostage killing in Mosul. The link between hostage killing and punitive governance is clear across the organization's primary sources. The link between hostage killing and punitive governance is clear across the organization's primary sources. In a letter to leaders of the Islamic State, Abu Hamzah al-Muhajir suggests the 'corrupt' should be punished publicly, 'for this is what the Sharī'ah has come with' (Ingram et al., 2020, 99). Reminiscent of doctrinal texts associated with jihad and a Foucauldian reinforcement of power in executions,

Abu Hamzah's advice underpins a punitive governance strategy and sets the context for hostage killing for the organization across Iraq. In what follows, I assess the evidence to inspect the causal claim through two main observed justifications for hostage killing: collaboration with security forces and fleeing ISI territory.[30]

Collaboration with Enemy Forces

On August 31 2016, ISI abducted nine men from their residences in Mosul. The victims were suspected of collaborating with enemy forces and joining a local anti-ISI group. The men were held for a number of days before being killed in Tal Afar Square in front of a large crowd. The execution was particularly vicious; the men were tied to an iron pole and sliced with an electric chainsaw.[31] The Islamic State punishes behavior that is perceived threatening to their operation, including collaboration with enemy forces and espionage. The organization often uses its legal system to regulate and control such behavior (Revkin, 2016). Under a punitive security apparatus, however, hostage-taking becomes a more efficient and quicker way to punish defectors in public as opposed to in Court.

In a document on the legality of slaughtering and mutilation, Abu Bakr Al Mudari justifies the slaughtering of the enemy and enemy collaborators as 'not forbidden' by the Prophet.[32] However, the justification for killing here is not merely ideological. After the implementation of the travel ban in Mosul, residents describe several incidents of ISI taking alleged spies hostage and killing the victims in public. On 12 October 2016, five young men were killed by a firing squad in a public square, accused of working with Iraqi security forces. Moreover, on 25 November 2016, ISI killed 27 hostages in Muhandiseen Park, Mosul, for spying offenses. Interviews with displaced persons from Mosul suggest the killings send a message to local communities across

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[30] Since only one event of anti-ISI protests resulted in hostage killing, I exclude this from the analysis.

[31] See https://www.iraqinews.com/iraq-war/isis-slices-nine-youth-with-chinsaw-mosul/.

[32] http://web.archive.org/web/20160530095020/https://justpaste.it/gz3j.

Iraq, suggesting defectors will be punished.[33]

Breaking the Travel Ban

Aside from collaboration with security forces, ISI also engaged in hostage-taking and hostage killing against those who broke the travel ban imposed by the organization across Nineveh. On August 3, 2016, ISI abducted a woman and her four children. They were caught fleeing al-Marir village intending to head toward an Iraqi army security base in al-Qayara. The woman was later executed. On 3 September 2016, ISI kidnapped and executed 16 civilians in Old City, Mosul, after attempting to flee Nineveh. The victims were killed in public. Local reports suggest similar attacks are commonplace in Mosul, in an effort to display strength, maintain order, and punish defectors, as ISI fighters attempt to surmount increased campaigns by the Iraqi military to obliterate the organization.[34]

Alternative Mechanisms and Explanations

The evidence suggests ISI's hostage killing strategy is underpinned by a system of punitive governance. It is used to punish defectors of the social contract and display performative, egregious violence as a signalling mechanism to the wider population. Hostage-taking, here, serves little strategic bargaining purpose or monetary value to the organization. Instead, the victim is a symbolic and used as a token within the staging of performative violence. While I explored only two forms of corrective behavior change, there remain other justifications for execution, such as refusing to carry out activities, protesting against the organization, or fighters attempting to leave the organization.

Two alternative explanations might offer some insight into patterns of hostage killing by ISI:

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[33] See https://www.rferl.org/a/un-islamic-state-iraq-mosul-executions/28145992.html.

[34] See https://www.hrw.org/news/2017/06/30/iraq-new-abuse-execution-reports-men-fleeing-mosul.

ideology (e.g., Revkin & Wood, 2021) and organizational adaption (e.g. Horowitz et al., 2018). In theory, it is possible that hostage killing is not attached to governance at all and, instead, ISI learn from previous successes and failures, killing hostages not ripe for ransom payments. The previous qualitative and quantitative evidence is helpful for tackling this alternative explanation in two ways. First, there is almost no overlap in organizations demanding ransom and then killing victims for which ransom is demanded, though I control for the former in the empirical models. Second, I found no qualitative evidence to suggest this relationship, though data (un)availability is expected.

An alternative explanation is that hostage killing can be explained by ideology. Research on violence suggests ISI adopted ideologically motivated policies that authorized certain forms of violence, such as sexual violence (Revkin & Wood, 2021). While the qualitative evidence in this section unveils more specific explanations for lethal violence centred on victim-specific characteristics and social behavior change, it would be premature to reject ideology as an explanation for violence. It is possible that the forms of violence that the organization has adopted as policy may be shaped and constrained by its ideology. In this sense, these explanations are complementary: ideology mediates punitive hostage killings and provides an infrastructure for punitive governance.

Extensions

The results are robust to several alternative empirical specifications and estimations. I also run a variety of additional tests which illustrate further implications of the Islamic State's punitive governance strategy on hostage killing.
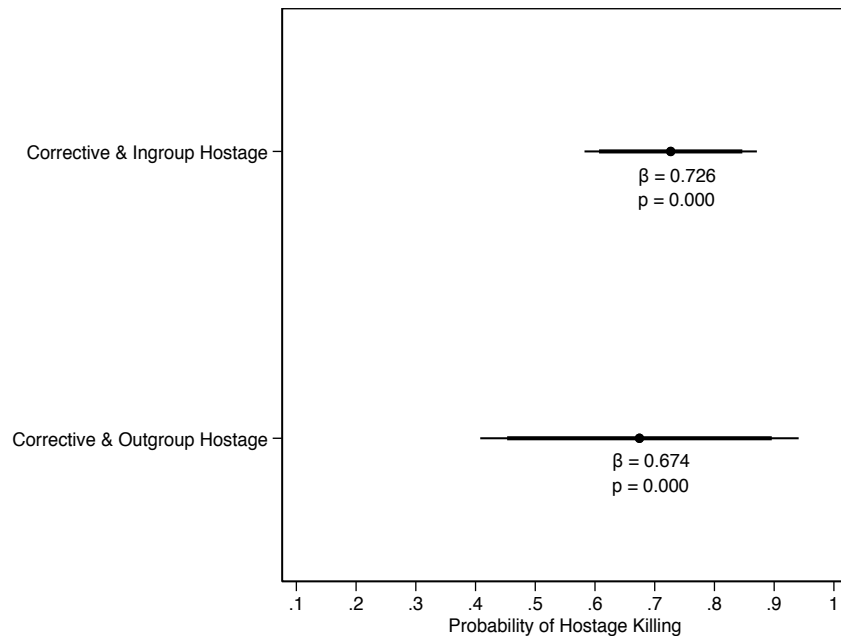
Figure 3.7: Identity and the Probability of Hostage Killing

Ingroup Hostility

Under a system of punitive governance, organizations use hostage killing to make an example of those who put the rebel regime at risk. It is used to exert control over the population. A possible implication is that there should be variation in the brutality displayed with corrective ingroup victims compared to outgroup victims. If an ingroup hostage and an outgroup hostage are both accused of committing acts that undermine the rebel regime, the probability that the ingroup hostage is killed should be higher as the organization should prioritize making an example of the victim to police the population. This implication is explored in Figure 3.7 (Table B.8). The probability of being killed for an outgroup corrective hostage is 67%. The probability of being killed for an ingroup corrective hostage is 73%. Ingroup hostages accused of committing acts that undermine the rebel regime are therefore almost 9% more likely to be executed than outgroup hostages. The results support the ingroup brutality expectation.

Gendered Dynamics

The reliance on hostage killing for corrective hostages might also vary depending on the organizations' calculation of deviance. The deviance calculation, whether implicit or explicit, is likely based on gendered perceptions and societal norms. Kao and Revkin (2021) suggest individuals find women less likely to be responsible for violence in Iraq. However, when ISI have already found women responsible for putting the organization at risk, and taken them hostage, it is likely they are treated more harshly than men accused of the same deviance (Sjoberg & Gentry, 2007). I explore the gendered dynamics in corrective hostage victims and display the results in Figure 3.8 (Table B.9).[35] The probability of execution for a male corrective hostage is 71%. The probability of execution for a female corrective hostage, however, is 90%, marking a 27% increase in expected brutality.[36] The risk of hostage killing under systems of punitive governance is therefore conditioned by social and organizational gender dynamics.

Placebo Tests

The results suggest that hostage killing is a unique product of systems of punitive governance. One concern is that the results, particularly the synthetic control investigating the implementation of the travel ban, merely capture a larger phenomenon of civilian targeting or terrorism at work. Placebo tests investigating alternative tactics help eliminate this possibility. If there was a larger terrorist strategy in play for ISI, increases in attacks would be observed more generally following the implementation of the travel ban in Mosul. However, I find this is not the case and the explicit increase in violence is unique to hostage killing, considering both alternative attacks

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[35] It is important to note, the coding of gender traces only cisgender men and women. However, there remains large evidence of attacks on transgender women.

[36] Since women are underrepresented in the sample, I check the results robustness to a difference in means test. The results mirror those reported ($p < 0.05$).
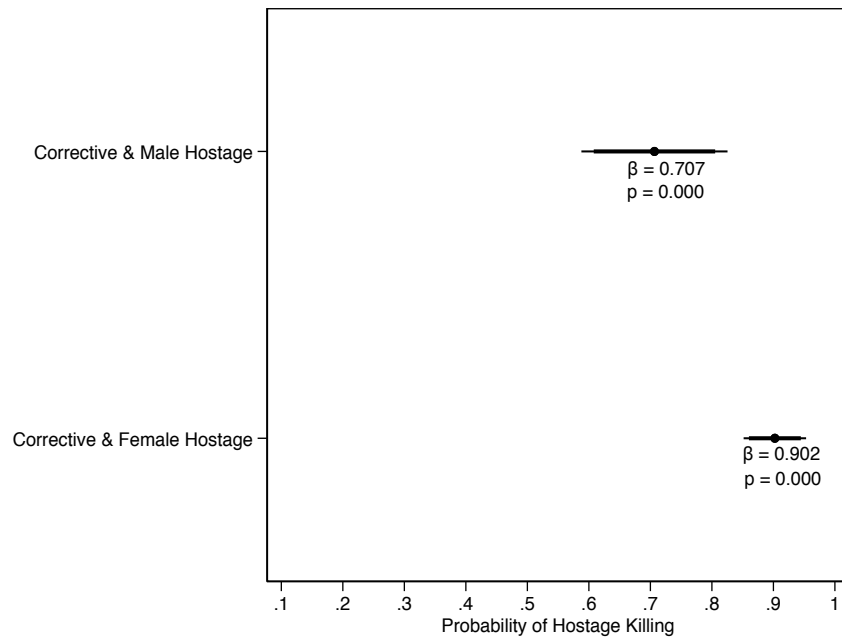
Figure 3.8: Gender and the Probability of Hostage Killing

on civilians (using the GTD) and civilian deaths from targeting (using the UCDP Georeferenced Event Dataset).[37]

A final concern is on the relationship between hostage killing and extrajudicial violence. The increase in hostage killing under a system of punitive governance could simply be related to an increase in extrajudicial killings by the Islamic State. The organization did subject some hostage victims to trials by the Islamic Court, such as those accused of engaging in homosexual activity, upon which it was decided the victim should be executed. While cases of sodomy are excluded from the coding of a corrective hostage, it is necessary to investigate whether a broader relationship exists between extrajudicial violence and hostage killing. I therefore collect information on whether or not hostage victims were subjected to trials by the Islamic Court and run a placebo

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[37] The results are displayed in Appendix B.

test to purge these cases from the data (Table B.10).[38] The result mirrors those presented and suggests hostage killing is not driven by extrajudicial violence.

Conclusion

While hostage-taking is often regarded as a non-lethal tactic, I consider the strategic calculus of its lethality. I argue organizations kill hostages as part of a punitive governance strategy in their areas of operation. When hostages are of little bargaining value to the organization, hostage-taking and killing can be used as a corrective action to exercise control over the population. I test the expectations in a multipronged empirical strategy utilizing the case of ISI. The results indicate hostage victims accused of acts that undermine the rebel regime are more likely to be killed than those taken for other purposes.

The results hold significant implications. First, the distinction between lethal and non-lethal hostage-taking is useful for work investigating the propensity for state-insurgent negotiations in civil war. If only a portion of attacks are ripe for bargaining, we should expect variation in when organizations seek to enter negotiations. Moreover, since certain attacks are more likely to end in a fatal outcome, responses to these events should prioritize the victim's security over grounds for negotiation. Distinguishing between lethal and non-lethal attacks is also useful for considering the consequences of this form of violence on local and international counterterrorism infrastructures. Communities affected by this form of violence bear a constant burden of insecurity. Understanding when lethal attacks are likely over non-lethal attacks allows for more nuanced support packages.

Second, the results extend important theories linking rebel governance and strategies for vio-

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[38] I also test whether internal displacement patterns affect hostage killing by controlling for the number of civilians fleeing ISI territory at the district-level utilizing data from the UN Institute of Migration (Table B.12 and Figure B.9).

lence, particularly on their co-existence. The results offer plausibly causal evidence uncovering the conditions under which violence is effective in locations under rebel governance in civil war. Previous work suggests organizations can govern effectively and use violence as a means to achieve and supplement this effort (e.g., Polo & González, 2020). This study extends this work by demonstrating that lethal hostage-taking can allow organizations to deepen their roots by punishing ingroup defectors of the social contract.

Finally, new data on hostage victims permit a closer inspection of the characteristics and profiles of victims beyond the binary of civilian and non-civilian targets. In hostage-taking cases in civil war, international attention quickly shifts to foreign victims. Governments and policymakers alike often assess the risk of hostage-taking by inspecting the propensity of harm to foreigners. Moreover, media reports on executions overwhelmingly cover foreign victims, particularly those of U.S. nationality. Despite this, hostage-taking is most common and causes the most harm to national citizens, particularly those in locations subject to the governance of non-state actors. These individuals should be the primary focus of counterterrorism policy across the international community.

The United States gives terrorists no rewards and no guarantees. We make no concessions. We make no deals.

Ronald Reagan, 1985.

4

Hostage Negotiation in Civil War

Introduction

On 19 September 2022, the United States reached a prisoner exchange agreement with the Taliban, in Afghanistan. The agreement saw the release of Mark Frerichs, an American contractor who had spent two years in captivity after being kidnapped in Kabul, in exchange for Haji Bashir Noorzai, a prominent Taliban financer convicted in the United States for international narcotics trafficking. President Biden stated the agreement reflected "years of tireless work by dedicated

public servants across [the] government and other partner governments..." (The White House, 2022). This order of negotiation between an insurgent organization and a national government for the release of a hostage is one of many that occur worldwide.[1] On 18 September 2015, Maritess Flor was kidnapped by Abu Sayyaf Group from a resort on Samal Island, in the Philippines. After a year in captivity, Flor was released following a ransom payment of approximately $400,000 by the Philippine government (Gomez, 2016).

As the above quotation indicates, political leaders often affirm their refusal to negotiate with organizations that engage in terrorism. Yet, there remains increasing evidence of governments negotiating with such organizations, particularly for the release of hostages.[2] A report by *The New York Times* estimates al-Qaeda and its affiliates received approximately $125 million in ransom payments between 2008 and 2014, with European governments uncovered as the "inadvertent underwriters" of the global terrorism network (Callimachi, 2014). The countries and their corresponding payments are outlined in Table 4.1. While alarming, hostage negotiations should not be misinterpreted as simply transnational transactions. In fact, most negotiations happen at home. Since 2006, the Philippine government successfully negotiated with the New People's Army in approximately 55% of hostage-taking attacks attributed to the organization.[3]

A large body of work considers state negotiations with terrorist organizations (e.g., Bapat, 2006; Jenkins, 1982; Sederberg, 1995) as well as militants' use of terrorism and the propensity for negotiations in civil war (e.g., Polo et al., 2021; Fortna, 2015; Nagel, 2019; Thomas, 2014). Work on hostage-taking more specifically considers the consequences of negotiations, examining whether negotiations alter an organization's behavior (e.g., Brandt & Sandler, 2009; Brandt et al., 2016; Lapan & Sandler, 1988; Mellon et al., 2017; Mertes et al., 2003). While

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[1] I use the terms insurgent, militant, and rebel organization interchangeably.

[2] Hostage-taking is a terrorist tactic. In itself, terrorism is the deliberate creation and exploitation of fear through violence or threat of violence by non-state actors against non-combatant targets in the pursuit of political change (c.f. Hoffman, 2006; Enders & Sandler, 2012).

[3] This statistic is based on original data collection described in the Data and Research Design section.

Table 4.1: Ransom Payments to al-Qaeda Affiliates (2008-2014)

State(s)	Amount	Victims
France	$58.1 million	7
Qatar and Oman	$20.4 million	4
Switzerland	$12.4 million	3
Spain	$11 million	5
Austria	$3.2 million	2
Undetermined	$21.4 million	

Data: Callimachi (2014).

useful, studies on negotiation are limited both theoretically and empirically. Theoretically, the literature does not distinguish between terrorist tactics, assuming all terrorist attacks are ripe for, and attract, negotiations with the government (e.g., Fortna, 2015; Thomas, 2014). Empirically, studies often examine terrorism in a group- and country-year or -month format. This empirical unit ignores the dyadic nature of negotiations and fails to capture attack-specific information, such as victim-level characteristics. A lack of fine-grained data has therefore prohibited an investigation into which specific terrorist events result in negotiation.

Towards that end, this article offers the first examination of hostage-taking and the propensity for state negotiations with insurgent organizations in civil war. Given the substantial costs associated with engaging in talks with terrorists (see Bapat, 2006; Thomas, 2014), I argue governments only negotiate for the release of hostages where the victim is likely to attract attention, compelling state action. States are therefore more likely to engage in negotiations with organizations for the release of hostages where the hostages are high-profile victims. I test this theory in the context of the Philippines with original, fine-grained event-level data. The data document hostage-takings in the Philippines between 1975 and 2018 for six insurgent groups: Abu Sayyaf Group, Bangsamoro Islamic Freedom Movement, Maute Group, Moro Islamic Liberation Front, Moro National Liberation Front, and the New People's Army. The data also detail whether the event resulted in a negotiation with the government for the release of the hostage victim.

The data are examined in a two-pronged empirical strategy. First, I conduct an event-level analysis with a matching technique for causal inference using observational data. In this stage, I determine whether certain victim characteristics attract negotiations. Next, I probe the mechanism in a within-case examination of hostage-taking by the New People's Army in the Philippines between 2006 and 2018. Utilizing causal mediation analysis, I closely test the extent to which the hypothesized relationship is mediated by the amount of attention hostage-taking attacks with high-profile victims receive. The analyses robustly support the theory prescribed.

This research makes several significant contributions. First, I provide a novel theoretical basis from which to understand a complex phenomenon: hostage negotiation. I provide an in-depth analysis of the link between the use of terrorism and negotiations in civil war while emphasizing the unique nature of hostage-taking as a tactic employed in a demand-intensive environment. This distinction is important for considering terrorist outcomes. It emphasizes the importance and idiosyncrasy of specific terrorist tactics, signaling a departure from work on the use of terrorism in civil war that favors universal application and homogenous examinations of violence.

Second, I introduce original, granular data on hostage negotiations previously unavailable. The data include information on victim characteristics, such as age, sex, and social status. This is a valuable addition to work focusing on uncovering trends in the characteristics of victims in civil war beyond the binary of civilian and non-civilian targets (e.g., Asal et al., 2022; Polo & Wucherpfennig, 2022; Schulz, 2018). A holistic approach centered on the victims of violence both emphasizes and deconstructs the politics deeply intertwined with violence and responses to it as well as offers important pathways to combat terrorism (A. Meier, 2022). Moreover, the focus on the Philippines is of interest to researchers and policy-makers alike—both in Southeast Asia and beyond—since its multi-front civil war is of geo-strategic importance, particularly to organizations involved in local development programs, and fine-grained documentation on victims of violence remains scarce.

Finally, the research draws further attention to domestic victims of political violence. It suggests, despite recent concern for foreign and Western victims of hostage-taking (e.g., Loertscher & Milton, 2015), a larger focus must be directed inward toward understanding how national governments respond to violent behavior and which victims are at risk of potentially fatal outcomes at the hands of armed non-state actors. This is of relevance to counterterrorism and counterinsurgency policy on combating hostage-taking, rescue missions, and hostage negotiations, as well as surmounting and understanding non-state actor governance.

Hostage Negotiation in Civil War

Hostage-taking involves holding individuals captive to obtain a political objective through the intimidation of an audience beyond that of the immediate victims (c.f., Enders & Sandler, 2012; Gilbert, 2020a, 2022; Kim et al., 2021). Attacks include kidnappings, sieges, and hijackings. I focus exclusively on attacks in civil war, in which the perpetrating organization is a party to the conflict. This excludes hostage diplomacy; that is, state negotiations with another state holding a victim hostage (see Gilbert & Piché, 2022).[4] As selective violence, hostage-taking is communicative in as much as it is coercive; it is an "act of propaganda" often used to exert leverage over the government and unveil a desire to engage in talks (Jenkins, 1982, 1). Negotiations occur when governments consider the organizations' demands, such as through ransom negotiations or prisoner exchanges, with successful attempts resulting in demands being met. In 2019, for example, the Afghan government made such agreement with the Taliban, releasing 11 militants from prison in exchange for three hostages (Shalizi et al., 2019).

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[4] The argument I develop may be of some utility in explaining hostage diplomacy. For example, certain victims may be more likely to attract attention, which compels state engagement. However, the costs associated with negotiations are much larger where the second party is a non-state actor engaged in terrorism (see Thomas, 2014). With this in mind, the theory and empirical test thereof are not intended to explain negotiation beyond the defined context.

Groups often use violence to gain formal acknowledgement from the government, particularly in civil war (Crenshaw, 1981, 386). A large literature explores government negotiations with organizations that use terrorism. It is often debated on how effective terrorism is as a strategy to gain acknowledgement. Pape (2003) points to evidence of groups being able to force modest policy changes by employing suicide terrorism. However, Abrahms (2006) suggests terrorism fails to yield significant policy concessions. Aside from whether terrorism is successful in prompting negotiations, there are wider concerns on whether governments are likely to enter negotiations with these organizations in the first place. Bapat (2006) argues states may have some incentive to broker peaceful agreements when faced with significant threats. Similarly, Thomas (2014) suggests terrorism increases an organization's power to hurt. As governments' positions are weakened by terrorism, particularly in a civil war context, we should expect negotiations and attempts to locate peaceful settlements.

Hostage-taking as a tactic is considered particularly ripe for negotiation with national and foreign governments. Jenkins (1982) argues political kidnapping—the taking of foreign or national political representatives—often compels national governments to enter negotiations with violent organizations. While many governments maintain no concession policies (Lapan & Sandler, 1988), the stance of non-engagement is difficult to sustain over time (Sederberg, 1995; Shortland, 2019). For example, Brandt et al. (2016) find the United States successfully negotiated in 58 international hostage-taking attacks from 1978 to 2013. Other negotiating governments include the United Kingdom, France, and Germany.

While important, existing work falls short in explaining and testing hostage negotiation. Research on terrorism and negotiation in civil war does not distinguish between terrorist tactics, assuming all terrorist attacks are ripe for, and attract, negotiations with the government (e.g., Fortna, 2015; Thomas, 2014). While work on hostage-taking considers the tactic as unique in prompting negotiations, the propensity for negotiation is taken at face value, in which attack-

specific circumstances leading to negotiation are ignored. Recent work also explores the consequences of negotiation as opposed to instances of negotiation themselves (e.g., Brandt & Sandler, 2009; Mertes et al., 2003).

Moreover, studies examine terrorism in a group- or country-year or -month format (e.g., Thomas, 2014). This empirical unit ignores the dyadic nature of negotiations and fails to capture attack-specific information, such as victim-level characteristics. As such, it becomes difficult to determine whether a specific attack leads to a negotiated outcome. Much of the work on hostage-taking also relies on international data (Brandt & Sandler, 2009). International events make up a relatively small portion of hostage-taking attacks, particularly in civil war. It is therefore difficult to assess the likelihood of negotiation and risk of hostage-taking for national governments by domestic organizations using existing data. More fine-grained data would allow for a consideration on when and why governments negotiate with organizations for the release of hostage victims in civil war.

The Logic of Hostage Negotiation

When militants take an individual captive to coerce the government into meeting demands for their release, the government has at least three options: *refrain* from engaging with the organization; *rescue* the victim; or *negotiate* for their release. While a negotiated settlement is often preferred to continued violence (e.g., Fearon, 1995), there are significant costs associated with negotiating with organizations using terrorism. By extending talks, governments signal their willingness to cooperate in response to violence which risks legitimizing further attacks (Thomas, 2014, 806). For example, Brandt and Sandler (2009) find past concessions in hostage-taking attacks lead to increased violence following successful negotiations.

But the risk of legitimizing violence might be outweighed in certain circumstances. Negotiations can help split organizations apart by revealing factional differences (Cronin, 2015). They

also encourage non-fatal outcomes for kidnapped citizens in the future, compared to those taken in countries where the government made no previous concessions (Mellon et al., 2017). While costly, therefore, it is reasonable to expect the government to negotiate with organizations using hostage-taking in some circumstances.

A hostage-taking attack is the metaphorical gun-to-head for the government. They are often compelled to save the hostage in two ways. First, a human hostage provides rebels with the power to hurt which forces the hand of the government. By taking a hostage, rebels reveal the government is unable to protect civilians, which can erode civilian support (e.g., Crenshaw, 1981; Kydd & Walter, 2006), and increase the likelihood of negotiation (e.g., Thomas, 2014). Second, and relatedly, there are significant reputational costs for non-engagement. Governments might seek to avoid concessions but, with a human hostage, the decision to do nothing is potentially more damaging. There is reason to believe that the public care about hostage-taking more than other forms of violence. For example, these attacks gain significantly more media attention (e.g., Chermak & Gruenewald, 2006), and the public often form attachments to the victims (e.g., Gilbert, 2020b). As Gilbert and Prather (2022, 8) argue, "elected officials may feel pressured to bring hostages home because contravening public opinion could result in heavy political costs." Negotiations are therefore more likely as militants can convince the government that refusal is not costless (e.g., Bapat, 2006; Thomas, 2014). Where militants have taken an individual hostage, the victim's life is the cost, followed by a state reputation for non-engagement.

A victim is, however, unlikely to compel the government to negotiate with militants in every case. As Crenshaw (1998, 31) argues, "the outcome threatened by the terrorist—the death of the hostages—must be worse for the government than compliance with terrorist demands." I argue a high-profile victim offers this scenario. High-profile victims, such as family members of government officials, senior military officers, and journalists attract significant attention, more so

than other victims (see Loertscher & Milton, 2015).[5] This encourages the government to accept an organization's hand to negotiate in attacks involving these victims. The external attention also imposes larger reputational costs if the government decides not to negotiate (e.g., Lapan & Sandler, 1988); with a high-profile victim, the issue becomes less on whether the government will negotiate but why the government has yet to do so.

To give a notable example, in March 2020, Soumaïla Cissé, a former presidential candidate and leader of the Union for the Republic and Democracy, was kidnapped by Jama'at Nusrat al-Islam wal-Muslimin militants while campaigning for parliamentary elections in northwest Mali. Six months later, the government negotiated with the organization for his release in a prisoner exchange agreement.[6] Cissé's kidnapping received large media attention, increasing demand for government action, particularly from his supporters (Akinwotu, 2020; British Broadcasting Corporation, 2020). I, therefore, expect governments to negotiate where the victims are high-profile as these victims are more likely to attract attention, compelling state engagement.

Hypothesis 1: States are more likely to engage in negotiations with organizations for the release of hostages where victims are high-profile.

The Case of the Philippines

To test my theoretical expectation, I take the case of hostage negotiations in the Philippines between 1975 and 2018. The Philippine government faces a civil war on two fronts: a communist rebellion propagated by the Communist Party of the Philippines' (CPP) military wing, the New People's Army (NPA), and a Muslim separatist rebellion, primarily in the Mindanao region, comprising of the Bangsamoro Islamic Freedom Movement (BIFM), the Maute Group,

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[5] While taking a high-profile hostage might be more attractive, low-profile hostages such as ordinary civilians are useful for governance purposes (e.g., Gilbert, 2022).

[6] This agreement was brokered by France and also saw the release of Sophie Pétronin.

the Moro National Liberation Front (MNLF), the Moro Islamic Liberation Front (MILF), and the Abu Sayyaf Group. As a result, the Armed Forces of the Philippines has long focused its attention, efforts, and resources on containing domestic rebel movements and countering violent extremism (de Castro, 2019, 147).

President Rodrigo Duterte remained committed to a militarized counterterrorism campaign, an effort that President Ferdinand Marcos Jr. seeks to continue. In 2017, Duterte met with the United Nations to discuss the development of a Philippines National Action Plan on the prevention and countering of violent extremism. Following the meeting, the military attempted to capture Isnilon Hapilon, the former leader of the Abu Sayyaf Group, who pledged loyalty to the Islamic State. The attempt was met with large resistance, and a coalition of armed groups, resulting in a declaration of martial law and large-scale attacks on the armed groups for 60 days across Mindanao (Hincks, 2017). Despite large-scale violence, the Armed Forces of the Philippines reported mass surrenders of terrorists belonging to disparate insurgent groups, including Abu Sayyaf Group, the BIFM, and the NPA, and claimed an end to the conflict is in sight (Lischin, 2021). Nonetheless, the claim is regarded by many as enormously overstated, with militants using increasingly spectacular forms of violence to attract attention and communicate strength, including hostage-taking (see de Castro, 2019; Sumpter & Franco, 2021).

In selection terms, the Philippines is an *extreme* case. Given high values on the dependent variable, the underlying causal mechanisms, even when considered alone, should strongly determine a particular outcome as a paradigmatic example of the process (George & Bennett, 2005; Gerring & Cojocaru, 2016). All six organizations engage in hostage-taking. The NPA and Abu Sayyaf Group are responsible for more than half of the hostage-taking attacks in the Philippines. Negotiations have increased in recent years, with concerns attacks increase bad publicity over a lack of rule of law, which ultimately decreases business investment and tourism (Hincks, 2017). The case therefore hosts strong capability for investigating the proposed relationship while, at

the same time, in its multi-conflict front, provides a generalizable framework for understanding hostage negotiation in various contexts.

Data and Research Design

To examine the theoretical expectations, I leverage newly collected data on hostage-taking in the Philippines. The data track hostage-taking activities by six insurgent groups from 1975 to 2018, detailing important victim-level characteristics and information on which attacks result in a negotiation between these organizations and the government.[7] Figure 4.1 indicates the number of negotiated and non-negotiated attacks for each organization over time. The final dataset contains 568 unique hostage-taking attacks. The unit of analysis is the hostage event.

To collect the data, I start with all hostage-taking attacks in the GTD. Each attack is investigated to ensure the exclusive and explicit taking of hostages. To determine accuracy, events are triangulated with local media sources, national and international newspapers, as well as documents from the Anti-Kidnapping Group in the Philippines, an arm of the Philippine National Police (PNP) responsible for combating hostage-taking attacks by armed groups. I rely on media sources to collect information on both victim characteristics and negotiations. Documents from the PNP detail the number of hostage negotiations over time and, in some circumstances, information on these negotiations. I use this data from the PNP to build upon the media sources and verify the number and consistency of negotiations over time.

Given the nature of hostage-taking and negotiations as inherently underreported activities, particularly in the context of civil war, it would be improper to claim the data collected represent the full universe of cases. There are likely issues of systematic not-at-random missingness in the data, largely due to reporting biases in conflict zones. While the issue is not limited to

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[7] Each attack is reported as $event_i$ occuring in $location_j$ at $time_t$.
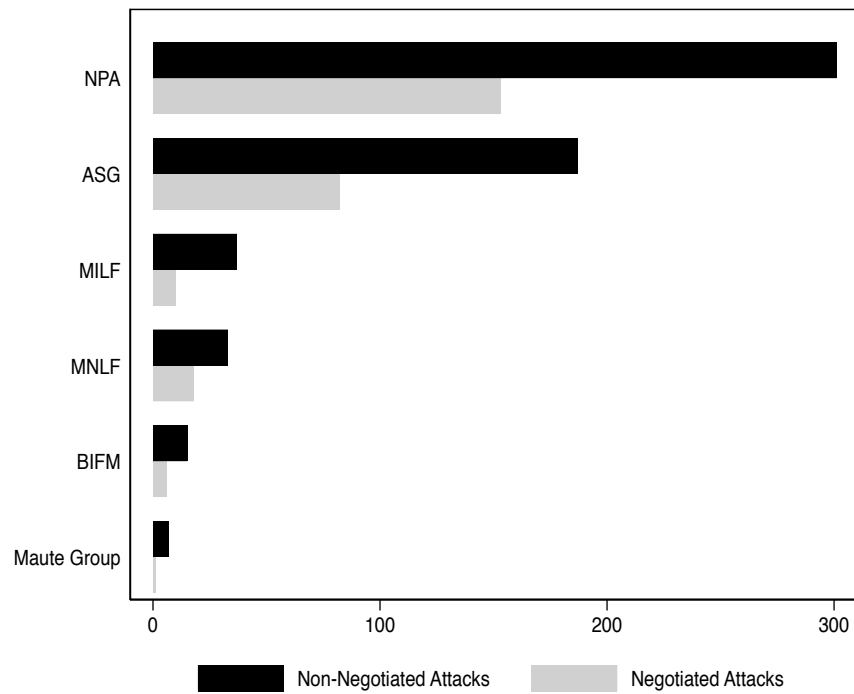
Figure 4.1: Negotiated and Non-Negotiated Hostage-Taking Attacks, 1975-2018

this study and reflects a wider concern for data collection efforts on violence and negotiations in civil war (e.g., Weidmann, 2016), it is important from a normative standpoint to highlight it here. The use of the GTD as a host of a universe of cases provides some security for inferences since missingness and non-inclusion is independent of the outcome under study (see Allison, 2001). However, I outline a battery of tests in the results section to probe potential biases in the data and indicate the extent to which missingness hinders the results reported.

The dependent variable is negotiation. This is operationalized as a dichotomous variable indicating whether a negotiation occurred. To collect information on hostage negotiation, I draw upon local, national, and international media sources as well as documents from the PNP. A negotiated event includes those where a ransom is paid, a prisoner is exchanged, a ceasefire is agreed upon, or a policy is changed as a result of an individual being freed from captivity. The variable is coded strictly and conservatively. A negotiation does not occur if the government

Table 4.2: High-Profile and Non High-Profile Victims

High-Profile	Non High-Profile
Business Owners (High-Ranking CEOs)	Construction Workers
Celebrities and Known Individuals	Educational Professionals
Diplomatic Staff	Fishermen
Military Officers and Family	Low-Tier Government Employees
NGO Staff	Miners
Notable Journalists	Private Civilians
Political Figures and Family	

Note: Foreigners are both included and excluded in placebo tests.

rescues the victim. However, a negotiation does occur if the government is assisted by a foreign government and the organization's demands are met. Due to the reliance on public data, the variable does not capture secret negotiations. Additional tests in the empirical section explore whether this damages inference.[8]

The independent variable is high-profile victim. The variable is operationalized as dichotomous, capturing whether or not the victim(s) in question are high-profile. A high-profile victim is an individual of prominence, whether it be for material, political, or social purposes. These victims have a certain status and notoriety from an organizational perspective. An ordinary civilian, tribesman, or laborer is not considered high-profile. However, a senior member of a rival organization, journalist, or family members of a government official are considered high-profile. I include a non-exhaustive list of examples in Table 4.2. Where the attack involves multiple victims, I code for the presence of a high-profile victim if one or more of the hostages fall under the high-profile category.[9] In the sample, approximately 44% of victims are coded as high-profile.

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[8] Since the Philippine National Police have a dedicated body to negotiate hostage releases, secret negotiations are unlikely to occur frequently. The additional tests in the empirical section alleviate concerns about possible biases emerging from their non-inclusion.

[9] Approximately 19% of attacks involve more than one victim, such as the daughters of a police officer or multiple soldiers. It would be inappropriate to treat these as separate events because of non-independence between observations.

The analyses include several covariates which capture factors at the event, organization, and country-level that likely influence the relationship between my variables of interest. At the event-level, I include the sex of the victim. The victimization of women in the Philippines is well-documented and concerning (Basa, 2022). It is not uncommon for concern over the safety of women to prompt negotiation in civil war (e.g., Nagel, 2021). It is possible therefore that a female hostage might encourage the government to negotiate with an insurgent group. For this variable, female victims are coded as 1 and males 0.[10] I also include whether the victim is a child, since child victims might raise more concern for national and foreign governments (see Faulkner & Welsh, 2022), inducing negotiation in hostage events. Victims of foreign nationality might also prompt more concern. I, therefore, include a variable determining whether the victim is foreign and whether the victim is of a foreign allied nationality. Data on alliances with the Philippine government are collected with reference to the Alliance Treaty Obligations and Provisions Project (Leeds et al., 2022) as well as government documents. I also include whether the organization demanded ransom for the release of the hostage in the specific event. Importantly, this marks a ransom request, as opposed to a negotiation. This helps account for possible failed negotiations where ransom discussions are held but no payment is made. Finally, I include the duration of the hostage event in question, as governments might be more willing to enter negotiations as the duration of the event (in days) increases.

At the organization-level, I include the number of terrorist attacks and attacks on civilians by each organization in the previous year to account for overall violence and brutality. I also include battle deaths by each organization in the previous year as well as those of the government since the government might be more willing to negotiate where it faces substantial losses. At the country-level, I include presidential fixed effects, which capture the tenure of each President

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[10] It is not possible to code for alternative gender identities and trans women due to limited documentation of these victim characteristics. Victims' sex is therefore coded as that identified in primary and secondary documents and is not necessarily aligned to the gender identified by the victims themselves.

since leaders have differing stances on engagement with violent organizations in the Philippines.

Estimation and Empirical Strategy

The empirical strategy takes form in several stages. First, I conduct an event-level analysis with a matching technique for causal inference using observational data. In this stage, I perform coarsened exact matching to prune the observational data and control for pre-treatment covariates. I match only on pre-treatment victim characteristics. More specifically, pre-processing matching is applied to test the theorized relationship in a more homogenous sub-sample to improve causal inference, estimation, and efficiency by reducing possible bias, model dependence, and imbalance (Iacus et al., 2012).[11]

As a modelling strategy, here, I adopt a linear probability model with presidential, organization, province, and yearly fixed effects. Provincial-level fixed effects help aid issues surrounding regional autonomy in the Philippines. With the matching method, I focus on the sample average treatment effect, where the treatment effect for unit i, TE_i, is denoted as

$$\frac{1}{n_T} \sum_{i \in T} \text{TE}_i,$$

where $n_T = \sum_{i=1}^{n} T_i$ and $T = \{1 \leq i \leq n : T_i = 1\}$.[12] There are a total of 252 matched treatment and 316 matched control units. Any unmatched units are disregarded. A measure of imbalance is based on the $\mathcal{L}_1$ difference between the multidimensional histogram of all pre-treatment covariates in the treated group and that in the control group. The $\mathcal{L}_1$ measure varies from 0 to 1. A perfect global balance results in $\mathcal{L}_1 = 0$, while $\mathcal{L}_1 = 1$ indicates complete separation of the multidimensional histograms. The $\mathcal{L}_1$ statistic in the matched sample is 0. In

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[11] Table C.4 displays list of pre-treatment covariates.
[12] This method assumes the treatment assignment is ignorable conditional on X.

the unmatched sample, the $\mathcal{L}_1$ statistic is 0.15. After matching, there is therefore a sizeable reduction in imbalance which suggests appropriate model choice.[13]

In the next stage, I probe the mechanism in a within-case examination of hostage-taking by the NPA in the Philippines (2006-2018) utilizing causal mediation analysis. Here, I test the extent to which the hypothesized relationship is mediated by the amount of attention hostage-taking attacks with high-profile victims receive. I outline the specific process and identifying assumptions in the mediation section below.

Results

Before turning to the empirical models, I first present descriptive statistics on the relationship between hostage victims and negotiation. Approximately 60% of hostage events containing high-profile victims saw the government successfully negotiate for their release. This suggests indicative support for the hypothesized relationship.[14] In the sample of 568 hostage-taking attacks, only 11% of the victims are foreign (with 8% identified as nationals of allied countries and 5% tourists), suggesting a focus on national civilians. Of foreign victims, a large proportion were from China, Japan, Indonesia, or the United States. 12% of victims were female and 5% of victims were children, suggesting most victims in the Philippines are adult and male. I now turn to the statistical analysis to examine the hypothesized trend more systematically.

The results are displayed in Table 4.3. The empirical models estimate the probability of a negotiation occurring in a hostage event.[15] Model 1 presents the bivariate specification with presidential, year, organization, and province fixed effects while Model 2 includes covariates.

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[13] The statistics for individual variables are displayed in Table C.4. Since imbalance in the unmatched sample is reasonably low, I include tests of the main analyses without matching in the appendix (Table C.6).

[14] A Fisher's exact test suggests an association between the two variables ($p < 0.001$).

[15] All models are estimated in Stata 17.

Table 4.3: Models of Hostage Negotiation

	Model 1	Model 2
High-Profile Victim	0.223***	0.207***
	(0.046)	(0.041)
Female Victim		−0.092
		(0.075)
Child Victim		0.276**
		(0.102)
Foreign Victim		0.027
		(0.117)
Foreign Allied Victim		0.045
		(0.126)
Duration (Days)		0.000
		(0.000)
Ransom Requested		0.169*
		(0.071)
Communist Group		−0.179
		(0.108)
Terrorist Attacks $_{t-1}$		−0.000
		(0.000)
Civilian Attacks $_{t-1}$		0.003
		(0.003)
Group Battle Deaths $_{t-1}$		−0.039
		(0.038)
Government Battle Deaths $_{t-1}$		0.047
		(0.043)
Presidential FE	✓	✓
Year FE	✓	✓
Group FE	✓	✓
Province FE	✓	✓
R^2	0.173	0.183
Observations	568	568

Battle death statistics are logged in all models.

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
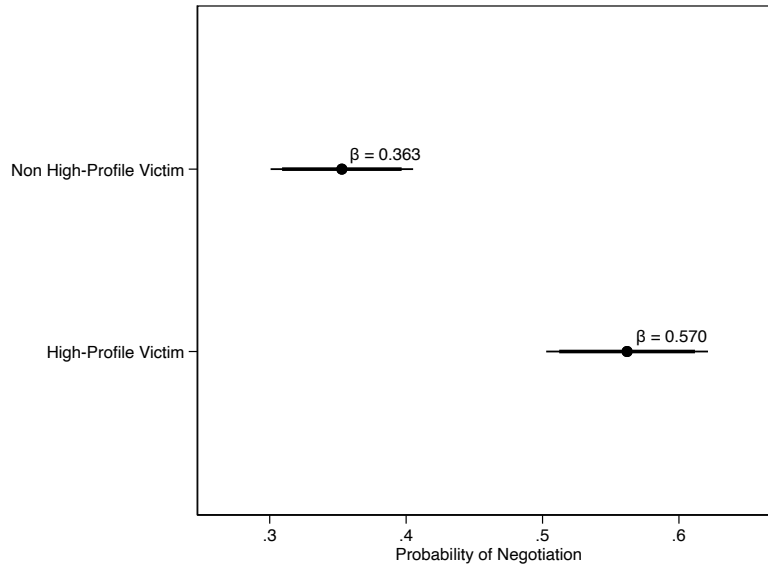
Figure 4.2: Effect of High-Profile Victims on Hostage Negotiation

Figure 4.2 displays the predicted probability of negotiation for high-profile and non high-profile victims. The predicted values are shown with 90 and 95 percent confidence intervals.[16] Consistent with the expectation, the government is more likely to negotiate for the release of high-profile victims than non high-profile victims. All else equal, the probability of negotiation for a high-profile victim is approximately 57%. Conversely, the probability of negotiation for a non high-profile victim is approximately 36%. This marks an increase of approximately 58% in the probability of negotiation.

Given differences across and within conflicts and organizations in the Philippines, and various administrative preferences for negotiating at certain points in time (e.g., Maitem & Navales, 2018), I consider differences in the outcome for two of the largest organizations. Figure 4.3 displays the results for Abu Sayyaf Group and the NPA, examining victim-level differences in the probability of negotiations for each group. The results are substantively similar to those

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[16] Standard errors are not clustered on the insurgent organization as such would increase downward bias and risk of a false positive given the small number of groups (see Abadie et al., 2023).
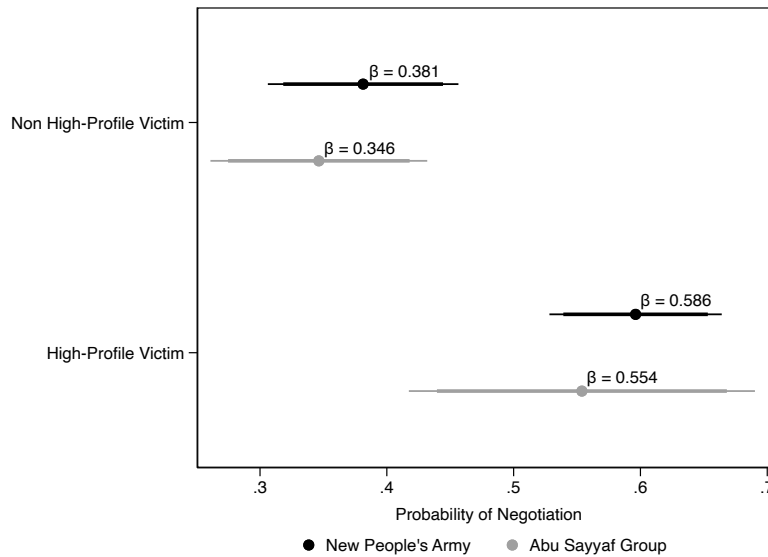
Figure 4.3: Differences Across Organizations

presented previously, with some differences in the outcome for each organization. Noticeably, the government is more likely to negotiate in attacks perpetrated by the NPA, all else equal, than Abu Sayyaf Group, even in the presence of high-profile victims. Taken together, the results suggest the government is more likely to negotiate for the release of high-profile victims.

To probe the robustness of these results, I report several alternative empirical specifications and estimations in Appendix C. Specifically, I check the results' robustness to OLS without coarsened exact matching (Table C.6) and logistic regression (Table C.7). The results corroborate those reported here. To formally investigate potential biases in the data, I run a number of additional tests.

First, I estimate coefficients of proportionality (δ). Following Oster (2019), δ represents the degree of selection on unobservables relative to observables which would be necessary to explain away the estimated effect. For Model 2 in Table 4.3, δ equals 5.07 for the effect of a high-profile victim on hostage negotiation. The positive δ suggests that the unobservables would need to be 5 times more important as the observables to produce a treatment effect of zero. The test builds

confidence that the results are not driven by unobserved biases in the data.

Second, I investigate whether the non-inclusion of possible secret negotiations affects the results. While is it impossible to plausibly estimate biases from secret negotiations, it is possible to consider when these might occur and control for them. Secret negotiations are especially likely to occur where the victim is foreign due to international legal obligations on counterterrorism financing. States can surmount international law and negotiate with terrorists. However, when the negotiation is backed by a private insurance firm—for example, for victims with kidnap and ransom insurance—the firm cannot break international law and pay a ransom (Shortland, 2018, 345). In cases where the perpetrator is designated as a foreign terrorist organization, therefore, it is not uncommon for hostages to be sold to criminal organizations for a percentage of the ransom fee so that a legal negotiation can be made with the insurance company (Lough, 2011). These negotiations are unlikely to be made public. Accounting for this is important because it is reasonable to believe governments can hide negotiations with low-value hostages more than high-profile hostages. I, therefore, run a series of models controlling for the years in which the perpetrating organization is designated as a terrorist organization by the victim's national government, utilizing Jeyabraba and Phillips' (2022) data on designation (see Table C.8). The findings bolster the results, giving further credibility to the theory.

Third, I employ a spatial reporting test to assess the nature of subnational reporting biases in the data as a result of expanding cell phone coverage (see Blair, 2022; Weidmann, 2016). This test helps assess whether unobserved reporting biases are determining which attacks make it into the data. The logic, therefore, is that if reporting biases owing to expanding network coverage are affecting data, an overwhelming number of attacks should be reported in these locations. To implement this test, I collect municipality-level data on expanding cell phone coverage from OpenCelliD. Results show no evidence that the effect of expanding cell phone coverage significantly increases reports of hostage-taking (Table C.9). This finding suggests issues surrounding

underreporting in the data are not driving the statistical results.

Finally, and relatedly, I consider possible biases emerging from the number of media reports each attack receives to make it into the data. The GTD relies on media sources and varying reports of violence to code attacks. To make it into the dataset, reports of attacks must have a minimum of one and maximum of three media reports in the verification process. The varying number of reports for each attack could challenge the results since it is reasonable to believe attacks with high-profile victims are more likely to receive the maximum number of reports. To investigate this issue, I run tests to purge attacks from the data based on the number of media reports used by coders to confirm the hostage-taking attack. Specifically, I limit the data to only attacks that receive the maximum number of reports during the verification process to create a stricter sample (Table C.10). In this sample, the results mirror those presented.

Extensions

To probe the robustness of the results and consider extensions of theory, I examine heterogeneous effects, the temporal dynamic of hostage negotiation, and concerns about subcategory effects in the theoretical framework.

Heterogeneous Effects

Taking an organization's hand in negotiation might vary depending on certain individual characteristics. All else equal, it might be more likely for the government to enter negotiations for the release of certain high-profile victims over others. Individual characteristics, such as occupation, might make it even more likely for negotiations to occur.

With this in mind, I explore heterogeneous effects in Figure 4.4 (Table C.12). The model determines the probability of negotiation for high-profile victims. The results indicate some
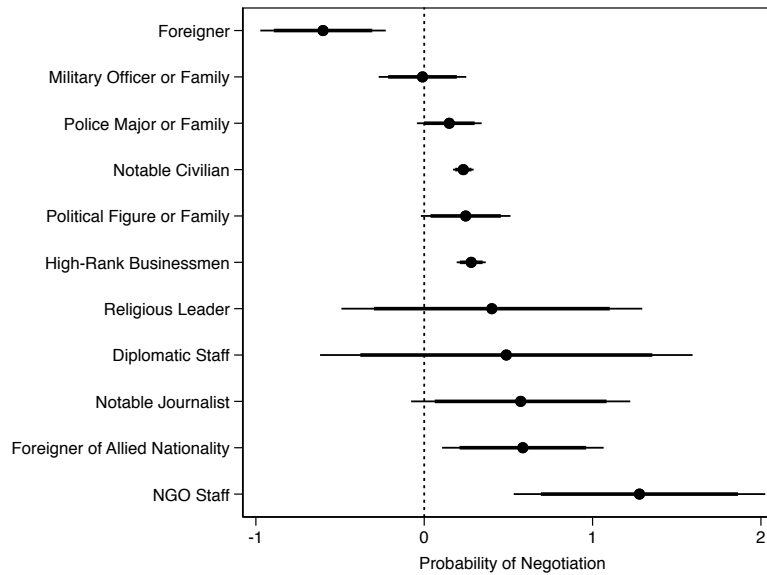
Figure 4.4: Heterogeneous Effects

variation in the probability of negotiation. The government are more likely to negotiate for the release of high-profile victims if the victim is an NGO staffer, foreigner of an allied nationality, high-rank businessman, notable civilian, or a political figure. Conversely, the government are less likely to negotiate for the release of a high-profile victim where the victim is of a foreign nationality (non-allied).

Temporal Dynamics

Given the costs of non-engagement and increasing attention surrounding hostage events, there should be differences in the probability of hostage negotiation over time. High-profile victims are able to attract more attention which can place a large amount of pressure on governments to negotiate for their release over time. I investigate this temporal element in Table C.11. The results indicate that, for each day in captivity, the probability of negotiation for high-profile victims increases substantially. From minimum to maximum in the number of days held, negotiation increases by 162%. Conversely, the probability of negotiation for non high-profile

victims decreases (42% decline from minimum to maximum of days held).

Placebo Tests

The results suggest that high-profile victims prompt negotiations with the government in hostage-taking events. One concern is that the results are driven by a larger preference of the government to negotiate with militants for the release of government officials and staff, regardless of those identified as high-profile victims. This coincides with Jenkins' (1982) argument on political kidnapping; that is, the government is compelled to negotiate for the release of political officials and figures. Placebo tests investigating the effect of these individuals on negotiations help eliminate these concerns. If the result was driven solely by government officials or staff, these individuals would both make negotiations more likely and remove the effect of high-profile victims if purged from the coding scheme for this variable. However, I find this is not the case (Table C.13). While government officials do prompt negotiation, they do not remove the effect from high-profile victims if removed from the coding of this variable.

A final concern is on the inclusion of foreign victims in the data. Foreign victims are important to consider in an examination of hostage negotiation because, aside from being part of the universe of cases, these victims often receive the most attention. Their inclusion can, however, affect the results unfavorably in at least two ways. First, the inclusion of foreign victims increases concerns about internal validity when it comes to accurately measuring the amount of attention that each attack receives. Second, these victims often receive a different kind of response from the government—particularly those of an allied nationality—as diplomatic affairs come into play, which encourages a negotiated outcome. This differential treatment is not necessarily akin to the concept of high-profile because diplomatic relations notwithstanding, many foreigners are simply tourists and not necessarily of high-profile. While I control for foreign and foreign allied victims in the empirical models, I also run placebo tests to exclude these victims

from the sample to ensure the results are not being driven by this external effect (Table C.14). The results hold in samples where foreign and foreign allied victims are excluded.

Probing the Mechanism

The previous analyses provide robust support for the hypothesis. However, they offer little investigation into the mechanism at play. It is argued the government should negotiate for the release of high-profile victims because these individuals attract attention, which compels the government to intervene. To probe the causal mechanism, I conduct a within-case examination of hostage-taking by the NPA in the Philippines between 2006 and 2018. Utilizing causal mediation analysis, I test the extent to which the hypothesized relationship is mediated by the amount of attention hostage-taking attacks with high-profile victims receive. To gather information on the amount of attention an attack receives, I code the number of newspaper articles and internet searches being circulated and conducted in relation to the attack in question.[17]

An in-depth assessment of the NPA is useful for several reasons. First, within-case analysis allows for the probing of mechanisms linking specific types of hostage victims to the outcome of negotiation. It provides an opportunity to investigate the victim's case in detail, uncovering the amount of attention an attack received. Second, in the period under examination, the Philippine government negotiated in more hostage-taking attacks by the NPA than any other organization. In fact, the government negotiated for the release of hostages in approximately 55% of attacks. The organization is therefore an appropriate case to examine in more detail.

Causal mediation analysis does not exist without criticism. Conventional mediation analysis is prone to biases that overstate the extent of mediation, particularly in cases where the medi-

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[17] The use of newspaper articles and internet searches is common for determining the level of human interest in particular events (e.g., Dancy & Fariss, 2023). Appendix C offers more detail on this data collection effort.

ator is experimentally manipulated and where multiple mediators are in play (see Bullock et al., 2010; Glynn, 2012). Moreover, conventional mediation analysis relies on linear structural equation modeling. This method is not derived from a formal framework for causal inference which makes it difficult to measure the sensitivity of the effect to the key identifying assumptions (e.g., Iacus et al., 2012). Many studies utilizing conventional mediation analysis therefore infer causal estimates without properly testing for identifying assumptions. To surmount these limitations, I employ a method of causal mediation analysis adopted by Imai, Keele, and Tingley (2010) which permits a variety of sensitivity analyses.

In this analysis, the total unit treatment effect is expressed as

$$\tau_i \equiv Y_i(1, M_i(1)) - Y_i(0, M_i(0)),$$

where $M_i(t)$ is the potential value of the mediator for unit i under the treatment status $T_i = t$ and $Y_i(t, m)$ denote the potential outcome that would result if the treatment and mediating variables equal t and m, respectively. Here, we observe one of the potential outcomes, and the observed outcome, Y_i, equates to $Y_i(T_i, M_i(T_i))$, where $M_i(T_i)$ is the observed value of the mediator M_i. The causal mediation effects are therefore represented by

$$\delta_i(t) \equiv Y_i(t, M_i(1)) - Y_i(t, M_i(0)),$$

for each treatment status $t = 0, 1$. Any remaining mechanisms are represented by the direct effect of the treatment,

$$\zeta_i(t) \equiv Y_i(1, M_i(t)) - Y_i(0, M_i(t)),$$

for each unit i and each treatment status $t = 0, 1$. The total effect is the sum of both,

$$\tau_i = \delta_i(t) + \zeta_i(1 - t),$$

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Table 4.4: Estimated Causal Quantities of Interest for High-Profile Victims

		Negotiation
Average causal mediation effect	$\bar{\delta}$	0.079
		[0.018 - 0.130]
Average direct effect	$\bar{\zeta}$	0.111
		[-0.028 - 0.250]
Average total effect	$\bar{\tau}$	0.191
		[0.052 - 0.320]

Note: $N = 230$. Outcome is whether a negotiation occurred.

for $t = 0, 1$. The average causal mediation effect $\bar{\delta}(t)$ and the average direct effect $\bar{\zeta}(t)$ represent the population averages of these causal mediation and direct effects.

Table 4.4 shows the estimated average causal mediation effect $\bar{\delta}$, the average direct effect $\bar{\zeta}$, and the total effect $\bar{\tau}$. The average total effect, which is equivalent to the average treatment effect, is estimated to be 0.19 with the 95 percent confidence interval ranging between 0.05 and 0.32. A high-profile victim therefore increases the instance of negotiation by approximately 20 points, suggesting both the statistical and substantive influence of high-profile victims on the propensity of hostage negotiation.

The average causal mediation effect is the average total effect that is transmitted through the amount of attention a victim receives, and the direct effect is the remaining portion of the high-profile victim effect attributable to all other possible causal mechanisms. The average causal mediation effect for attention is approximately 0.08, with the 95 percent confidence interval ranging from 0.02 to 0.13. This implies that treatment-induced changes in attention account for approximately 41% of the total effect. On the other hand, the average direct effect, which represents all other possible mechanisms, is 0.11, with a 95 percent confidence interval of -0.03 to 0.25. Overall, the analysis suggests that a high-profile victim increases negotiation and a large proportion of this relationship (41%) is due to an increase in the amount of attention that these events receive.

The key identifying assumption for mediation analysis is sequential ignorability. The results of the analysis only hold where the assumption is met. Where X_i is a vector of the observed pre-treatment confounders for unit i, the assumption is twofold:

$$\{Y_i(t',m), M_i(t)\} \quad\quad T_i \mid X_i = x, \tag{4.1}$$

$$Y_i(t',m) \quad\quad M_i(t) \mid T_i = t,\ X_i = x, \tag{4.2}$$

where $0 < \mathrm{P}(T_i = t \mid X_i = x)$ and $0 < p(M_i = m \mid T_i = t, X_i = x)$ for $t = 0, 1$, and all x and m in the support of X_i and M_i, respectively. Equation 4.1 is the standard strong ignorability of the treatment assignment. Equation 4.2 requires that the mediator is also ignorable given the observed treatment and pre-treatment confounders. The assumption is therefore satisfied if there are no unobserved pre-treatment covariates that influence the treatment *and* the mediator (Imai, Keele, & Tingley, 2010; Imai, Keele, & Yamamoto, 2010).

To test the results' robustness to the assumption, I perform a sensitivity analysis on the average causal mediation effect. A sensitivity analysis is necessary to determine whether the conclusion is contingent on the assumption of no unobserved mediator-outcome confounding. Following Imai, Keele, and Yamamoto (2010), I select as the sensitivity parameter the correlation ρ between the residuals of the mediator and outcome regressions. If there exist unobserved pre-treatment confounders which affect both the mediator and the outcome, the sequential ignorability assumption is violated and ρ is no longer zero. The sensitivity analysis is conducted by varying the value of ρ and examining how the estimated effect changes.

Figure 4.5 presents the results for the sensitivity analysis. In Figure 4.5a, I plot the estimated average causal mediation effect of the attention mediator against differing values of the sensitivity parameter ρ, where the solid line represents the estimated average causal mediation effect for differing values of the sensitivity parameter ρ. The grey region represents 95 percent confi-

ACME(ρ)
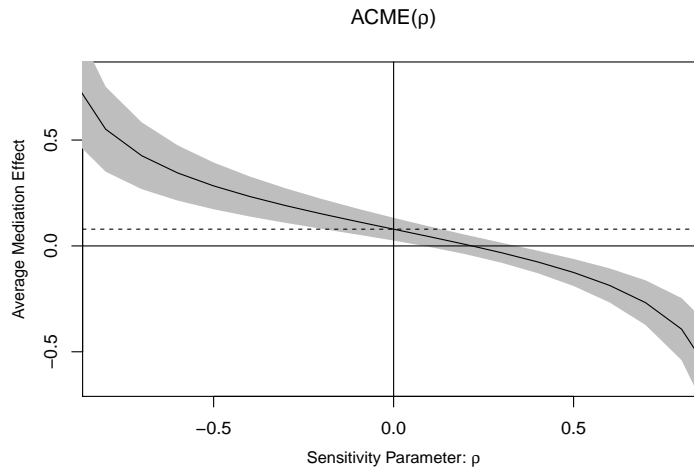
(a)
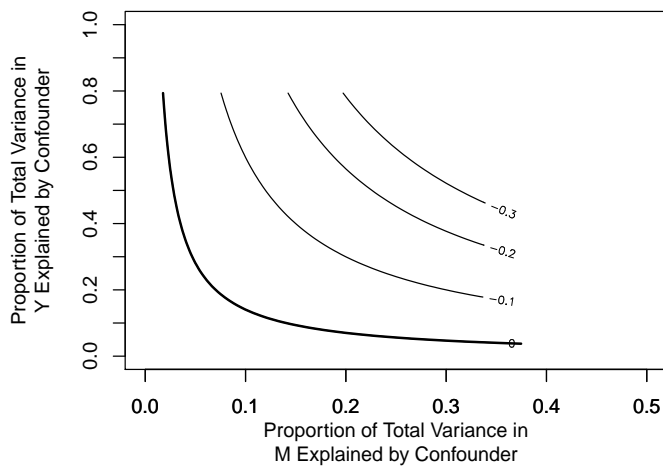
(b)

Figure 4.5: Mediation Analysis

dence interval. The horizontal dashed line is drawn at the point estimate of the mediation effect. In Figure 4.5b, I report the same sensitivity analysis with the average causal mediation effect plotted against the proportions of the total variance in the outcome and mediator variables, respectively, that would be explained by a hypothetical unobserved pre-treatment confounder.

The results indicate that for the point estimate of the average causal mediation effect to be 0, the correlation between the residuals must be approximately 0.3. In simpler terms, the results suggest that under the assumption of independence between mechanisms, the causal mediation effect is positive and statistically significant and the estimate is fairly robust to the possible un-observed pre-treatment mediator–outcome confounding to varying degrees. Overall, the results indicate the effect of high-profile victims on hostage negotiation is mediated by the amount of attention the attacks receive.

Alternative Explanations

While the mediation analysis suggests the theorized mechanism is driving the result, two alternative explanations are worthy of consideration. The first is that family or colleagues of the victims might be better able to pressure the government to take actions where the victim is high-profile. The second is that the media might be more likely to paint a sympathetic image of the victims, shaping whether the public prefers the government to negotiate or not.

To probe the validity of these explanations, I run additional mediation analyses with these explanations as the mediator. For family relations, I code for whether there is evidence that the victim's family made a public statement encouraging the government to take action. For media framing, I code for whether any media coverage of the victim introduces an empathy frame for the individual. The coding for this variable is based on scholarly discussions on how journalistic choice regarding the coverage of facts determines the public perception of the news story as a whole (e.g., Gamson & Modigliani, 1989). If the media only report the facts, this is not an empathetic frame. Such a frame is introduced where the media draw upon personal or situational characteristics of the victim to portray a certain image of them, such as the breadwinner.[18] The

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[18] I provide examples of the empathy and non-empathy coding procedure in Appendix C.

results suggest neither family statements nor empathy frames mediate the results (Table C.16 and Table C.17), which further validates the theorized mechanism.

Conclusion

Hostage negotiation is fraught with risks. In attempting to save a victim from a potentially fatal outcome, governments face high demands from militant groups. Unlike other terrorist tactics, hostage-taking is ripe for negotiation. But, governments are unlikely to negotiate in every case. I argue governments only negotiate for the release of hostages where the victim is likely to attract attention, which compels state action. Governments are more likely to negotiate with organizations for the release of hostages where the victims are high-profile.

I test this theory in the context of the Philippines with original, fine-grained event-level data. The results support the proposition. Governments are more likely to negotiate for the release of a hostage victim where the victim is a high-profile victim. High-profile victims include high-profile business owners, military officers, family members of government officials, and village chiefs. Causal mediation analysis suggests the result is driven by the hypothesized mechanism: governments negotiate when faced with high-profile victims because these victims attract more attention, compelling engagement.

The results hold significant implications. I provide an in-depth analysis of the link between the use of terrorism and negotiations in civil war while emphasizing the unique nature of hostage-taking as a tactic employed in a demand-intensive environment. This distinction is important for considering terrorist outcomes. Moreover, I introduce original, granular data on hostage negotiations previously unavailable. The new data focusing on victims permit a closer inspection of the characteristics and profiles of victims beyond the binary of civilian and non-civilian targets. Future work could build on this study to focus on other important characteristics, such as gender or age. Hostage attacks vary in the amount of attention they receive along gendered

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lines, especially those with children. For example, Boko Haram's kidnapping of 276 schoolgirls in Chibok, Nigeria, received far more attention—which arguably prompted negotiation—than when the same organization kidnapped hundreds of schoolboys in Katsina, Nigeria. This dynamic could be investigated.

The results' implications extend beyond research to inform policy. In hostage-taking attacks in civil war, international attention quickly shifts to foreign victims. Governments and policy-makers often assess the risk of hostage-taking by inspecting the propensity of harm to foreigners. Moreover, media reports overwhelmingly cover foreign victims, particularly those of U.S. nationality. Despite this, hostage-taking is the most common and causes the most harm to national citizens. These individuals should be the primary focus of counterterrorism policy across the international community.

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Conclusion

This dissertation explores the dynamics of terrorist hostage-taking in civil war. In Chapter 2, I consider why some insurgents resort to kidnapping in civil war and what explains the selection and intensity of the tactic over time and space. Using macro- and micro-level quantitative analyses on insurgent kidnapping, I show the decision to kidnap is shaped by behavioral interactions and spatial processes in the conflict environment. It occurs under two conditions. First, to generate support and reinstate bargaining capacity where an organization suffers major military losses on the battlefield. Second, to enforce loyalties and display strength when the organization

faces violent competition from other non-state actors. The decision to kidnap therefore becomes favorable when organizations need to gain support, encourage negotiations, and enforce loyalties.

In Chapter 3, I explore the lethality of hostage-taking in civil war. I argue organizations kill hostages as part of a punitive governance strategy in their areas of operation. When hostages are of little bargaining value to the organization, hostage-taking and killing can be used as a corrective action to exercise control over the population. I test the argument in a multipronged empirical strategy with novel and granular data on hostage-taking and hostage killing by the Islamic State in Iraq. The results indicate hostage victims accused of acts that undermine the rebel regime are more likely to be killed than those taken for other purposes.

In Chapter 4, I examine hostage negotiation in civil war. In attempting to save a victim from a potentially fatal outcome, governments face high demands from militant groups for their release. Unlike other terrorist tactics, hostage-taking is particularly ripe for negotiation. But, governments are unlikely to negotiate in every case. I argue governments only negotiate for the release of hostages where the victim is likely to attract attention, which compels state action. I test this theory in the context of the Philippines with original, fine-grained event-level data. The results suggest governments are more likely to negotiate with organizations for the release of hostages where the victims are high-profile since these victims attract more attention.

The dissertation makes several theoretical contributions. First, by demonstrating the behavioral and political logic of hostage-taking, and responses to it, I identify the conditions where hostage-taking violence is useful as a tool to communicate to specific audiences at particular points in time. This complements existing research and moves away from financially-dominated and ransom-orientated considerations of this form of violence. Second, I distinguish between lethal and non-lethal hostage-taking. The distinction is useful for determining how this tactic compares to others. It also informs responses to hostage-taking. Understanding when lethal

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attacks are likely over non-lethal attacks allows for more careful and nuanced support packages. Third, I detail pathways toward negotiation under hostage-taking violence by emphasizing the unique nature of hostage-taking as a tactic employed in a demand-intensive environment. This distinction is important for considering terrorist outcomes. Taken together, the theoretical foundations in the dissertation underline the unique nature of hostage-taking as a violent tactic. The research, therefore, joins a growing effort to deconstruct patterns of violence and offer alternatives to work on the use of terrorism in civil war that favors universal application and homogenous examinations of violence.

The dissertation speaks, more broadly, to important questions on governance in political science. While more traditional approaches to governance in political science identify its practice as the purview of the state or other segments of society (e.g., Bell & Hindmoor, 2021; Jordan et al., 2005; Peters & Pierre, 2016; Rhodes, 1996), a focus on the governance structures and activities of rebel organizations, as Loyle et al. (2022, 4) argue, provides a unique opportunity to expand our understanding of governance and its materialization. Drawing upon various countries and organizations, the dissertation examines both contexts of rebelocracy—"deep intervention in setting the rules for a broad range of social, political, and economic aspects of society" (Loyle et al., 2022, 5)—and aliocracy—"where rebels intervene minimally in key strategic areas, such as security and taxation, while leaving governance of other aspects of society to local authorities" (Loyle et al., 2022, 5). In doing so, I offer accounts on how governance structures operate in wartime, their fluidity over space and time, and both conciliatory and punitive nature. This variation in preference for governance activities over space and time is not limited to rebel organizations and can inform the behaviors and strategies of other actors, such as states and criminal organizations (e.g., Barnes, 2022; Erdy et al., 2021), as well as responses to changing preferences by these actors (see Schwartz & Blair, 2020; Thomas, 2021).

Methodologically, the dissertation offers an important novelty by introducing data on the

instance and victims of violence in various contexts. Chapter 3 provides data that document hostage-takings and killings in the 31 districts the Islamic State governed across Iraq between 2013 and 2018. Chapter 4 offers data on the universe of hostage-takings and hostage nego-tiations in the Philippines between 1975 and 2018 for six insurgent groups. Both efforts are a valuable addition to work focusing on uncovering trends in the characteristics of victims in civil war beyond the binary of civilian and non-civilian targets (e.g., Asal et al., 2022; Polo & Wucherpfennig, 2022; Schulz, 2018). Moreover, the efforts draw attention to domestic vic-tims of political violence, suggesting that, despite concern for foreign and Western victims of hostage-taking (e.g., Loertscher & Milton, 2015), a larger focus must be directed inward toward understanding how national governments respond to violent behavior and which victims are at risk of potentially fatal outcomes at the hands of armed non-state actors. Overall, the data col-lection efforts provide important policy insights. Governments and human rights organizations focusing on developing responses to hostage-taking should look to local governance structures and target individuals and communities most at risk of violence.

Even with the overarching contributions, the dissertation faces important limitations. First, hostage-taking is an extremely underreported form of violence. Research on ransom kidnap-pings suggests around 80% of attacks go unreported (Forest, 2012; Gilbert, 2022). The focus on attacks in civil war potentially increases the likelihood of underreporting given the violent context. I attempt to address issues of underreporting and systematic not-at-random missingness in the data in every chapter. I also run a battery of tests to determine whether reporting biases alter the results reported. While I am sanguine that issues of underreporting do not invalidate the results, this limitation is important, and—from both a normative and empirical standpoint—further efforts to better record and investigate this form of violence are encouraged.

Second, the dissertation is limited in its scope. In Chapter 2, I test the arguments at the macro- and micro-level leveraging global and sub-national data on kidnapping in civil war. However,

Chapters 3 and 4 consider hostage-taking only at a micro-level. The micro-level focus, while useful for investigating underexplored and complex forms of violence, challenges external validity. I believe the arguments developed extend beyond the contexts in question—Iraq and the Philippines—but it is impossible to verify this without further empirical work, potentially on a larger, more global, scale.

Third, and relatedly, the dissertation is limited to the study of *terrorist* hostage-taking in civil war. Insurgents are one of many non-state actors engaged in hostage-taking. This study excludes these other non-state actors, such as criminal organizations and pirates. While the sole focus on insurgent groups is important for some contextual and validity concerns, it is also a limitation. Many attacks involve both insurgent and criminal organizations. For example, it is known for hostages to be sold from insurgents to criminal organizations to facilitate ransom payments from international actors. It is also known for insurgents to use smaller criminal organizations to assist in capturing high-profile individuals. These instances can cause difficulty for attack attribution, which challenges studies on one particular actor, such as insurgents. I leverage a variety of tests in the dissertation to probe this issue. However, future work could explore this dynamic further.

Despite its limitations, the dissertation offers answers to important questions, which provide fruitful avenues for future research. First, I show kidnapping is an effective strategy for signaling resolve, communicating strength, and encouraging negotiations. However, this is largely discussed in a two-dimensional framework, even in the context of multi-party civil wars. Given the behavioral logic, does one organization's engagement in hostage-taking encourage another organization to take up the same tactic? Recent work on the diffusion of terrorism suggests attack emulation is associated with shared political grievances and spatial networks (Polo, 2020a). Future work could build upon this finding and the arguments presented here to consider the diffusion of particular tactics, such as hostage-taking.

Second, the discussion on how insurgents and criminal organizations work together is an interesting avenue for future research. Work on the crime-terror nexus suggests organizations involved in certain illicit trades, such as drug smuggling and human trafficking, are likely to cooperate with criminal groups (e.g., Phillips & Schiele, 2023; Shelley, 2014). Given the link between these trades and hostage-taking, some questions emerge: when and why are insurgents likely to involve criminal organizations in hostage-taking attacks? Are governments more or less likely to resolve multi-perpetrator attacks?

Finally, beyond criminal actors, future work could consider how the arguments made in the dissertation apply to state-based hostage-taking, or hostage diplomacy. In recent years, more Americans have been unlawfully detained by foreign governments than have been taken captive by terrorist groups or criminal gangs (Viswanatha & Areddy, 2022). This branch of hostage-taking is underexplored. In Chapter 4, I find governments are more likely to negotiate with organizations for the release of hostages where the victims are high-profile since these victims attract more attention. This argument could be applied to hostage diplomacy. To what extent did attention to attacks surrounding high-profile hostages such as Brittney Griner and Jason Rezaian encourage the United States to negotiate for their release? Moreover, does the level of attention and public perception of these victims change when the perpetrator is a state as opposed to a non-state actor? Answers to these questions would offer important insights into this increasingly complex form of coercion.

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A

Supplemental Materials for Chapter 2

Summary Statistics

Table A.1: Summary Statistics

Statistic	Mean	S.D.	Min	Max	N
Kidnapping	3.18	11.07	0	154	1560
Violent Competition	0.18	0.39	0	1	1560
Rebel Losses $_{log}$	3.48	3.15	0	12.33	1560
Foreign Sponsorship	0.29	0.45	0	1	1560
Size	2.41	0.71	1	4	1560
Nationalist	0.46	0.49	0	1	1560
Left	0.18	0.39	0	1	1560
Religious	0.24	0.42	0	1	1560
Regime Type	0.43	0.49	0	1	1560
Territory	0.32	0.46	0	1	1560
Kidnapping $_{t-1}$	3.18	10.73	0	143	1404
Terrorist Attacks $_{t-1}$	35.35	101.68	1	1215	1404
Civilian Attacks $_{t-1}$	21.47	66.52	0	954	1404
GDP $_{log}$	7.37	1.29	3.40	10.82	1460
Population $_{log}$	17.80	1.59	13.31	21.03	1558
Government Repression	3.99	0.85	1	5	1432
Ethnic Fractionalization	0.56	0.22	0.15	0.89	975

Macro-Level Tests

Reported Results

Table A.2: Reported Results

	Bivariate	Main	Additional
Violent Competition	0.838***	0.800***	0.347***
	(0.149)	(0.138)	(0.080)
Rebel Losses $_{log}$	0.109***	0.075***	0.097***
	(0.019)	(0.016)	(0.015)
Covariates		✓	✓
R^2	0.441	0.491	0.552
Observations	1,404	1,404	745

Standard errors are clustered by organization and reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Binary Dependent Variable

Table A.3: Binary Dependent Variable

	Bivariate	Main	Additional
Violent Competition	0.230***	0.216***	0.086*
	(0.045)	(0.041)	(0.047)
Rebel Losses $_{log}$	0.040***	0.027***	0.097***
	(0.006)	(0.006)	(0.015)
Covariates		✓	✓
R^2	0.188	0.232	0.393
Observations	1,404	1,404	745

Standard errors are clustered by organization and reported in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Negative Binomial Estimations

Table A.4: Negative Binomial Estimations

	Negative Binomial	Zero-Inflated
Violent Competition	1.120***	0.999***
	(0.169)	(0.202)
Rebel Losses $_{log}$	0.122***	0.091**
	(0.025)	(0.029)
Covariates	✓	✓
AIC	4407.69	4266.78
Observations	1,404	1,404

Standard errors are clustered by organization and reported in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Dependent Variable as a Proportion

Table A.5: Fractional Logistic Regression

	Bivariate (GLM)	Main (GLM)
Violent Competition	0.567***	0.560***
	(0.163)	(0.160)
Rebel Losses $_{log}$	0.089***	0.047*
	(0.023)	(0.021)
Covariates		✓
Kidnapping $_{t-1}$	✓	✓
Terrorist Attacks $_{t-1}$	✓	✓
Civilian Attacks $_{t-1}$	✓	✓
AIC	717.47	718.07
Observations	1,404	1,404

Standard errors are clustered by organization and reported in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Alternative Measures of Variables

Table A.6: Alternative Measures of Variables

	Bivariate	Main	Additional
Violent Competition $_{count}$	0.069***	0.073***	0.122***
	(0.016)	(0.017)	(0.029)
Rebel Losses $_{t-1}$	0.094***	0.046*	0.062***
	(0.021)	(0.018)	(0.018)
Covariates		✓	✓
R^2	0.381	0.463	0.553
Observations	1,119	1,119	578

Standard errors are clustered by organization and reported in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Results with Fixed Effects

Table A.7: Reported Results with Fixed Effects

	Bivariate	Main	Additional
Violent Competition	0.687***	0.676***	0.234*
	(0.141)	(0.141)	(0.099)
Rebel Losses $_{log}$	0.084***	0.079***	0.067**
	(0.021)	(0.021)	(0.022)
Covariates		✓	✓
R^2	0.683	0.686	0.682
Observations	1,404	1,404	745

Standard errors are clustered by organization and reported in parentheses.
$^*\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001$

Additional Control Variables

Table A.8: Reported Results with Additional Controls

	Bivariate	Main	Additional
Violent Competition	0.838***	0.806***	0.345***
	(0.149)	(0.138)	(0.080)
Rebel Losses $_{log}$	0.109***	0.076***	0.097***
	(0.019)	(0.017)	(0.015)
Covariates		✓	✓
(Log) Kidnapping $_{t-1}$	✓	✓	✓
Terrorist Attacks $_{t-1}$	✓	✓	✓
Civilian Attacks $_{t-1}$	✓	✓	✓
R^2	0.441	0.498	0.556
Observations	1,404	1,404	745

Standard errors are clustered by organization and reported in parentheses.
Models 2 and 3 include additional controls for the age of the organization.
$^*\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001$

Sample with All Years

Table A.9: Results on Conflict and Non-Conflict Years

	Bivariate	Main	Additional
Violent Competition	1.101***	1.100***	0.936***
	(0.154)	(0.141)	(0.146)
Rebel Losses $_{log}$	0.082***	0.058***	0.065***
	(0.021)	(0.016)	(0.019)
Covariates		✓	✓
(Log) Kidnapping $_{t-1}$	✓	✓	✓
Terrorist Attacks $_{t-1}$	✓	✓	✓
Civilian Attacks $_{t-1}$	✓	✓	✓
R^2	0.476	0.525	0.529
Observations	999	999	918

Standard errors are clustered by organization and reported in parentheses.

Sample includes only organizations where non-conflict year information is available.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Results without the Taliban

Table A.10: Reported Results

	Bivariate	Main	Additional
Violent Competition	0.747***	0.711***	0.332***
	(0.133)	(0.116)	(0.080)
Rebel Losses $_{log}$	0.102***	0.069***	0.093***
	(0.017)	(0.015)	(0.015)
Covariates		✓	✓
R^2	0.430	0.491	0.512
Observations	1,386	1,386	734

Standard errors are clustered by organization and reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Ransom and Non-Ransom Kidnappings

Table A.11: Ransom Placebo Tests

	Reported	Ransom	No Ransom
Violent Competition	0.800***	0.480*	0.664***
	(0.138)	(0.191)	(0.114)
Rebel Losses $_{log}$	0.075***	0.112*	0.068***
	(0.016)	(0.049)	(0.013)
Covariates	✓	✓	✓
R^2	0.491	0.612	0.440
Observations	1,404	98	1,247

Standard errors are clustered by organization and reported in parentheses.
$^*\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001$

Victims of Kidnapping Attacks

Table A.12: Victim Placebo Tests

	Government	Civilians	Domestic
Violent Competition	0.710**	1.850**	0.530***
	(0.149)	(0.669)	(0.102)
Rebel Losses $_{log}$	0.028†	0.129*	0.056***
	(0.019)	(0.064)	(0.012)
Covariates	✓	✓	✓
R^2	0.369	0.550	0.412
Observations	935	1,404	1,172

Standard errors are clustered by organization and reported in parentheses.
$^†\ p < 0.10,\ ^*\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001$

Attribution of Attacks

Table A.13: Reported Results with Formally Claimed Attacks

	Bivariate	Main	Additional
Violent Competition	0.354***	0.356***	0.270***
	(0.079)	(0.076)	(0.089)
Rebel Losses $_{log}$	0.059***	0.051***	0.087**
	(0.012)	(0.012)	(0.013)
Covariates		✓	✓
R^2	0.326	0.347	0.552
Observations	1,119	1,119	649

Standard errors are clustered by organization and reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Probing Results with Designated Organizations

Table A.14: Designation Placebo Tests

	Controlling	Non-Designated	Designated
Violent Competition	0.800***	0.862***	0.413†
	(0.139)	(0.153)	(0.219)
Rebel Losses $_{log}$	0.074***	0.076***	0.104†
	(0.016)	(0.015)	(0.051)
Covariates	✓	✓	✓
R^2	0.493	0.465	0.552
Observations	1,404	1,249	745

Standard errors are clustered by organization and reported in parentheses.

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Micro-Level Tests

Reported Results

Table A.15: Spatial Autoregressive Model with Provincial Fixed Effects

	Model 1	Model 2
$\mathbf{W}y_{t-1}$	0.258**	0.252***
	(0.083)	(0.083)
Violent Competition	0.409**	0.407**
	(0.151)	(0.151)
Military Losses	0.289***	0.298***
	(0.057)	(0.057)
Controls		✓
Province FE	✓	✓
Wald χ^2	121.84***	123.79***
Log-likelihood	−258.587	−259.253
Observations	272	272

Standard errors are reported in parentheses.

$* \ p < 0.05, ** \ p < 0.01, *** \ p < 0.001$

Binary Dependent Variable

Table A.16: Spatial Autoregressive Model with Provincial Fixed Effects (Binary DV)

	Model 1	Model 2
$\mathbf{W}y_{t-1}$	0.194*	0.189
	(0.097)	(0.097)
Violent Competition	0.272***	0.272***
	(0.076)	(0.076)
Military Losses	0.093***	0.095***
	(0.028)	(0.029)
Covariates		✓
Province FE	✓	✓
Wald χ^2	58.14***	58.53***
Log-likelihood	−94.34	−94.17
Observations	272	272

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Non-Spatial: Linear Model

Table A.17: Non-Spatial Linear Model

	Model 1	Model 2
Violent Competition	0.443**	0.272***
	(0.156)	(0.076)
Military Losses	0.311***	0.095***
	(0.059)	(0.029)
Covariates		✓
Violence Lags	✓	✓
Province FE	✓	✓
R^2	0.368	0.334
Observations	272	272

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Non-Spatial: Binary Model

Table A.18: Non-Spatial: Binary Specification

	Model 1	Model 2
Violent Competition	0.285***	0.295***
	(0.077)	(0.078)
Military Losses	0.100***	0.985**
	(0.029)	(0.029)
Covariates		✓
Violence Lags	✓	✓
Province FE	✓	✓
R^2	0.251	0.207
Observations	272	272

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Taliban Terrorist Attacks

Table A.19: Non-Spatial Taliban Soft Terrorist Attacks

	Model 1	Model 2
Violent Competition	0.039	0.018
	(0.047)	(0.049)
Military Losses	0.029	−0.005
	(0.021)	(0.020)
Covariates		✓
Violence Lags	✓	✓
Province FE	✓	✓
R^2	0.154	0.027
Observations	255	255

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Battlefield Losses and Control

Table A.20: Disequilibrium Test: Battle Losses and Control

	Reported	New Losses	Old Losses
Rebel Losses $_{log}$	0.201***		
	(0.016)		
Losses in Newly Contested Territory		0.037	
		(0.176)	
Losses in Formerly Contested Territory			-0.199
			(0.189)
Covariates	✓	✓	✓
R^2	0.334	0.403	0.346
Observations	272	272	272

Standard errors are reported in parentheses.

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Probing Issues of Underreporting

Table A.21: Probing Reporting Biases

	Model 1
Cell Coverage	-12.06
	(6.010)
Constant	28.33***
	(5.50)
Covariates	✓
Observations	34

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Probing Issues of Resource Extraction

Table A.22: Spatial Autoregressive Model with Provincial Fixed Effects

	Model 1	Model 2
$\mathbf{W}y_{t-1}$	0.258**	0.261***
	(0.083)	(0.084)
Violent Competition	0.409**	0.405**
	(0.151)	(0.151)
Military Losses	0.289***	0.308***
	(0.057)	(0.060)
Controls		✓
Province FE	✓	✓
Wald χ^2	121.84***	125.02***
Log-likelihood	−258.587	−258.229
Observations	272	272

Standard errors are reported in parentheses.

Model 2 includes controls for the presence of opium and its cultivation inside and outside of Taliban territory. The cultivation of opium is measured in hectares.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Probing Mechanisms for Violent Competition

Table A.23: Non-Spatial Linear Model

	Taliban Constituencies	IS-K Constituencies
Violent Competition	0.623**	1.146***
	(0.156)	(0.461)
Covariates		✓
Violence Lags	✓	✓
Province FE	✓	✓
R^2	0.447	0.467
Observations	272	32

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Alternative Lags for Vector Autoregression
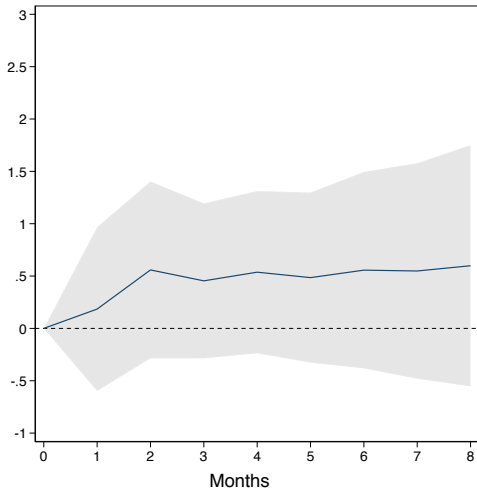
(a) Two Lags
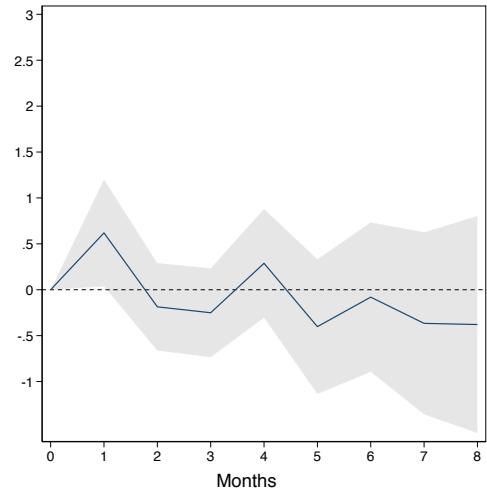
(b) Three Lags

Figure A.1: VAR Orthogonalized Impulse-Response Functions
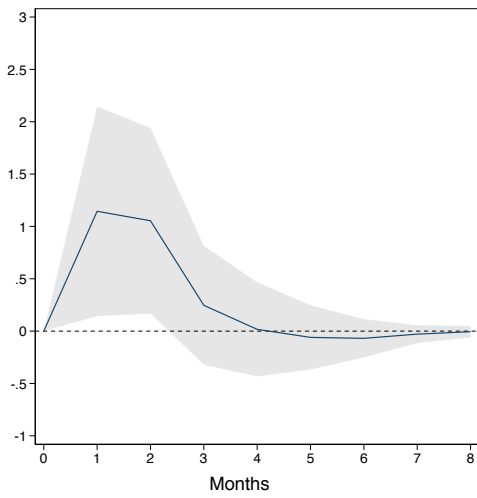
(a) Two Lags
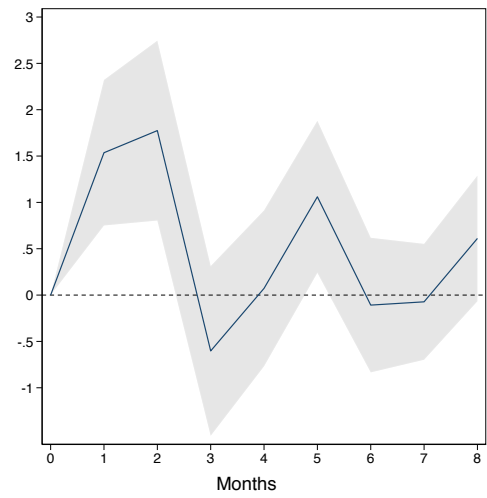
(b) Three Lags

Figure A.2: VAR Orthogonalized Impulse-Response Functions

B

Supplemental Materials for Chapter 3

Summary Statistics

Table B.1: Summary Statistics

Statistic	Mean	S.D.	Min	Max	N
Corrective Hostage	0.28	0.45	0	1	478
Outgroup Hostage	0.15	0.36	0	1	478
Foreign Hostage	0.01	0.11	0	1	478
Soft Civilian Hostage	0.71	0.45	0	1	478
High-Profile Hostage	0.33	0.47	0	1	478
Gender	0.05	0.21	0	1	478
Duration	2.51	9.98	1	115	478
Territorial Control	0.94	0.23	0	1	478
ISI Attacks$_{t-1}$	16.05	16.29	0	120	478
ISI Battle Deaths	11.49	41.94	0	453	478
Population$_{log}$	13.06	1.07	11.87	14.36	478

Data Collection
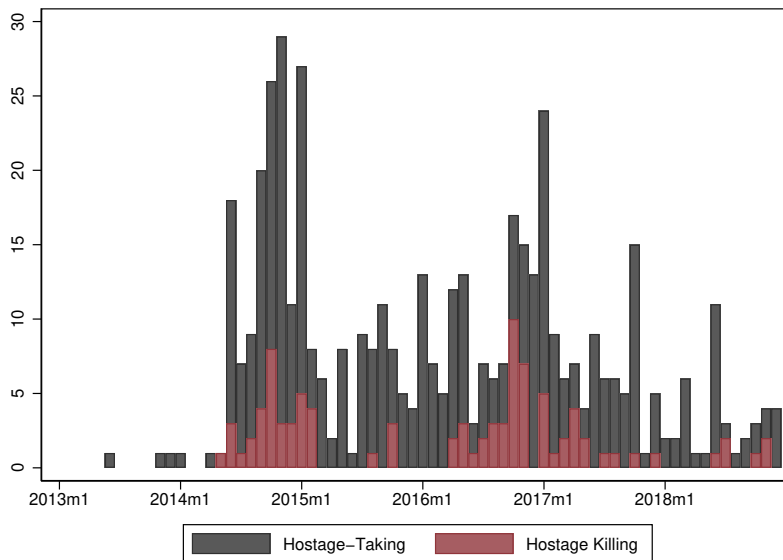
Figure B.1: Confirmed Cases of Hostage Killing by ISI in Iraq (2013-2018)

Coarsened Exact Matching Computation

Assessment of Prior Imbalance

Table B.2: Univariate Imbalance

	$\mathcal{L}_1$	mean	min	25%	50%	7 5%	max
Gender	0.049	0.049	0	0	0	0	0
Outgroup Hostage	0.176	0.176	0	0	0	1	0
Foreign Hostage	0.007	-0.007	0	0	0	0	0
High-Profile Hostage	0.070	0.070	0	0	0	0	0
Soft Civilian Hostage	0.038	-0.038	0	0	0	0	0
Duration	0.053	2.563	0	0	0	0	14

$\mathcal{L}_1$ distance: 0.228

Assessment of Post Imbalance

Table B.3: Matching Summary

	0	1
All	343	135
Matched	314	123
Unmatched	29	12

Table B.4: CEM Univariate Imbalance

	$\mathcal{L}_1$	mean	min	25%	50%	75%	max
Gender	0.000	0.000	0	0	0	0	0
Outgroup Hostage	0.000	0.000	0	0	0	0	0
Foreign Hostage	0.000	0.000	0	0	0	0	0
High-Profile Hostage	0.000	0.000	0	0	0	0	0
Soft Civilian Hostage	0.000	0.000	0	0	0	0	0
Duration	0.045	0.085	0	0	0	0	-5

$\mathcal{L}_1$ distance: 0.070

Reported Results: OLS

Table B.5: Event-Level Prediction of Hostage Execution (Linear Model)

	Model 1	Model 2
Corrective Hostage	0.704***	0.718***
	(0.063)	(0.062)
Outgroup Hostage		−0.026
		(0.052)
Foreign Hostage		−0.070
		(0.173)
Soft Civilian Hostage		0.124
		(0.138)
High-Profile Hostage		0.056
		(0.127)
Gender		0.047
		(0.074)
Duration		0.012
		(0.015)
Territorial Control		0.218*
		(0.104)
ISI Attacks$_{t-1}$		−0.001
		(0.001)
ISI Battle Deaths		0.000**
		(0.000)
Population$_{log}$		−0.058
		(0.043)
Constant	0.138**	0.657
	(0.059)	(0.543)
Year FE	✓	✓
District FE	✓	✓
R^2	0.635	0.649
Observations	438	438

Standard errors are clustered by district and reported in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Results Without CEM

Table B.6: Event-Level Prediction of Hostage Execution (Non-CEM)

	Model 1	Model 2
Corrective Hostage	0.718***	0.724***
	(0.061)	(0.060)
Outgroup Hostage		0.000
		(0.057)
Foreign Hostage		0.157
		(0.183)
Soft Civilian Hostage		0.023
		(0.046)
High-Profile Hostage		−0.042
		(0.024)
Gender		0.150
		(0.119)
Duration		0.001**
		(0.000)
Territorial Control		0.207*
		(0.101)
ISI Attacks$_{t-1}$		−0.001
		(0.001)
ISI Battle Deaths		0.001
		(0.000)
Population$_{log}$		−0.094*
		(0.041)
Constant	0.097	1.224
	(0.050)	(0.499)
Year FE	✓	✓
District FE	✓	✓
R^2	0.622	0.643
Observations	478	478

Standard errors are clustered by district and reported in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Additional Tests

CEM: Logistic Regression

Table B.7: Event-Level Prediction of Hostage Execution (Logit Model)

	Model 1	Model 2
Corrective Hostage	4.662***	5.114***
	(0.377)	(0.425)
Outgroup Hostage		0.343
		(0.585)
Foreign Hostage		1.424
		(0.918)
Soft Civilian Hostage		−0.379
		(0.474)
High-Profile Hostage		−1.473***
		(0.364)
Gender		1.429
		(1.242)
Duration		0.011
		(0.007)
Territorial Control		2.939*
		(1.304)
ISI Attacks$_{t-1}$		−0.038***
		(0.009)
ISI Battle Deaths		0.010*
		(0.004)
Population$_{log}$		−1.348*
		(0.563)
Constant	−1.339***	14.606*
	(0.312)	(7.667)
Year FE	✓	✓
District FE	✓	✓
Log pseudolikelihood	−98.075	−96.570
Observations	388	388

Standard errors are clustered by district and reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

CEM: Ingroup Hostility

Table B.8: Ingroup Hostility and Hostage Execution

	Model 1	Model 2
Corrective Hostage	0.714***	0.726***
	(0.073)	(0.070)
Outgroup	−0.015	−0.017
	(0.040)	(0.038)
Corrective Hostage × Outgroup	0.674***	0.496***
	(0.124)	(0.131)
Covariates		✓
Year FE	✓	✓
District FE	✓	✓
R^2	0.636	0.649
Observations	438	438

Standard errors are clustered by district and reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

CEM: Gendered Dynamics

Table B.9: Gender and Hostage Execution

	Model 1	Model 2
Corrective Hostage	0.692***	0.707***
	(0.058)	(0.058)
Gender	−0.022	−0.011
	(0.079)	(0.091)
Corrective Hostage × Gender	0.893***	0.902***
	(0.031)	(0.024)
Covariates		✓
Year FE	✓	✓
District FE	✓	✓
R^2	0.637	0.651
Observations	438	438

Standard errors are clustered by district and reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

CEM Placebo: Extrajudicial Executions

Table B.10: Extrajudicial Executions Placebo

	Model 1	Model 2
Corrective Hostage	0.687***	0.699***
	(0.063)	(0.061)
Covariates		✓
Year FE	✓	✓
District FE	✓	✓
R^2	0.616	0.632
Observations	429	429

Standard errors are clustered by district and reported in parentheses.

$^*\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001$

CEM Additional Controls: Yazidi Genocide and Resources

Table B.11: Prediction of Hostage Execution (Additional Controls)

	Oil Districts	Yazidi
Corrective Hostage	0.718***	0.725***
	(0.061)	(0.056)
Oil Production (District)	−0.001	
	(0.034)	
Yazidi Genocide		−0.215
		(0.259)
Covariates	✓	✓
Year FE	✓	✓
District FE	✓	✓
R^2	0.649	0.652
Observations	438	438

Standard errors are clustered by district and reported in parentheses.

$^*\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001$

CEM: The Role of Internal Displacement

Table B.12: Prediction of Hostage Execution (Additional Controls)

	Model 1	Model 2
Corrective Hostage	0.718***	0.716***
	(0.062)	(0.061)
Number of Displaced Persons $_{log}$		0.003
		(0.011)
Covariates		✓
Year FE	✓	✓
District FE	✓	✓
R^2	0.649	0.649
Observations	438	438

Standard errors are clustered by district and reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

CEM: Including Sodomy in Coding of Corrective Hostages

Table B.13: Event-Level Prediction of Hostage Execution (with Sodomy)

	Model 1	Model 2
Corrective Hostage	0.530***	0.574***
	(0.040)	(0.046)
Covariates		✓
Year FE	✓	✓
District FE	✓	✓
R^2	0.485	0.530
Observations	437	437

Standard errors are clustered by district and reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

CEM: Adjusting Spatial Dependence in Clustering

Table B.14: Prediction Adjusting for Spatial Dependence in Clustering

	Model 1	Model 2
Corrective Hostage	0.724***	0.738***
	(0.059)	(0.057)
Covariates		✓
Year FE	✓	✓
Governorate FE	✓	✓
R^2	0.601	0.616
Observations	438	438

Standard errors are clustered by governorate and reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Probing Reporting Biases

Table B.15: Assessment of Reporting Biases for Attacks

	ISI Attacks	Hostage-Taking	Hostage Killing
Expanding Cell Towers $_{log}$	-0.089***	-0.018	-0.001
	(0.023)	(0.009)	(0.003)
Covariates	✓	✓	✓
Year FE	✓	✓	✓
District FE	✓	✓	✓
R^2	0.007	0.157	0.111
Observations	2,052	2,052	2,052

Standard errors are clustered by district and reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Synthetic Control: Plotting *p*-values

(a) *p*-values

(b) *p*-values (pseudo *t* statistics)
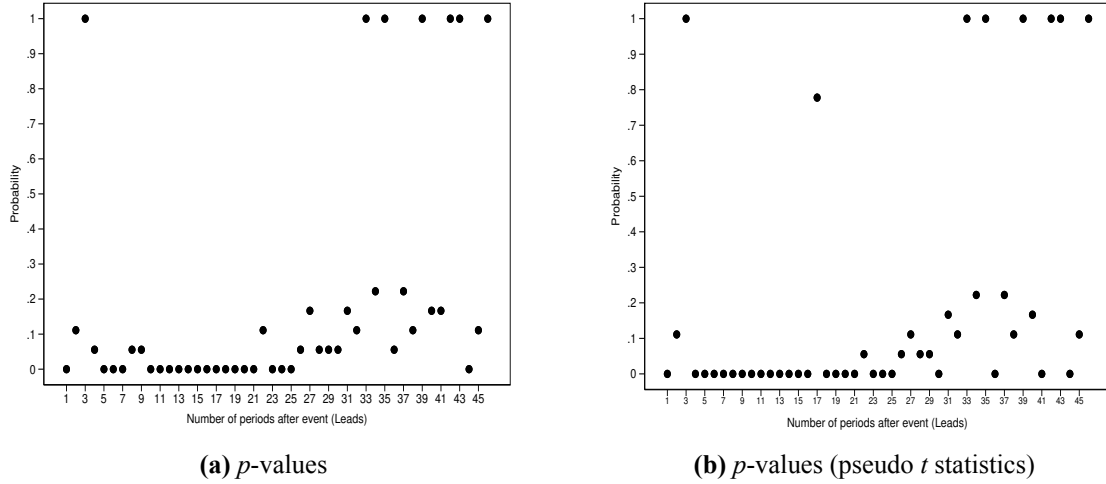
Figure B.2: Reporting *p*-values for Synthetic Control

Synthetic Control: Constructed with Covariates

(a) Outcome Trends

(b) Effects
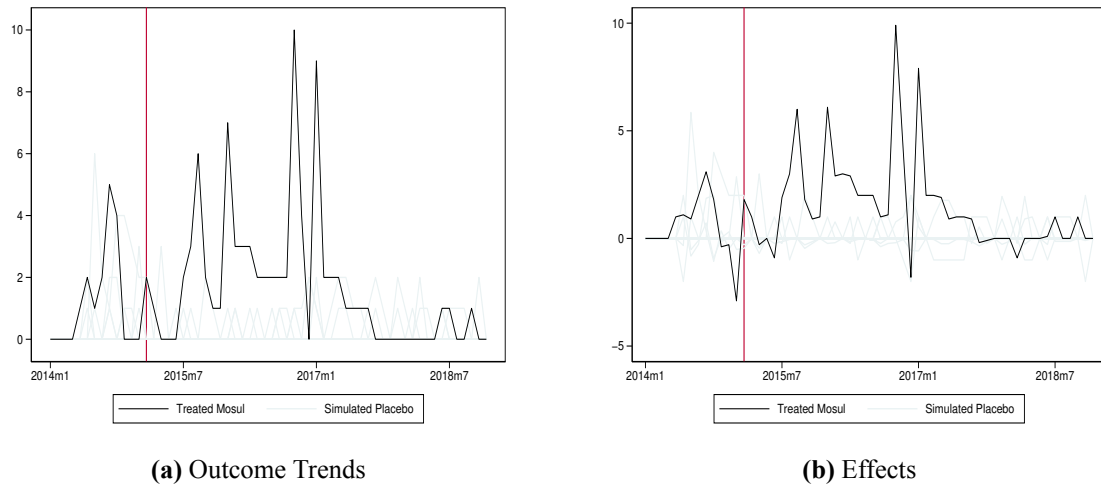
Figure B.3: Simulated Placebo: Covariates

Synthetic Control: Leave-one-out Tests

(a) Without Saladin

(b) Without Kirkuk
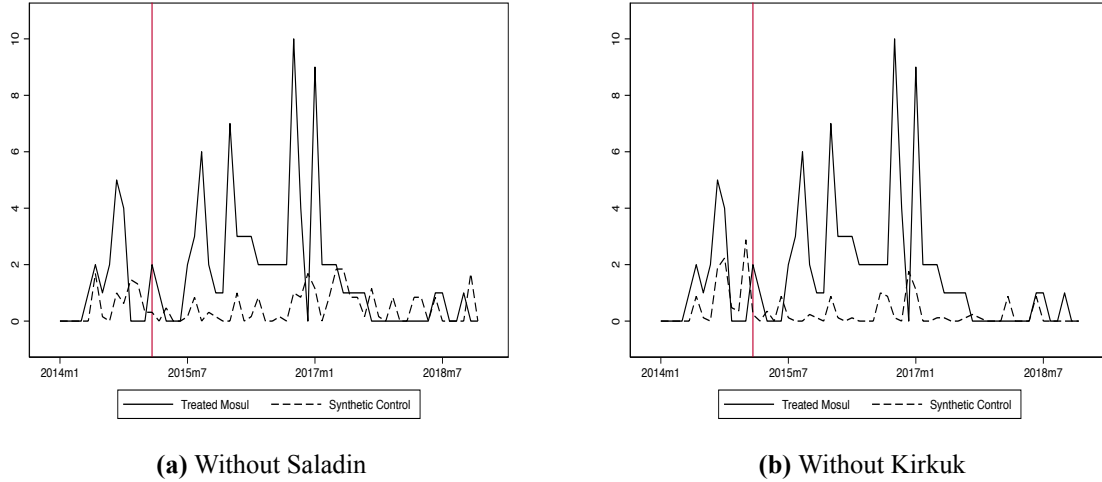
Figure B.4: Outcome Trends for Leave-one-out Tests

Synthetic Control: Pre-/Post-RMSPE
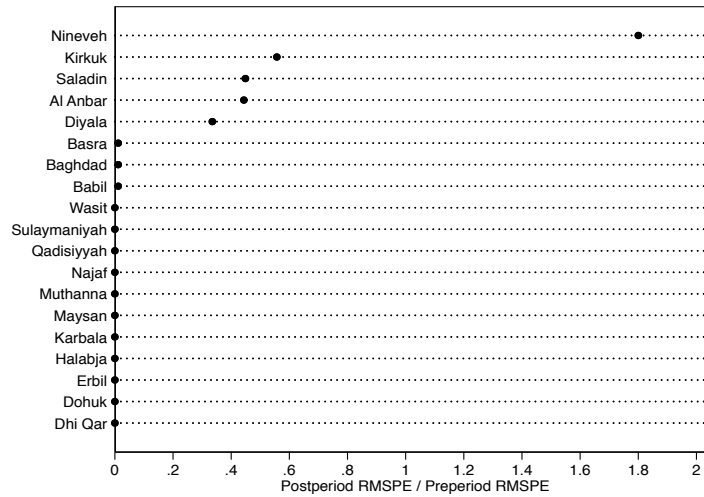
Figure B.5: Ratio of Pre- / Post- RMPSE

Synthetic Control Placebo: ISI Terrorist Attacks
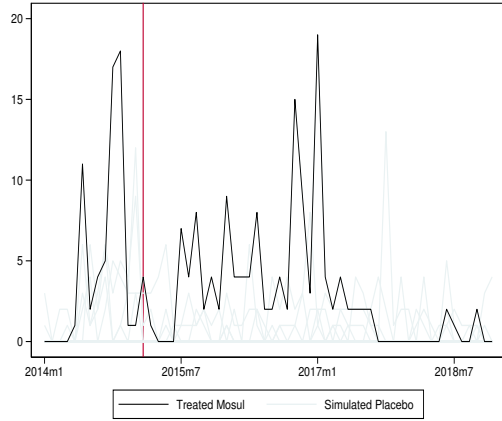
(a) Outcome Trends
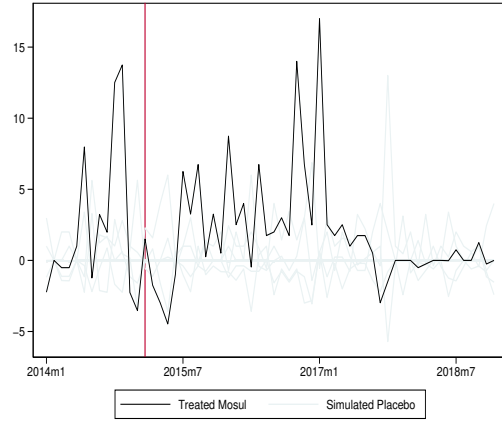
(b) Effects

Figure B.6: Simulated Placebo: ISI Terrorist Attacks

Synthetic Control Placebo: ISI Attacks on Civilians
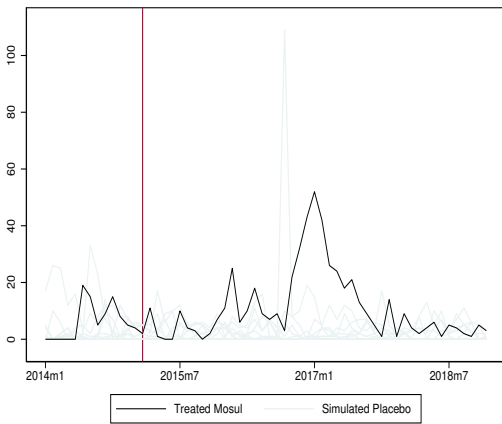
(a) Outcome Trends
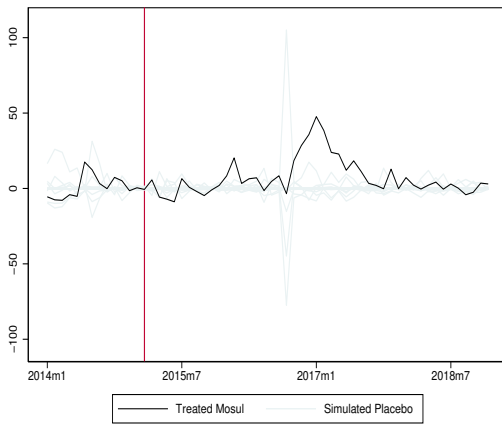
(b) Effects

Figure B.7: Simulated Placebo: ISI Attacks on Civilians

Synthetic Control Placebo: ISI Civilian Deaths

(a) Outcome Trends

(b) Effects
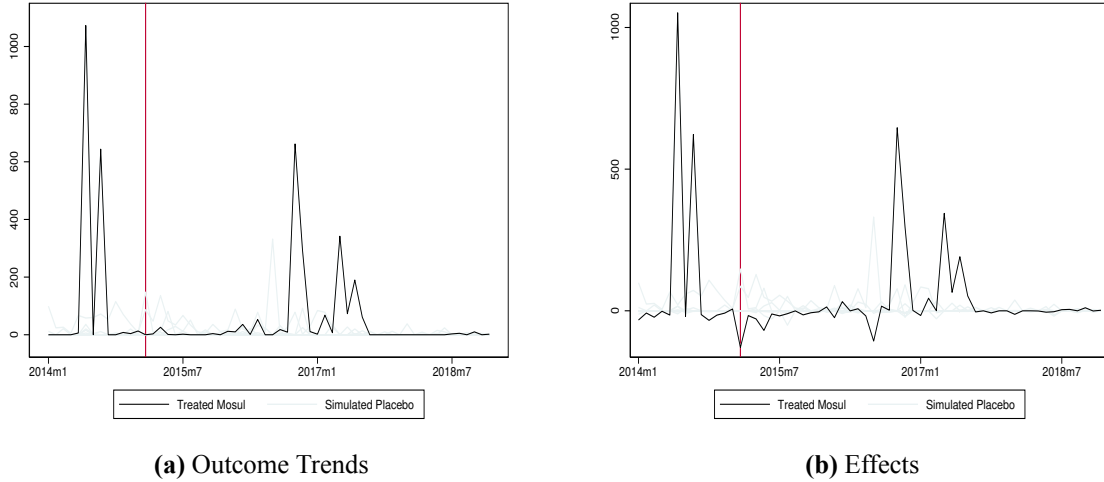
Figure B.8: Simulated Placebo: ISI Civilian Deaths

Synthetic Control: The Role of Internal Displacement

(a) Outcome Trends

(b) Effects
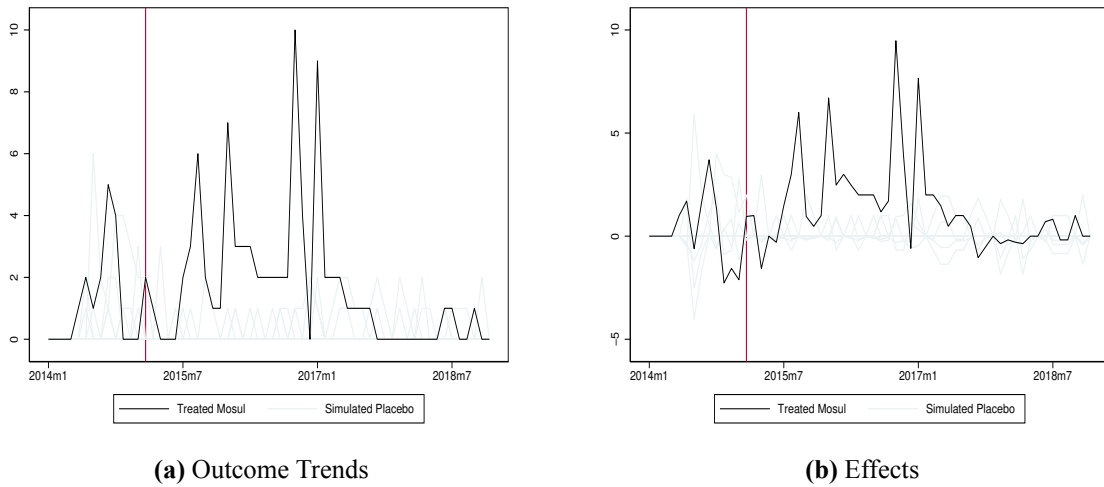
Figure B.9: Simulated Placebo with Additional Controls

Synthetic Control: ISI Before Loss of Mosul

(a) Outcome Trends
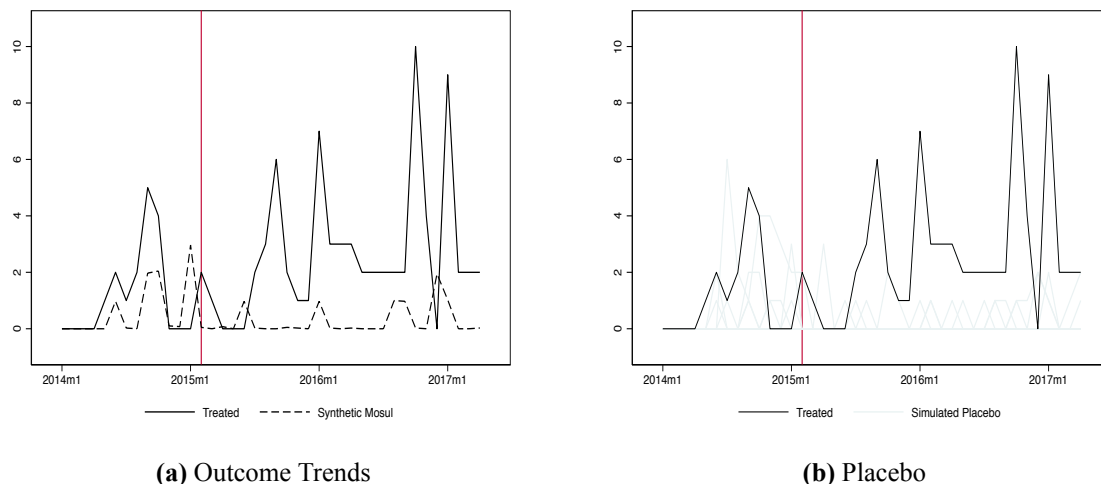
(b) Placebo

Figure B.10: Simulated Placebo: ISI Before Loss of Mosul

Qualitative Causal Process Observation

Table B.16: Summary of Causal Process Observation

Year	Justification	Summary	Source
2015	Collaboration with Enemy Forces	ISI kidnap and kill civilians for cooperating with peshmerga forces.	RIA Novosti (2015)
2015	Collaboration with Enemy Forces	ISI kidnap and execute collaborators.	Anadolu Agency (2015)
2015	Collaboration with Enemy Forces	ISI kidnap and kill civilian for supporting Iraqi government.	Gulf News (2015)
2016	Fleeing ISI Territory	ISI abduct and slaughter woman for fleeing village.	International Business Times (2016)
2016	Fleeing ISI Territory	ISI abduct and slaughter supporters for fleeing territory.	Iraq Security Roundup (2016)
2016	Fleeing ISI Territory	ISI abduct and slaughter supporters for fleeing territory.	Iraq Security Roundup (2016)
2016	Anti-ISI Protest	ISI kidnap and kill six female civilians for participating in anti-ISI march.	ITV (2016)
2016	Collaboration with Enemy Forces	ISI kidnap and execute civilians for collaborating with enemy forces.	Washington Examiner (2017)
2016	Collaboration with Enemy Forces	ISI abduct and execute civilians for working with security forces.	Free Beacon (2016)
2016	Collaboration with Enemy Forces	ISI kidnap and kill three young men for working with security forces.	Thai News Service (2016)
2016	Collaboration with Enemy Forces	ISI abduct and kill civilians for working with security forces.	Thai News Service (2016)
2016	Collaboration with Enemy Forces	ISI kidnap and kill nine civilians in public for joining anti-ISI group.	Iraqi News (2016)
2016	Collaboration with Enemy Forces	ISI kidnap and behead five young men for working with security forces.	Financial Express (2016)
2016	Collaboration with Enemy Forces	ISI kidnap and kill civilians for working with security forces.	VOA News (2016)
2016	Collaboration with Enemy Forces	ISI kidnap and kill civilian for leaking intelligence to government.	Financial Express (2016)
2016	Collaboration with Enemy Forces	ISI kidnap and crucify civilian for working with security forces.	Mail Online (2016)
2016	Collaboration with Enemy Forces	ISI kidnap and kill civilian for supporting Iraqi government.	BBC (2016)
2016	Collaboration with Enemy Forces	ISI kidnap and slaughter civilians for working with security forces.	CNN (2016)
2016	Collaboration with Enemy Forces	ISI kidnap and kill civilians for working with security forces.	Washington Post (2016)
2017	Fleeing ISI Territory	ISI kidnap and kill civilians for fleeing Mosul.	Iraqi News (2017)
2017	Collaboration with Enemy Forces	ISI kidnap and execute collaborators.	Iraqi News (2017)
2017	Collaboration with Enemy Forces	ISI kidnap and kill civilian for leaking intelligence to government.	Iraqi News (2017)

C

Supplemental Materials for Chapter 4

Data Collection

The data include new information on hostage negotiations as well as victim characteristics. To collect the data, I start with all hostage-taking attacks in the GTD. Each attack is investigated to ensure the exclusive and explicit taking of hostages. This is necessary as the GTD occasionally describes attacks as kidnapping where an individual is not necessarily taken captive. The research effort was conducted with a team of undergraduate research assistants.

To determine accuracy, events are triangulated with local media sources, national and international newspapers, as well as documents from the Anti-Kidnapping Group in the Philippines, an arm of the Philippine National Police (PNP) responsible for combating hostage-taking attacks by armed groups. I rely on media sources to collect information on both victim characteristics and negotiations. Documents from the PNP detail the number of hostage negotiations over time and, in some circumstances, information on these negotiations. I use this data from the PNP to build upon the media sources and verify the number and consistency of negotiations.

The data I collect are similar to the number of kidnappings reported by the PNP. To illustrate, Figure C.1 reports trends for 2013 and 2014 utilizing my own data and data recorded from the PNP. If information on a negotiation was not found but the GTD reported that ransom was paid, I take this as evidence of negotiation.

To gather information on the amount of attention an attack receives, I code the number of newspaper articles and internet searches being circulated and conducted in relation to the attack in question. For data on internet searches, I follow previous work on information-seeking behavior and consult Google Trends. Google by far the largest search engine in the Philippines, with a share of 94.76% of the market. This data capture average internet search patterns among populations in the Philippines. I create unique search terms related to each hostage-taking attack. The count reflects information-seeking behavior from the date the individual is taken hostage
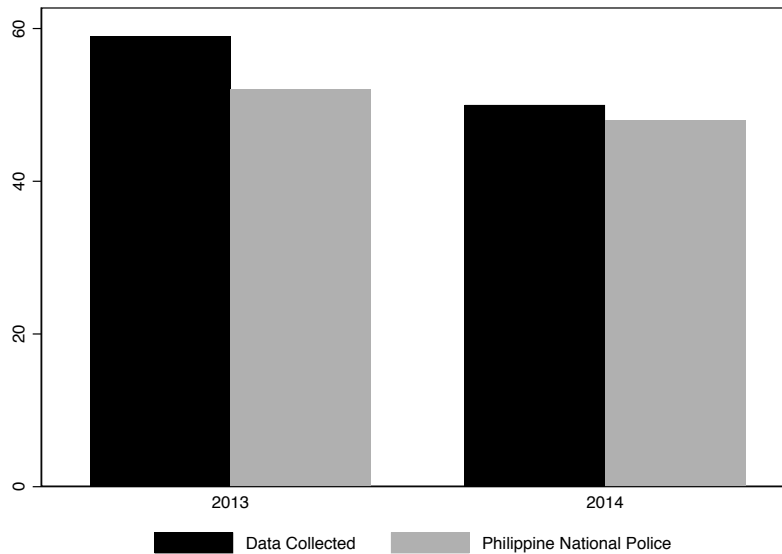
Figure C.1: Comparison of Reported Attacks

until an attack resolution.

For data on newspaper publications, I rely on BBC World, Lexis Nexis, and Rappler to compile the amount of local news articles being published in response to the attack in question. I code both counts using a by-hand procedure. Their summation is a measure of attention, where higher values indicate more internet searches and media publications in direct relation to the attack in question. A by-hand procedure is necessary and preferred over a trained machine-learning algorithm, particularly in the case of hostage-taking attacks, as many articles refer to previous attacks by a specific organization or fail to include specific details to ensure the item is in reference to the attack in question.

Summary Statistics

Table C.1: Summary Statistics

Statistic	Mean	S.D.	Min	Max	N
Negotiation	0.465	0.499	0	1	568
High-Profile Victim	0.444	0.497	0	1	568
Female Victim	0.121	0.329	0	1	568
Child Victim	0.053	0.223	0	1	568
Foreign Victim	0.111	0.314	0	1	568
Foreign Allied Victim	0.077	0.267	0	1	568
Duration (Days)	27.81	79.65	0	640	568
Ransom Requested	0.157	0.368	0	1	568
Communist Group	0.529	0.499	0	1	568
Terrorist Attacks $_{t-1}$	103.2	105.5	0	358	568
Civilian Attacks $_{t-1}$	29.82	28.81	0	118	568
Group Battle Deaths $_{t-1}$	4.649	2.072	0	7.747	568
Government Battle Deaths $_{t-1}$	4.043	1.917	0	7.590	568

Coarsened Exact Matching Computation

Assessment of Prior Imbalance

Table C.2: Univariate Imbalance

	$\mathcal{L}_1$	mean	min	25%	50%	75%	max
Female Victim	0.068	-0.068	0	0	0	0	0
Child Victim	0.024	-0.024	0	0	0	0	0
Foreign Victim	0.043	0.043	0	0	0	0	0
Foreign Allied Victim	0.046	0.046	0	0	0	0	0
Ransom Requested	0.082	-0.082	0	0	0	0	0

$\mathcal{L}_1$ distance: 0.154

Assessment of Post Imbalance

Table C.3: Matching Summary

	0	1
All	316	252
Matched	316	252
Unmatched	0	0

Table C.4: Univariate Imbalance

	$\mathcal{L}_1$	mean	min	25%	50%	75%	max
Female Victim	0.000	0.000	0	0	0	0	0
Child Victim	0.000	0.000	0	0	0	0	0
Foreign Victim	0.000	0.000	0	0	0	0	0
Foreign Allied Victim	0.000	0.000	0	0	0	0	0
Ransom Requested	0.000	0.000	0	0	0	0	0

$\mathcal{L}_1$ distance: 0.000

Additional Tests

Differences Across Organizations

Table C.5: Models of Hostage Negotiation

	New People's Army	Abu Sayyaf Group
High-Profile Victim	0.215***	0.207*
	(0.053)	(0.085)
Female Victim	−0.233	−0.091
	(0.146)	(0.104)
Child Victim	0.259	0.162
	(0.186)	(0.148)
Foreign Victim	−0.191	−0.125
	(0.300)	(0.160)
Foreign Allied Victim	0.474	−0.125
	(0.345)	(0.160)
Duration (Days)	0.000	0.000
	(0.000)	(0.000)
Ransom Requested	0.215	0.192*
	(0.198)	(0.087)
Terrorist Attacks $_{t-1}$	0.001	−0.003
	(0.001)	(0.004)
Civilian Attacks $_{t-1}$	−0.000	0.004
	(0.004)	(0.083)
Group Battle Deaths $_{t-1}$	−0.003	−0.118
	(0.081)	(0.083)
Government Battle Deaths $_{t-1}$	0.028	0.028
	(0.085)	(0.079)
Presidential FE	✓	✓
Year FE	✓	✓
Province FE	✓	✓
R^2	0.228	0.256
Observations	314	168

Battle death statistics are logged in all models.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Linear Model Without Matching

Table C.6: Models of Hostage Negotiation (Non-CEM)

	Model 1	Model 2
High-Profile Victim	0.197***	0.192***
	(0.047)	(0.047)
Covariates		✓
Presidential FE	✓	✓
Year FE	✓	✓
Province FE	✓	✓
R^2	0.299	0.180
Observations	568	568

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Logistic Regression

Table C.7: Models of Hostage Negotiation (Logit)

	Model 1	Model 2
High-Profile Victim	1.225***	0.981***
	(0.243)	(0.200)
Covariates		✓
Presidential FE	✓	✓
Year FE	✓	✓
Province FE	✓	✓
Observations	493	568

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Secret Negotiation Placebo

Table C.8: Models of Hostage Negotiation: Secret Negotiation Placebo

	Model 1	Model 2
High-Profile Victim	0.249***	0.227***
	(0.051)	(0.052)
Covariates		✓
Presidential FE	✓	✓
Year FE	✓	✓
Province FE	✓	✓
R^2	0.303	0.341
Observations	456	456

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Expanding Cellphone Coverage

Table C.9: Expanding Cellphone Coverage and Reporting Biases

	Model 1	Model 2
Expanding Cell Towers	0.000	0.000
	(0.000)	(0.000)
Year FE		✓
Province FE	✓	✓
R^2	0.001	0.005
Observations	16,470	16,470

Standard errors are clustered by location and reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Maximum Verification Sample

Table C.10: Models of Hostage Negotiation: Verification Sample

	Model 1	Model 2
High-Profile Victim	0.297***	0.202***
	(0.071)	(0.060)
Covariates		✓
Presidential FE	✓	✓
Year FE	✓	✓
Province FE	✓	✓
R^2	0.403	0.235
Observations	287	287

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Temporal Dynamics

Table C.11: Models of Hostage Negotiation: Temporal Dynamics

	Model 1	Model 2
High-Profile Victim $\times$ Duration (Days)	0.001***	0.001***
	(0.000)	(0.000)
Covariates		✓
Presidential FE	✓	✓
Year FE	✓	✓
Province FE	✓	✓
R^2	0.310	0.159
Observations	568	568

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Heterogenous Effects

Table C.12: Model of Hostage Negotiation: Heterogenous Effects

	Model 1
Diplomatic Staff	0.487
	(0.224)
High-Rank Businessmen	0.279
	(0.237)
Military Officer or Family	-0.010
	(0.194)
NGO Staff	1.278**
	(0.419)
Notable Civilian	0.232
	(0.228)
Notable Journalist	0.572
	(0.365)
Police Major or Family	0.148
	(0.208)
Political Figure or Family	0.246
	(0.198)
Religious Leader	0.401
	(0.356)
Foreigner	-0.601**
	(0.280)
Foreigner of Allied Nationality	0.585*
	(0.298)
Year FE	✓
Province FE	✓
R^2	0.497
Observations	252

Standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Political Kidnapping Placebo

Table C.13: Models of Hostage Negotiation: Political Kidnapping Placebo

	Model 1	Model 2
Political Hostage	0.199**	
	(0.066)	
Non-Political High-Profile Victims		0.155***
		(0.048)
Presidential FE	✓	✓
Year FE	✓	✓
Group FE	✓	✓
Province FE	✓	✓
R^2	0.311	0.313
Observations	568	568

Standard errors are reported in parentheses.

$^*\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001$

Foreign Victims Placebo

Table C.14: Models of Hostage Negotiation: Foreign Victims Placebo

	Model 1	Model 2
High-Profile Victim	0.234***	0.217***
	(0.048)	(0.043)
Covariates		✓
Presidential FE	✓	✓
Year FE	✓	✓
Province FE	✓	✓
R^2	0.382	0.232
Observations	491	491

Standard errors are reported in parentheses.

$^*\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001$

Causal Mediation Analysis: Reported Results

Table C.15: Causal Mediation Analysis

	Estimate	Lower 95% CI	Upper 95% CI	p-value
ACME	0.079	0.02	0.13	0.006 **
ADE	0.111	-0.03	0.25	0.110
Total Effect	0.191	0.05	0.32	0.008 **
Proportion Mediated	0.415	0.09	1.30	0.014 *

Nonparametric Bootstrap Confidence Intervals. $N = 230$; Simulations $= 1000$.

$* \, p < 0.05, ** \, p < 0.01, *** \, p < 0.001.$

Causal Mediation Analysis: Alternative Explanations

Family Statements

Table C.16: Causal Mediation Analysis: Family Statements

	Estimate	Lower 95% CI	Upper 95% CI	p-value
ACME	0.01	-0.00	0.03	0.100
ADE	0.177	0.04	0.31	0.012 *
Total Effect	0.190	0.05	0.32	0.012 *
Proportion Mediated	0.066	-0.01	0.30	0.112

Nonparametric Bootstrap Confidence Intervals. $N = 230$; Simulations $= 1000$.

$* \, p < 0.05, ** \, p < 0.01, *** \, p < 0.001.$

Sympathy Framing

Table C.17: Causal Mediation Analysis: Sympathy Framing

	Estimate	Lower 95% CI	Upper 95% CI	p-value
ACME	0.012	-0.00	0.04	0.120
ADE	0.178	0.04	0.31	0.020 *
Total Effect	0.190	0.05	0.33	0.014 *
Proportion Mediated	0.063	-0.00	0.28	0.134

Nonparametric Bootstrap Confidence Intervals. $N = 230$; Simulations $= 1000$.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Coding of Empathy Frames

Figure C.2 provides an example of empathy and non-empathy frames in the media. The first article is coded as an empathetic frame because the victim is portrayed as a family man and the "sole breadwinner" of the family. The second article merely reports the facts of the hostage-taking and therefore is coded as non-empathetic. The article from the Philippine Star is also an example of a family member giving a statement to the media in a bid for the government to assist in bringing them home. This is considered as a mechanism in Table C.16.

Woman asks NPA to release cop husband

John Unson - The Philippine Star ⓘ
August 26, 2017 | 4:00pm

KIDAPAWAN CITY, Philippines – Please release my husband.

The wife of Police Officer 1 Bristol Catalan, Jessa, made this appeal to New People's Army (NPA) rebels who snatched him in this city on Aug. 14.

Jessa told reporters yesterday that their family relies only on the salary of her husband for their daily needs. She said their two children have also stopped going to school after the incident.

"He is the sole breadwinner in the family," she said. "We need him in the family. His children need him."

Catalan of the Makilala police intelligence unit was driving his motorcycle with his two children when the rebels asked them to pull over in Barangay Katipunan.

Jessa said the kidnappers have not contacted any member of their family.

Makilala Mayor Rudy Caoagdan said he is willing to negotiate with the rebels for Catalan's release.

(a) Empathy (Philippine Star, 2017)

Offensive on vs NPA rebels holding soldier in Bukidnon

CAGAYAN DE ORO CITY – The military on Monday said it is conducting continuous pursuit operations against the New People's Army (NPA) rebels responsible in raiding a private security compound in Bukidnon last Friday evening, after which they abducted a soldier.

Capt. Joe Patrick Martinez, 4th Infantry Division spokesperson here, said that Technical Sergeant Joseph Paredes, who is assigned at the Army's 8th Infantry Battalion, was unarmed and was on a rest and recreation mode when seized by the NPA rebels.

He said that Paredes was riding a motorcycle with his wife when flagged down by the communist rebels who put up a road blockade outside the compound of DASIA, a Davao-based security agency, in a subdivision in Valencia City, Bukidnon.

Martinez said the 4th ID has deployed a team of soldiers to go after the NPA rebels shortly after the incident.

The NPA rebels, clad in police uniforms, told motorists to stop because an operation "Tokhang" was in progress in a nearby area. "Tokhang" (knock and appeal), is a nationwide anti-illegal drug campaign of the Philippine National Police (PNP).

Martinez said that Paredes was identified by the insurgents through his identification card.

"The [rebels] immediately dragged him (Paredes) off his motorcycle and hurled him inside an armored vehicle. The
☞ **OFFENSIVE, 10**

(b) Non-Empathy (Edge Davao, 2017)

Figure C.2: Empathy and Non-Empathy in Media Reporting