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GOVERNMENTAL RESPONSES TO TERRORISM:
CREATING COSTS AND BENEFITS

by

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B.A. University of Central Florida, 2004

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Arts
in the Department of Political Science
in the College of Sciences
at the University of Central Florida
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Major Professor: Thomas Dolan

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ABSTRACT

This thesis assesses four governmental responses to terrorism: *conciliation*, *denial*, *legal restriction*, and *violence*, each of which may be focused on an organization or its leaders. The theory makes predictions on the resulting frequency and severity of terrorism. Unless responses reduce an organization's capacity or desire to attack, the frequency of attacks may be reduced, while the severity continues to increase. The theory is tested using a time series regression analysis of the effects of government action on terrorism in Algeria and the Philippines. In general, the results show that *conciliation* may lead to increases in terrorism in the short term while suggesting potential reductions in the long term. *Denial* and *legal restriction* often led to increases in terrorism, while the effects of *violence* often depended upon whether the response was applied to organizations or their leaders.

Dedicated to my wife, who has always remained close to my heart regardless of the distance.

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CHAPTER ONE: INTRODUCTION

Can governmental responses to terrorism create costs and benefits that would make terrorism less likely? Dugan and Chenoweth (2012) suggest that conciliatory actions reduce terrorism by raising the costs of further violence via threats to benefits gained from governmental concessions. In contrast, Trager and Zagorcheva (2006) and Bar (2008) suggest deterrence featuring punishment is the surest way to increase costs and thus reduce terrorism. Solely punitive responses, however, may have detrimental effects upon the economy and thus have the unintended consequence of actually lowering the opportunity costs to support terrorism (Buenos de Mesquita & Dickerson 2007). Some suggest that by combining cost imposition and benefit denial, governments can avoid lowering opportunity costs (Knoenig & Pavel, 2012; LaFree & Dugan, 2009). Certain situational factors, such as economic and political conditions, may yet trump the government's ability to create costs and benefits (Kavanagh, 2011).

This research project will assess the effectiveness of governmental responses including conciliation, denial, legal restriction, and violence (Heymann, 2001-2002; Knopf, 2010; Kroenig, 2012; Miller, 2007; Trager & Zagorcheva, 2006). This project departs from most research by evaluating a response's ability to reduce both the frequency and severity of terrorism. Additionally, rather than dividing responses into broad general categories such as conciliation or repression, investigating numerous responses will allow a more nuanced assessment.

The proposed theory involves three actors: a terrorist organization, a government, and a support population. The terrorist organization seeks to change the status quo, usually maintained by a government, through violent dramatic action. The terrorist's true goal is not to kill, but

rather to convince the government to change policy. The government may do so if concessions allow the government to remain in power; if not, it will resist concessions and dissuade further attacks usually through its own use of violence. The terrorist organization usually resides within a larger civilian population. This group, the support population, must decide whether to support the terrorist organization. This decision is based upon whether it believes the future would be better served with more or less terrorism.

According to the theory, governments can further reduce terrorism by deciding to whom to apply these responses. Punitive action, particularly violence, creates the fear of physical danger, which may deter existing terrorists while simultaneously deterring future terrorist recruitment from the support population. If violence is applied to leaders, this effect may be even greater since the residents within the support population will have less to fear from inadvertent violence. This avoids the dangers of the support population fearing retaliation regardless of their actual behavior, as this would lower the cost of actual participation in terrorism. In contrast, conciliatory actions directed towards the largest possible portion of the support population can create a public good, arising from peace rather than conflict. If applied solely to leaders, conciliation may act as rewards for further terrorism.

Since terrorism is a diverse phenomenon stemming from a variety of motivations, the costs created by governmental responses may affect various types of terrorist organizations differently. Organizations that draw support from economically dissatisfied individuals may be disproportionately affected by improved economic conditions while the use of violence may not deter individuals of faith who have been promised non-material benefits such as spiritual salvation. Using time-series regression, government responses to terrorism will be evaluated

according to their ability to reduce both the frequency and severity of attacks while controlling for political and economic factors as well as terrorist ideology in Algeria and the Philippines between 2000-2010.

Importance of the Topic

By viewing responses as having two components (action and recipient), it is theorized that the most effective responses will be those that impose the greatest costs by combining punitive actions against individuals and conciliation towards civilian populations. With the majority of terrorists groups disbanding after reentering the political process methods, it is also imperative to identify what actions raise the costs of terrorism, raise the benefits of peace, and what impediments may inhibit the government's ability to manipulate these factors (Jones & Libicki, 2008).

This project is also important because it provides realistic expectations for governmental action. At any given moment, at least a minority of people in any state will find the current political, economic, or social status quo unacceptable. A minority of those will be willing to take action, and within that minority, there is yet another smaller group that may accept the use of violence, in this case, terrorism. While reducing the existence and/or the magnitude of grievances is commendable, far too often the necessary steps to do so are either too costly or impossible to implement for a variety of political, ideological, or economic reasons. Governments may yet be able to reduce terrorism by raising the costs of participation and thus reduce the number of individuals and/or organization willing to accept the costs of terrorism in pursuit of their political goals.

Literature Review

Causes of Terrorism

Long Term Causes of Terrorism

A considerable amount of terrorism research discusses the conditions in which terrorism is most likely to manifest. The grievance literature is broad, investigating the effects of economic, political, or ethnic imbalances (Crenshaw, 1981; Cederman & Girardin, 2007; Humphreys & Weinstein, 2006; Kavanagh, 2011; Krueger & Maleckova, 2003). Researchers use a wide array of variables to measure grievances within a society including GDP, GDP per capita, GDP growth, peace duration, education levels, terrain, polity scores, population densities, population size, social fractionalization, and the support of international diasporas (Cederman & Girardin, 2007; Collier & Hoeffler, 2004; Fearon, 2003; Fearon et al., 2007; Humphreys & Weinstein, 2006; Kavanagh, 2011; Krueger & Maleckova, 2003).

While terrorism has a long history, Crenshaw (1981) highlights a series of technological and social changes that have inadvertently assisted terrorist activity. Advances in transportation have allowed movement across great distances and created opportunities to dramatically draw public attention to political movements such as the Palestinian use of commercial airline hijackings in the 1970s (Crenshaw, 1981). Simultaneously, demographic shifts from rural to urban communities increased mobility and access to vulnerable targets (Crenshaw, 1981; Davis, 2010). Unlike insurgency, which depends upon rural bases at the state's periphery, terrorism may be aided more by urban conditions (Crenshaw, 1981).

Political marginalization is often discussed as one of the major contributions to political

violence and terrorism. Proponents suggest political access allows political grievances to be resolved peacefully (Davis, 2010; Porch, 2012). In a related fashion, regime type is often associated with increases in terrorism. However, both democracies and authoritarian governments can contribute to terrorism. A democracy's respect for civil liberties may inhibit effective action. While authoritarian governments lack effective means to address grievances, they may also allow enough freedom to allow opposition mobilization. It may be that only totalitarian governments have adequate control to repress political opposition (Crenshaw, 1981; Cronin, 2006).

Crenshaw's (1981) view of grievances is noteworthy because she maintains that political violence is not the tool of the downtrodden but rather of the privileged within societies. According to Crenshaw, terrorism is most likely to occur not during periods of weakness but when a society is strong enough to survive but weak enough to antagonize a sizeable amount of the young and educated (Crenshaw, 1981). Ironically, with the majority of the population unmoved to rebellion, a small minority possessing a grievance yet also cognizant of the power imbalance, may resort to extreme measures in this case, terrorism (Crenshaw, 1981).

While it is hard to deny their contributory potential, grievances exist around the world and yet political violence does not. If grievances were all it took to create political violence then there would be even more terrorism (Collier & Hoeffler, 2004; Fearon, 2003; Fearon et al., 2007). Some researchers find the effects of political marginalization reduced after controlling for economic factors (Collier & Hoeffler, 2004; Fearon et al., 2007; Fearon & Laitin, 2003). Regardless, political freedom as a release valve for political disputes has considerable intuitive strength and deserves further investigation.

As opposed to lumping grievances, which exist globally across cultures and political systems, together, Collier and Hoeffler (2004) divide grievances between those of an economic nature (opportunity model) and those arising from political or ethnic strife (grievance model). This approach helps to explain the population's decision process to support terrorism. When economic conditions are unfavorable, the costs to support rebellion are reduced (Collier & Hoeffler, 2004). These effects are amplified with improved educational levels, resulting from increased expectations for employment and a higher quality of life. Like other organizations, terrorists seek the best individuals available in the labor pool or in this case, the potential recruitment pool. When economic conditions worsen, higher quality individuals are thus available for recruitment due to the larger labor pool (Bueno de Mesquita, 2005; Kavanagh, 2011).

Immediate Causes for Terrorism

In addition to long-term grievances, terrorists also execute attacks to achieve short-term organizational goals (Crenshaw, 1981). Terrorist organizations may want to draw publicity to their cause such as when Palestinian movements conducted commercial airline hijackings in the 1970s for a global attention. Since terrorism is a form of political rebellion against the established order, another reason for terrorism is simply to disrupt and discredit governmental power (Crenshaw, 1981). Kydd & Walter focus upon terrorist's use of violence to drain governmental resources through attrition (2006). Other reasons include the solicitation of support from sympathizers (Crenshaw, 1981) and the creation of fear amid detractors (Kydd & Walter, 2006). Terrorism can intimidate those in opposition or encourage at least passive support from

the apathetic. When movements are fractured with intense rivalries such as the Palestinian Liberation Organization (PLO), terrorism can be used to dominate a movement (Crenshaw, 1981). Terrorist attacks can signal commitment to garner support from the civilian population in a series of outbidding efforts. If the population believes more radical groups will elicit greater concessions from the government, the population may increasingly support radical groups. However, if the process continues, the population may find itself unable to benefit from any concessions as the likelihood of compromise is reduced due to unrealistic demands or an unreceptive government (Kydd & Walter, 2006; Kalyvas, 2009). Terrorists may also want to deride peace negotiations by launching spoiling attacks (Kydd & Walter, 2006; Shugart, 2006). Governments with corrupt or ineffective justice systems allow conditions for intimidation (Kydd & Walter, 2006).

Many terrorists launch attacks to provoke an overreaction from the government. This can occur regardless of regime type. Democracies may be tempted to violate their own standards regarding civil liberties damaging their sense of legitimacy (Crenshaw, 1981; Kydd & Walter, 2006; Shugart 2007). In contrast, authoritarian regimes may resort to repressive measures, thus alienating an increasing amount of the population that may have otherwise supported the status quo (Crenshaw, 1981). According to Perlinger (2012), democracies may be just as willing to resort to repression and withhold concessions when facing national separatists. State overreaction may result in martyrdom such as the British reaction to the Easter Uprising (Buono de Mesquita & Dickerson, 2007; Crenshaw, 1981). One of the motives of the September 11th attack was for the United States to overact, resulting in the establishment of *Sharia* law across the Middle East and a general retreat of American influence (Gordon 2007). In light of this, negative actions

should be limited to the fewest potential recipients while positive actions should apply to the greatest number creating a situation with the fewest willing recruits.

Causes of Terrorism on an Individual Basis

While many researchers discuss the reasons for terrorism, there is little consensus on what characteristics make an individual more likely to conduct terrorism. Many suggest these individuals may have a higher propensity for thrill seeking (Crenshaw, 1981; Kleinmann, 2012; Sageman, 2008). Yet, that hardly assists in creating terrorist profiles. Terrorist organizations, like any group have a range of personnel requirements, from leaders with interpersonal skills to disposable followers (Bjørger, 2011). These individuals can come from a variety of ideological backgrounds and education levels. These characteristics often determine their position within a terrorist hierarchy. The diversity of individual terrorists complicates any attempts to create profiles (Bjørger, 2011; Kavanagh, 2011; Krueger & Maleckova, 2003; Sageman, 2008).

Research pertaining to individuals increasingly points to the radicalization process, a deliberate method to change beliefs allowing an individual to accept the use of violence against civilians to bring political change (Porter & Keibell, 2011; Schmid & Price, 2011; Useem & Clayton, 2009). Emotional vulnerability, such as anger or a sense of disenfranchisement, can make an individual more susceptible to radicalization (Horgan, 2011). Eventually these vulnerable individuals identify with victims of perceived common grievances despite geographic and/or cultural distance. Communal or familial groups reinforce these factors (Carter & Carter, 2012; Horgan, 2008; Sageman, 2008). Identification with perceived victims occurs particularly among second and third generation immigrants who may perceive barriers to full integration in

new societies. Eventually, violent acts lose all moral or religious sanction typically restrained by societal norms (Gaynor, 2011; Sageman, 2008). For instance, Osama bin Laden in his “Letter to America” describes western assaults upon Islamic societies in Somalia and Chechnya as well as western support for repressive regimes in the Middle East (Bin Laden, 2002). It should be noted that Muslim populations are no more susceptible to radicalization than others. Ryan (2007) describes how both Islamic and Irish terrorist groups utilize four themes in their radicalization process: “persecution, precedent, piety, and perseverance” (p. 985).

As individuals see themselves connected to more deprived individuals, they may increasingly become susceptible to a sense of survivors guilt. Unsatisfied with injustices, they lash out against an unjust world (Crenshaw, 1981). The cycle of guilt and resulting violence creates increased separation between individual terrorists and the society they reside in. This increased detachment lowers the terrorist’s inhibitions against violence and thus the cycle continues in a downward spiral. This is critical since it potentially destroys any realistic options to reenter society through reconciliation programs, leaving governments little choice, but to resort to violence towards a violent minority within a minority, the terrorist organization (Crenshaw, 1981; Davis & Jenkins, 2002).

Types of Terrorist Groups

Since different types of groups will have different types of demands, it may be important to identify the type of terrorist organization when debating the appropriate responses. Gregory Miller (2007) divides terrorist groups into four classifications using their ideologies: national-separatist, revolutionary, reactionary, and religious. National-separatist groups are motivated to

create an autonomous political entity separate from an existing state. Examples include the Tamil Tigers of Sri Lanka (LTTE), the Irish Republican Army (IRA), and the Kurdish Worker's Party (PKK). These groups are often connected to larger ethnic groups and/or political affiliations. While the populations they claim to represent may not support their violent methods, these populations may still endorse their goals. In contrast, revolutionaries seek to remold a society rather than separate themselves from another. These groups are often associated with leftist groups attempting to change the prevailing economic system of the society. Examples include the Red Army Faction (RAF) in Germany and the Red Brigade in Italy (Gregory Miller, 2007). Conversely, reactionary groups seek to counter revolutionaries. Examples include the Afrikaner Resistance Movement (AWB) of South Africa, neo-fascist groups such as the New Order of Italy, and the Contras of Nicaragua. The last group uses religious doctrine to support the use of violence for political motivations. Examples include Al Qaeda and Hezbollah, although Hezbollah is problematic because it has expanded its operations beyond terrorism to more mundane political participation in domestic politics (Miller, 2007). Seth Jones and Martin Libicki (2008) classify terrorist groups according to their placement along a political spectrum. Their classifications are left wing, right wing, nationalist, and religious (Jones & Libicki, 2008).

Rather than dividing terrorist groups by their specific ideologies, Richardson (2007) divides terrorist groups by the magnitude of their goals. Temporal goals can be achieved without radically changing the existing political system. For instance, the secession of Kashmir from India, while costly to the Indian government, is nonetheless negotiable. In contrast, transformational goals are by their nature not negotiable since they require a complete restructure of the existing order. In addition, Richardson distinguishes between terrorist groups that are

closely connected to the community and those that are isolated. Davis & Jenkins (2002) also divide terrorist organizations by their pragmatism.

Rather than assign specific attributes to various types of terrorist organizations, others investigate internal characteristics. Horowitz (2007) investigates the links between organizational age and the propensity to adopt suicide bombings. According to Horowitz, when new organizations have religious motivations as well as links to groups that have already adopted suicide tactics, the risk increases 600 percent (2003).

Responses

Academics propose a wide variety of state responses to terrorism. Quite a few offer broad categories such as conciliation and repression (Bueno de Mesquita, July 2005; Dugan & Chenoweth, 2012; Sederberg, 1995), discriminate and indiscriminate violence (Kalyvas, 2009; Lyall, 2009), or indirect and direct responses (Bar, 2012; Kroenig & Pavel, 2012). Others suggest lists of more specific responses (Amos & Stolfi, 1984; Miller, 2007).

Conciliatory actions are rewards that raise the costs of participating in terrorism while repressive actions attempt to punish terrorist acts and/or support for terrorism. Governments often view concessions unfavorably since modern history is rife with examples of violent spikes following concessions (Bueno de Mesquita, 2005; Sederberg, 1995). For instance, Basque separatists launched a wave of violence despite concessions of autonomy to the Basque region in 1978. Both Israel and Northern Ireland endured increased violence following peace accords in 1993 and 1998 respectively. According to Bueno de Mesquita, conciliation leads to increased violence in the short term with long-term reductions (2005). Since conciliation may appease

moderates, elements that are more radical may assume leadership roles, leading to more violence immediately following successful negotiations. Yet, with defecting moderates providing valuable information, this could lead to long-term reductions in terrorist capabilities (Gurr, 1998). Additionally, since moderates most likely outnumber radicals, a considerable portion of support is drained when moderates defect (Buono de Mesquita, 2005). Sederberg suggests that repression and conciliation are more effective when combined, making it possible to appease moderates while repressing extremists (1995). This however requires high quality information to distinguish one from the other.

Dugan & Chenoweth describe how repressive attacks can lead to a backlash of terrorist attacks while conciliatory actions raise the utility of reduced terrorism (2012). Positive effects from conciliatory actions are often contingent upon how they are applied, discriminately or indiscriminately. When governments act discriminately, they apply responses to those responsible for attacks (Dugan & Chenoweth, 2012; Kalyvas, 2009). When acting indiscriminately, governments apply responses to the guilty as well as the innocent. If conciliatory actions are applied indiscriminately to both terrorists and the larger surrounding population, the benefits from concessions form a type of public good. Fearing the loss of these public goods, the public may support terrorists less or even actively oppose them. However, if governments give concessions to terrorists then radicals benefit from increased terrorism, and since no public good is created, the public has little incentive to oppose violence (Dugan & Chenoweth 2012).

In contrast, some researchers find support for indiscriminate responses. Lyall (2009) finds that Russian artillery barrages reduced insurgent attacks in Chechnya. Porch (2012) finds

violence may have short term effects that dissipate unless followed by concessions. While Lyall (2009) and Porch (2012) concentrate on insurgency, both insurgency and terrorism are forms of rebellion, involving at least tacit support from surrounding populations, and are therefore still relevant (Trinquier, 1964).

Although broad, these categories have significant implications. If a population feels as though it will be punished through indiscriminate violence regardless of its actions, it may actually be encouraged to support terrorism. However, if a state uses discriminate violence, the general population may prefer the status quo or even a future with minor concessions (Kalyvas, 2009). The ability to use discriminate violence is determined by the availability and quality of information (Humphreys & Weinstein, 2006; Kalyvas, 2009; Traeger & Zagorcheva, 2005/2006).

There are several practical issues when determining whether an action is discriminate. This project's original research design included degrees of discrimination. However, during the coding process, it was deemed impossible to responsibly assign these judgments to specific actions. There are also inherent issues with discrimination beyond the practical limitations of coding. If the support population believes the government relies on faulty information, from their perspective, the government is acting in an indiscriminate manner despite the government's intention to act discriminately.

Broad categories defining governmental response are also criticized for lacking the detail necessary for proper evaluation (Amos & Stolfi, 1982; Miller, 2007). Gregory Miller (2007) provides a menu of options including "do nothing, conciliation, legal reform, restriction, and violence" (p. 334-335). While it seems unlikely that governments would do nothing in the face of

terrorism, there are examples, for instance, Italy's tolerance of Palestinian terrorist organizations. Conciliation is when the government offers concessions or at minimal enters negotiations, as in the case of ceding territory to a separatist group. Legal reforms are attempts to increase governmental powers and authority to use against terrorism. Examples include the US Patriot Act (2001) and British Terrorism Acts (2000 & 2006). Restriction is an attempt to limit a group's mobility usually through curfews or hardening targets with improved defenses.¹ The last response, violence is the government's use of force to kill or capture terrorists through a wide range of activities from targeted assassinations to arrests (Miller, 2007). Amos and Stolfi (1984) discuss similar responses; however, they also add state media exploitation. Since terrorism is a form of violent theater, terrorist groups often attempt to shape public opinion through violent public attacks. As such, governments may be tempted to shape or censor media coverage.

Whether one uses broad categories or specific actions to describe potential responses, violence is an important component of nearly all of them. Violence is of course related to deterrence, which is a threat or action taken by an actor to prevent an action by another that would otherwise had taken place after the former considered the costs and benefits of that action (Freedman, 2004; Kroenig & Pavel, 2012; Morgan, 2003; Schelling, 1966). Deterrence is successful when an adversary fears the imposed costs of retaliation. These costs can be casualties, loss of equipment, and the opportunity costs associated with maintaining a military

¹ Sageman (2008) and Gordon (2007) relate counterterrorism to containment in the sense that overt long-term conflict should be avoided while still opposing violent fundamentalism. Both share the belief that religious terror networks rely upon a moral indignation dependent upon a particular worldview as well as personal relationships. Terrorist attacks serve as public catalyst for inspiration and recruitment. If properly contained through denial and restriction, without governments resorting to provocative actions that could potentially legitimize terrorist causes, these movements may succumb to infighting (Gordan, 2007; Sageman, 2008).

force (Mearsheimer, 1995). There are numerous requirements for successful deterrence, such as rationality and successfully communicating and understanding potential threats (Trager & Zagorcheva, 2005/2006).² These threats, whether implicit or explicit, must be understood and believed according to estimated capabilities and political will (Trager & Zagorcheva, 2005/2006). The precision necessary to send and receive intended messages makes deterrence difficult and potentially dangerous. If actors are incapable of formulating meaningful signals, and recipients are unable to understand them with the intended meanings, then deterrence may escalate to unnecessary conflict (Jervis et al., 1985).

Many researchers explore whether deterrence is feasible considering terrorists are often seen as irrational, willing to die, or difficult to find (Caplan, 2006; Kroenig and Pavel, 2000; Sprinzak, 2000; Trager & Zagorcheva, 2005/2006). However, terrorist organizations, like all organizations, assign responsibilities to individuals according to their roles: leaders plan, soldiers execute attacks, recruiters replenish losses and garner support from surrounding populations, external support from diasporas or even state sponsorship. Each of these components has different characteristics and preferences that governments can exploit to achieve deterrence (Caplan, 2006; Davis & Jenkins, 2002; Fisher, 2007; Kroenig & Pavel, 2000; Schmitt & Shanker, 2011).

Despite their reputations, high-level terrorist leaders rarely expose themselves to direct action; targeting these leaders may prove effective to deter organizations (Bar, 2008; Fisher, 2007). Even individuals of supposedly unshakeable religious conviction can be deterred. Despite

² Rational actors are assumed to gather information pertinent to the situation, assess possible actions according to the costs and benefits associated with implementation and finally select an action that has the largest benefit for the smallest effort (Morgan, 2003; Freedman, 2004; Kroenig & Pavel, 2012).

the public proclamation to fight until death, hundreds of Palestinian Islamic Jihad fighters surrendered to Israeli forces in 2002 (Fisher, 2007). Even if leaders were too ideologically driven to negotiate, the vast majority of individuals within their movements should still respond to normal incentives (Caplan, 2006). While violence may have its purpose under certain situations, overreliance upon violence can be dangerous possibly creating power vacuums, martyrdom, or perceptions of indiscriminate due to inaccurate information regarding terrorist identities (Heymann, 2002; Kalyvas, 2004).

The above literature review helped formulate the parameters of this investigation in numerous ways. The long term causes of terrorism helped to identify control variables such as urbanization, economic and political freedom, and economic development (Crenshaw, 1981; Collier and Hoelffer, 2004; Bueno de Mesquita, 2005; Kavanagh, 2011).³ While the literature on the short causes of terrorism helped formulate the hypotheses. For instance, conciliation may actually increase terrorism in the short term due to spoiling attacks with potential long term reductions due to improved intelligence from defectors (Bueno de Mesquita, 2005; Crenshaw, 1981; Gurr, 1998; Kydd & Walter, 2006). The responses proposed by Miller (2007) formed the basis of the responses included in this investigation. Dugan & Chenoweth (2012) were instrumental in shaping the method of investigation. Finally, a review of the literature shows there are numerous datasets covering actual attacks but few resources devoted to governmental responses. In order to address this absence, this project developed two entirely new datasets to assess Algerian and Philippine responses to terrorism.

³ The investigation later had to discard political development due to a lack in variation in the selected time period, 2000-2010; however, the manner in which economic development was assessed included many important political elements such as corruption and government spending.

Description of Thesis Chapters

The next chapter discusses the theory, limitations and assumptions, as well as alternative explanations. Since this investigation relies upon two newly created datasets, the entire third chapter is devoted to the methodology for data collection and analysis. Chapters four and five are quantitative assessments of governmental responses and their ability to reduce the overall frequency and severity of terrorism in Algeria and the Philippines. They will also assess whether these responses affected various terrorist groups differently. Both chapters will begin with backgrounds to the respective conflicts within the countries. Chapter five will have a discussion section that compares the results and discusses any resulting policy implications. Any identified weaknesses of either the theory or the testing method will also be addressed. The chapter and the thesis will conclude with propositions for future research.

CHAPTER TWO: THEORY

Introduction

This theory centers upon the interaction between three actors: terrorist organizations, the government, and a potential support population for terrorism. Terrorists wish to change governmental policy through violence applied to civilian populations. Governments must choose a response and decide whether to apply it to the group or its leadership. The support population must decide whether to support the terrorist or government.⁴

Definitions

Definitions for terrorism are almost as numerous as the recommendations to combat it. Drawing upon a variety of sources, terrorism is premeditated politically motivated violence against non-combatants in order to change governmental policy (Amos & Stolfi, 1982; LaFree & Dugan, 2009; Sandler & Siqueira, 2006). Large political movements can produce these groups when alternative peaceful means to achieve their political goals are unavailable (Crenshaw, 1981; Guevara, 1961; Gurr, 1998; Jones & Libicki, 2008). Terrorism is closely related to insurgency, as both are methods of rebellion. Insurgents can use terrorism to create anarchy within the state, weakening the incumbent government, making revolution more attainable (Galula, 1964).

⁴ Likewise, Berman et al., (2012) have a model of insurgency with three actors: the rebel, the government, and civilians. Siqueira & Sandler's model (2006) of terrorism has three actors as well: a terrorist group, a government, and a terrorist support base. While the support population is an important component in the theory, unfortunately, the coding process did not reveal attempts by the the Algerian and Philippine governments to address the support populations. This issue will be discussed in the concluding chapter.

All three actors are assumed to be rational actors in the sense that they can prioritize outcomes as well as select actions necessary to achieve goals (Caplan, 2006; Huth & Russett, 1984). Terrorism, particularly suicide terrorism, is seen as rational because it reflects a decision that places more value on the fear created by an attack compared to the value an individual brings to an organization (Pape, 2003). The very decision to engage in terrorism in the first place represents a terrorist organization's desire to achieve political change with the smallest amount of resources through the maximization of limited assets (Betts, 2002). In addition, terrorists must assume governments have the capacity to be rational; the government must be capable of weighing continued violence against the costs of conciliation. The government's ability to retain power is usually contingent upon the support of its population (Buenos de Mesquita et al., 2003).⁵ It is reasonable to assume that states prefer less frequent and less severe terrorist attacks, as these attacks are direct challenges to the state's ability to protect its citizens and faith in the government. The support population is assumed to be rational as it must select not only who to support but also the amount of its commitment, which is generally based upon a comparison between the status quo and a potential future with more or less terrorism.

Actors

The Terrorist

The first actor, the terrorist organization, uses violence in pursuit of political goals (Dugan & Chenoweth, 2012; Enders & Sandler, 1993; LaFree & Dugan, 2009; Trager & Zagorcheva, 2005/2006). Ideologies may differ but each terrorist group possesses a particular

⁵ This is particularly true within democracies (Buenos de Mesquita et al., 2003).

grievance or set of grievances yet lacks the necessary power to bring about change through conventional methods (Betts, 2002). Their grievances are often related to their ideology and can be categorized accordingly as national-separatists, revolutionary, reactionary, and religious groups (Miller, 2007). Specific attacks are related to organizational goals such as obtaining publicity, intimidating potential informants, disrupting governmental services, spoiling peace negotiations, as well as outbidding other groups for leadership of a resistance movement (Crenshaw, 1981; Davis 2010; Enders & Sandler 1993; Kydd & Walters, 2006). Terrorists also attack to provoke an overreaction from the government potentially alienating prospective supporters (Bueno de Mesquita & Dickerson 2007; Crenshaw, 1981; Kydd & Walter, 2006). These attacks are designed to create fear not among the immediate victims but within a much broader audience, those within the state that have enough influence with the government to change policies (Miller, 2007).⁶

Terrorists attack to create fear yet their victims are often members of the very same community it draws support. Because of this, terrorist must be mindful not to alienate the support population. If the violence threatens the welfare of the support population, former allies may become informants for the government (Galula, 1964; Gurr, 1998). To prevent defection, terrorists threaten retaliation and/or provide competing services to those offered by the government (Berman et al., 2012). Terrorist activity can be reduced by either a loss of capability (material support, manpower, etc.) or the fear of losing necessary popular support, which threatens their capabilities. Since terrorism requires a relatively small number of active

⁶ Buenos de Mesquita et al. (2003) refer to this segment of a state as the “winning coalition.” Who is a member of this group depends upon the internal politics of the state and often related to its regime type.

participants, at least relative to larger forms of rebellion such as insurgency or conventional warfare, determining what is the necessary amount of popular support is problematic (Lawrence 2008; Sageman, 2008; Weinberg, 1991).

The Government

Governments seek to reduce levels of future violence and avoid concessions (Bueno de Mesquita, 2005). It can be represented by an individual or agency involved in official activity conducted to reduce terrorism ranging from law enforcement, political bodies, or military personnel (Kennedy et al., 2012). The government seeks to reduce the frequency and severity of attacks by convincing the terrorist organization that continued violence is not only harmful to their physical well-being but also counterproductive to their goals. The government also seeks to convince the support population (a community that the terrorist organization identifies with and potentially draws support) that violence is not the optimal means by which to improve the status quo and, therefore, to no longer support the terrorist organization through active or passive means (Huth & Russett, 1984; Kennedy et al., 2012). Terrorists believe that with enough violence, the government will change its policies. While the government desires less violence, the amount it is willing to concede is dependent upon the severity and frequency of attacks as well as the cost of complying with the terrorist demand (Dugan & Chenoweth, 2012; LaFree & Dugan, 2009; Miller, 2007).

Governmental responses are often restricted. While enjoying an overwhelming advantage in conventional power, its ability to use these advantages is curtailed by internal and international norms regarding civil liberties and civilian casualties (Bar, 2008). Governments

choose responses available to them to increase the costs of terrorism. These increased costs deter current terrorists while deterring members of the support population from joining or giving passive support such as retaining information from the government (Fearon & Laitin 2003; Kalyvas, 2009; Trager & Zagorcheva, 2006).

The government can choose from a variety of responses. This research design modifies the list proposed by Miller (2007). It is believed using these responses will allow greater variation to judge governmental responses more effectively. The following are the proposed responses: conciliation, denial, legal reform restriction, and violence.

Conciliatory actions raise the cost of continued terrorism (Amos and Stolfi, 1982; Dugan and Chenoweth, 2012; LaFree & Dugan, 2009; Miller, 2007). Governments choose conciliatory actions when counterterrorism campaigns will cost more than concessions. The government's core supporters must be willing to accept any proposed concessions. The amount the government is willing to negotiate is dependent upon the severity and frequency of attacks as well as the cost of complying with the terrorist demand (Dugan & Chenoweth, 2012; LaFree & Dugan, 2009; Miller, 2007).

If the government chooses to make concessions through conciliatory actions, the terrorist must decide whether to accept the offer or continue terrorism. Concessions can draw popular support from terrorist groups if the offered concessions are viewed as sufficient. For instance, Canadian concessions regarding Quebec autonomy successfully reduced terrorism levels (Lafee and Dugan, 2009). If the terrorist chooses to accept the offer, the government may demand cooperation from former terrorists. Those that continue to fight are most likely the extreme elements of their movement. Ironically, although the government has created a schism in the

terrorist movement, the frequency and severity of attacks may actually increase in the short term due to a more radical leadership and a desire to spoil negotiations. However, if the government successfully obtains information from defectors, future governmental action will be more effective causing long-term reductions in terrorism.⁷ Conciliation with leaders has the same potential for spoiling attacks without the benefits of offering benefits to the majority of members. The increase in frequency and severity should be even more pronounced.

Both sides fear the other's commitment to any settlement. The government fears continued violence and former terrorists withholding information. Former terrorist fear the government abandoning its pledges following disarmament (Bueno de Mesquita, 2005). While commitment issues are important they are simply beyond the scope of this research project.

H1A: Conciliation with groups will increase the frequency of terrorist attacks during a four-month period.

H1B: Conciliation with groups will increase the severity of terrorist attacks during a four-month period.

H1C: Conciliation with leaders will increase the frequency of terrorist attacks during a four-month period to a greater extent than conciliation with groups.

H1D: Conciliation with leaders will increase the severity of terrorist attacks during a four-month period to a greater extent than conciliation with groups

Acts of denial strengthen defenses such as installing metal detectors at airports or enacting curfews (Adams 2003; Freedman, 2004; Heymann 2001/2002; Knopf, 2010; Trager & Zagorcheva, 2005/2006). Even if improved defenses and safety measures decrease the frequency

⁷ It was impossible to statically assess the long term effects of governmental responses due to the scope of the investigation, 2000-2010. An annual unit of analysis would only allow 10 observations; therefore, a monthly unit of analysis was selected. Long term effects are however discussed in the final chapter.

of attacks, terrorists may simply shift their attacks to more vulnerable targets (Sprinzak 2000). Rather than reducing terrorism, Enders & Sandler show that terrorists often shift to different, less defended targets (1993). Following improved airport security after a series of airline hijackings of the 1970s, terrorists shifted to less costly attacks such as assassinations (Sprinzak 2000). With increased reconnaissance requirements arising from the need to find vulnerable targets, the frequency of attacks may decrease. However, due to more lengthy planning periods and the concentration of resources, attacks may become more effective, resulting in an increase in severity.

H2A: Denial will reduce the frequency of terrorist attacks during a four-month period.

H2B: Denial will increase the severity of terrorist attacks during a four-month period.

Legal restrictions are enacted to increase the government's abilities to counter terrorism. If the government has strong support among the general population, it may consider restriction through legal reform. If, popular support is lacking or if the government is an authoritarian regime, then it may bypass legislative reforms and simply declare emergency powers. Regardless, the result is enhanced governmental authority and power. Legal restriction is similar to denial, while the latter focuses on the physical barriers to mobility, legal restriction focuses on authority. Both intend to reduce the ease of launching attacks; however, they do little to reduce the capacity to launch attacks in the short term. The reduced frequency of attacks may have the unintended consequence of forcing terrorists to pool resources resulting in an increase in the severity of attacks.

H3A: Legal restriction will decrease the frequency of terrorist attacks during a four-month period.

H3B: Legal restriction will increase the severity of terrorist attacks during a four-month period.

Violence is when the government attempts to kill or capture terrorists through a wide range of activities such as targeted assassinations or raids (Davis & Jenkins, 2002; Kroenig & Pavel, 2012; Miller, 2007; Trager & Zagorcheva, 2005/2006; Sandler & Siqueiros, 2006). In isolation, violence may alienate members of the support population. Terrorist groups will seek to demonstrate their resolve to both the government and the support population following even successful violent operations. However, due to violent governmental action, their capabilities may be reduced (Posen 2001/2002). Follow on attacks may be conducted in a hasty fashion, lacking proper assets and coordination (Byman, 2006). Violence against leaders will reduce both the frequency and severity of attacks due to the organizations reduced planning and coordination capabilities.

H4A: Violence towards groups will increase the frequency of attacks during a four-month period.

H4B: Violence towards groups will decrease the severity of terrorist attacks during a four-month period.

H4C: Violence targeting leaders will decrease the frequency of terrorist attacks during a four-month period.

H4D: Violence targeting leaders will decrease the severity of terrorist attacks during a four-month period.

Alternative Explanations

This research makes no distinction between domestic and transnational terrorism or the pragmatism of particular terrorist goals (temporal/transformational goals). While perhaps important distinctions, they are simply beyond the scope of this research project. The difference

between temporal and transformational goals may be more important than the specific type of ideology. For instance, there may be important differences between a religious group that wants to install Sharia law in its own country and another religious group that wants to create an Islamic caliphate across the Middle East (Davis & Jenkins, 2002; Richardson, 2007).

Considerable effort was made to differentiate governmental responses as opposed to solely using broader categories such conciliation and repression (Dugan & Chenoweth 2012; Lyall 2009). However, using these specific responses may be no more insightful considering a response's scale is still not taken into account. For instance, a government could conduct military operations with 100 or 1000 personnel. Resource allocation could send powerful commitment signals to both terrorists and support populations.⁸

Even if the government is effective in creating costs and benefits, various types of terrorist organizations may react differently based upon their ideology or degree of support from diasporas and/or state sponsors. External support may reduce the government's ability to impose costs upon terrorist organizations or support populations. With considerable outside support, terrorist organizations may be less responsive to the concerns of the support population, reducing the effects of conciliatory actions regardless of how or to whom they are applied (Siqueira & Sandler, 2006).⁹

⁸ An attempt was made to assess the scale of large troop movements using the log of deployments of troops beyond company level. They were omitted due to higher collinearity with other manifestations of violence such as arrests and the killing of terrorist suspects.

⁹ Collier & Hoeffler (2004) use the number of foreign immigrants in the United States as a proxy for diasporas support; however, this was deemed unsatisfactory since there is no way to determine if the minority group actually supported terrorism. An attempt was also made to control for foreign government support using the BAAD-1 database and Terrorist

Key Assumptions and Limitations

It is assumed all three actors are rational. This is essential. The terrorist must be able to measure costs imposed by governmental action such as violence against its leadership. Governments must be able to weigh the costs and benefits of conciliatory actions particularly when domestic populations have the means to punish the government for unpopular actions as in elections. Governments must also consider how other terrorist groups will react to government concessions to a particular movement or terrorist organization. Support populations must be able to weigh the costs of defecting while considering whether the state is acting discriminately or indiscriminately.

In addition, since the theory is dependent upon cost imposition, it may not be appropriate for lone wolf terrorists. This may become increasing problematic as instances of lone wolf terrorism increase. Examples include the Oklahoma City bombing in 1995 and Theodore Kaczynski, but also increasingly with self-radicalized Islamic terrorists, such as when Abdulhakim Mujahid Muhammad attacked an army recruiting station in Little Rock, Arkansas (Carter & Carter, 2012).

The case selection may create data availability issues. The wire services may not adequately capture governmental actions in remote areas. It may also arise from language barriers. This possibility is reduced for the Philippines as English is one of its official languages, while Arabic is Algeria's official language.¹⁰

Organization Profile database; however, due to conflicting reports within these datasets and other resources, the degree of foreign support was omitted.

¹⁰ While not an official language, French is widely used by government officials.

Contributions to Literature

Rather than simply deciding between broad responses, this research design investigates a series of potential responses. In addition, few studies that address specific responses adequately control for economic and political factors not to mention terrorist ideologies. While not specified as control variables, terrorist ideology was accounted for by investigating not just the frequency or severity of terrorism at the national level but also by individual terrorist groups reflecting religious as well as revolutionary groups. Additionally by investigating the effects of governmental responses on both the frequency and severity of terrorism, we will hopefully gain a more nuanced understanding of the unintended consequences of counterterrorism policy. Lastly, by differentiating between actions that target groups or leaders, we can assess various means to impose the greatest benefits to those that forgo terrorism while imposing the greatest costs to irreconcilable terrorists.

CHAPTER THREE: METHDOLOGY

Introduction

Using time series regression, governmental responses to terrorist attacks between 2000-2010 in Algeria and the Philippines will be evaluated according to their ability to reduce both the frequency and severity of attacks while controlling for economic and political factors. The period, 2000-2010, was selected in order to have lagged variables with the available economic and political datasets.¹¹ Data was collected from September 1999 to December 2010 to allow for lagged variables.

Case Selection

Algeria and the Philippines were selected to allow for the greatest amount of generalizability despite having two cases. The Philippines is a democracy while Algeria is an anocracy according to *Polity IV*.¹² This difference may show certain regimes are more prone to different responses. It may also show that there are variations in how regimes react to different types of terrorist groups. Both allow for religious variation. The majority of Algerians are Muslim while in the Philippines, the majority are Roman Catholics. While not a focus of this project, it will be interesting to see if religious attributes have an impact upon governmental responses. Will Algeria, a majority Islamic country, react to religious groups the same way the

¹¹ The Heritage Index of Economic Freedom has data available from 1995-2013, while the World Bank and Polity IV datasets have extensive amounts of data for decades. The POLITY IV dataset as a control variable was omitted due to a lack in data variation.

¹² Polity IV has considered the Philippines a democracy following the popular overthrow of President Marcos in 1987 (Polity IV Country Report 2010: Philippines).

Philippines reacts considering their majority Roman Catholic populations? Ethnically, Algeria is nearly homogenous while the Philippines is highly heterogeneous with no ethnic group comprising more than 30 percent of either population (CIA Factbook).¹³

Between 2000 and 2010, both Algeria and the Philippines suffered over 500 terrorist attacks (Global Terrorism Database).¹⁴ According to the Global Terrorism Index, Algeria and the Philippines have been consistently in the top 10 states affected by terrorism. In addition, the cases were selected in order to allow variation in the types of terrorist organizations; each have a range of terrorist organizations including revolutionary and religious groups.¹⁵

Variables

Dependent Variables

The dependent variables, the frequency (total number of incidents in a month) and severity (total casualties including wounded and killed in a month) of attacks were obtained from the Global Terrorist Database (GTD) produced by the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland. In order to restrict the data to terrorism rather than criminal activity or insurgency several criteria were used. The attacks must have been in support of a political goal, there must have been an attempt to coerce a larger audience, and they must be outside the bounds of legitimate warfare, such as the intentional targeting civilians or

¹³ Ninety nine percent of Algerians are Arab-Berbers; however, only fifteen percent self-identity as Berbers (CIA Factbook).

¹⁴ These figures used the most restrictive criteria to ensure the data truly reflected terrorist activity as opposed to insurgency. Without these restrictions, Algeria and the Philippines have over 1200 attacks according to the GTD.

¹⁵ Unfortunately, the Moro National Liberation Front, a national separatist group, had to be omitted due to a lack of activity between 2000-- 2010.

non-combatants. All ambiguous cases were excluded. All unsuccessful attacks were included. The aforementioned criteria are options provided by the GTD.

The frequency and severity of attacks in Algeria and the Philippines were aggregated on a monthly basis by country as well as by individual terrorist groups from 2000 to 2010. These distinctions were important to see if governmental responses had similar effects across a variety of terrorist organizations. In Algeria, the investigation included Al-Qaeda in the Islamic Maghreb (AQIM) and the Armed Islamic Groups (GIA). Since AQIM and the Salafist Group for Call and Combat (GSPC) are essentially the same organization, the frequency and severity of both organizations were combined under AQIM. The background section will discuss this relationship in detail. In the Philippines, the investigation included Abu Sayyaf (ASG), Jemaah Islamiyah (JI), the Moro Islamic Liberation Front (MILF), and the New People's Army (NPA). Attacks by unknown perpetrators were also individually assessed for both countries. Terrorist groups with three or less attacks between 2000 and 2010, according to the GTD, were included in the overall assessments however excluded from individual investigation. For a summary of the frequency and severity, see Table 1: Frequency and Severity of Terrorism by Country and Perpetrator

Table 1: Frequency and Severity of Terrorism by Country and Perpetrator

Case	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq
Algeria	79	84	87	49	29	36	61	52	43	27	15
AQIM	9	10	8	20	12	15	29	33	18	11	4
GIA	8	15	24	10	2	2	0	0	0	0	0
UNK	60	58	54	19	17	19	32	19	25	16	10
Case	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev
Algeria	520	680	679	253	184	155	202	626	295	189	71
AQIM	31	45	27	123	29	69	108	583	226	157	33
GIA	80	118	283	73	8	11	0	0	0	0	0
UNK	401	516	364	57	147	75	94	43	69	32	36
Case	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq
Philippines	97	42	35	74	22	16	46	53	74	76	67
ASG	14	11	16	3	4	9	4	3	3	7	7
JI	5	0	0	0	0	0	1	6	0	0	0
MILF	55	11	4	50	3	0	2	3	21	8	1
NPA	7	8	11	12	9	6	11	10	27	23	19
UNK	14	11	3	9	6	1	26	29	23	36	40
Case	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev
Philippines	862	290	377	649	254	139	184	429	184	221	104
ASG	95	127	306	8	126	131	33	22	6	22	31
JI	122	0	0	0	0	0	0	113	0	0	0
MILF	477	60	9	585	84	0	5	3	98	53	0
NPA	65	21	30	39	32	8	9	19	59	20	38
UNK	91	82	28	17	12	0	137	271	21	126	35

Note: The unit of analysis was on a monthly basis however for the purposes to presentation the data was aggregated to the annual level.

Independent Variable

Governmental responses were categorized as one of the following responses: *conciliation, denial, legal restriction, or violence*. Unless otherwise specified, these variables were coded as a numeric value for the number of such actions performed in any given month. Each governmental response was assessed with 0-3 month lags to see if effects fluctuated

over time.

Conciliation is when the government attempts to reach a compromise or political settlement such as offering amnesty programs, signing ceasefire agreements, or the release of prisoners (Amos and Stolfi 1982; Dugan and Chenoweth 2012; LaFree & Dugan, 2009; Miller, 2007). Acts of conciliation were separated between those that targeted the group at large and those targeting leaders.¹⁶ For instance, the Philippines offered amnesty to members of the New People's Army (NPA) in 2007. Conversely it offered protections from prosecutions for NPA leaders that participated in negotiations with the government. An act of *conciliation* was coded as 1 if present, and 2 if it was accompanied by a significant prisoner release.

Denial was coded as an attempt to restrict physical movement either of supplies or manpower to conduct terrorist attacks. Denial consists of the use of roadblocks, curfews, or the installation of cameras in key locations (Adams 2003, Freedman, 2004; Heymann 2001/2002; Knopf, 2010, Miller, 2007, Trager & Zagorcheva, 2005/2006). While both Algeria and the Philippines are highly militarized countries where military or police checkpoints are a part of daily life, only the incidents of roadblocks as a broad regional or national policy were positively coded. *Denial* was coded as a 1 if any of the above actions took place in that given month.

Legal restriction consists of instances when the government enacted laws or changed national policy to increase the state's law enforcement abilities or restrict the media's coverage of terrorism. For instance, in 2007 the Philippines enacted the Human Security Act, which allows the detention of suspects for three days without a warrant (BBC, 2007). *Legal restriction* was

¹⁶ To be considered a leader, the individual had to be mentioned by name, be within the top three of the organization's hierarchy, or listed as a key leader in its Terrorist Organization Profile (Memorial Institute for the Prevention of Terrorism, 2006).

coded as a 1 if a law or policy took effect that strengthened its legal powers or if it declared emergency powers.

Violence are instances when the government killed or captured terrorists (Davis & Jenkins, 2002; Kroenig & Pavel, 2012; Miller, 2007; Sandler & Siqueira, 2006; Trager & Zagorcheva, 2005/2006). As with *conciliation*, acts of *violence* were separated between those that affected group members and leaders. It was coded as a simple numeric value for the numbers of individuals killed or arrested in that month.

Due to the lack of existing databases concerning governmental responses, the researcher constructed databases for both Algeria and the Philippines. The process was similar to the one used by Dugan and Chenoweth (2012). Using Textual Analysis by Augmented Replacement Instructions (TABARI), Dugan and Chenoweth analyzed 243,448 Reuters news articles obtained from *Factiva* after searching for “Israel” (2012).¹⁷ The resulting information was used to compile the Government Actions in a Terror Environment – Israel database (GATE-ISRAEL).

To collect articles, searches were conducted for “Algeria” and “Philippines” using *Factiva*. The searches were restricted to *Reuters*, *Agence France Presse*, and the *Associated Press*. Rather than using a filter program as used by Dugan and Chenoweth (2012), the researcher used built-in filter options in *Factiva* to capture only articles that pertained to governmental responses to terrorism. These filters reduced the number of articles from 56,325 and 155,497 to 4,239 (Algeria) and 17, 495 (the Philippines). For a summary of the *Factiva* filters, see Table 2: Selection Filters.

¹⁷ *Factiva* is an online service provided by Reuters and the Dow Jones that allows access to thousands of sources from dozens of countries in numerous languages.

Table 2: Selection Filters

Key Word	Date	Source	Subject	Region	Language
Algeria	Sept 1999-Dec 2010	AP, AFP, Reuters	National security, risk news, excluding disasters	Algeria	English
Philippines	Sept 1999-Dec 2010	AP, AFP, Reuters	National security, risk news, excluding disasters	Philippines	English

In order to code these articles, the process used NVivo, a text analysis program, rather than TABARI. While TABARI is free and highly manipulatable, it also requires programming experience. In contrast, NVivo is user friendly, and while it is a commercial product, many universities make it available at their libraries and computer labs.¹⁸ Using NVivo, the selected articles underwent a five stage filtering and coding process to screen for specific governmental responses. During stages 1-3, a search was conducted for a series of key words. Unlike many other programs, *Nvivo* allows the researcher to search for stemmed words, synonyms, or exact phrases.¹⁹ During stage 4, each observation was individually evaluated to ensure correct coding. Stage 5 corrected for duplicate observations and recorded the results in separate datasets for Algeria and the Philippines. Each dataset consists of categories of data pertaining to governmental action including offers of amnesty, arrest of terrorism suspects, the use of heavy weapons (artillery, air strikes), signed ceasefire agreements, denial, legal restriction, loss of terrorist leaders due to governmental action, referendums and/or elections, release of prisoners,

¹⁸ NVivo is available at the University of Central Florida at the Graduate Student Center, Coburn Hall, Suite 146.

¹⁹ The quality of results was not uniform. It required trial and error in order to select the proper level of discrimination (stemmed words, synonyms, or exact phrases)

and major troop movements. The collected data was in excess of the variables investigated in this particular research project; however, it may prove invaluable for potential future research.²⁰ For a summary of the filtering process, see Table 3: Filtering Process to Obtain Governmental Responses.

²⁰ The codebook for *Government Actions in a Terrorist Environment – Israel (GATE-Israel)* and the *Measures against Extremism and Terrorism (CoMET) Database* provide guidelines for key terms for coding.

Table 3: Filtering Process to Obtain Governmental Responses

Steps	Goal	Method	Key Words	Dis.	Notes
Step 1	Filter for gov. actors	Nvivo	"army OR authority OR congress OR country defense OR defence OR government OR intelligence OR law enforcement OR military OR nation OR national OR officials OR parliament OR police OR president OR prime minister OR security OR soldiers OR state."	Stemmed	
Step 2	Filter for gov. actions against terrorists		"militant OR militants OR extremist OR extremists OR fundamentalist OR fundamentalists OR separatist OR separatists OR reactionary OR reactionaries OR terrorist OR terrorists OR Marxists OR revolutionary OR revolutionaries OR communist OR communists OR Salafist OR Salafists OR Islamic OR Islamics OR Al-Qaeda OR rebel OR rebels"	Synonyms	
Step 3	Filter for Con.		"accord OR agreement OR amnesty OR autonomy OR cease-fire OR cease fire OR compensation OR conciliation OR concord OR exchange OR free OR freedom OR leader OR negotiate OR pardon OR peace OR reconcile OR reconciliation OR reform OR released OR referendum OR resolution OR transfer OR withdrawal OR surrender"	Stemmed	
	Filter for Denial		"curfew train OR railway OR airports OR barriers OR deny OR defense OR defence OR metal detect OR guards OR protect OR patrol OR reinforce OR roadblocks OR road blocks OR checkpoint OR roadblock OR tightened OR security measures"	Stemmed	
	Filter for Legal Restrict.		"ban OR congress OR convict OR law OR law enforcement OR legal OR police OR legislation OR parliament OR resolution OR restriction OR gendarme OR gendarmerie OR checkpoint OR roadblock"	Stemmed	
	Filter for Violence	"ambush, arrest, attack, capture, clear, demolish, destroy, detain, fight, kill, massacre, raid, secure, sentence, shot, targeted, torture, violence"	Stemmed	Additional searches for "arrest" and "kill" using synonyms.	
Step 4	Verify Actions	By Hand	N/A	Synonyms	
Step 5	Score	By Hand	N/A	Synonyms	Datasets for Algeria and Philippines

Controls

A variety of control variables were used to assess the effectiveness of governmental responses in the context of factors outside the control of most governments. All data for control variables was derived from the *World Bank, Countries, and Economies* (2011) unless specified. All economic and economic political controls are annual values and were lagged for 12 months.

Economic development was controlled for using the change of annual GDP Growth. As a broad economic indicator, it may affect the support population's assessment of future costs of supporting terrorism (Cederman & Girardin, 2007; Collier & Hoeffler, 2004; Fearon & Laitin, 2003; Fearon et al., 2007; Humphreys & Weinstein, 2006; Kavanagh, 2011; Krueger & Maleckova, 2003). In order to increase variation, the original data was converted from annual data to the change of GDP growth from year to year.

In order to control for economic freedom, the study used The Heritage Index of Economic Freedom, a composite score.²¹ Economic freedom at face value may not appear to contribute to political violence. But considering how the self-immolation of Mohamed Bouazizi following the confiscation of his goods sparked protest across the Middle East, in what became known as the Arab Spring, it becomes apparent how economic freedom can potentially affect levels of political violence (Al Jazeera, 2012).

To control for changes in demographics and population density, the population (in 100,000) and the percentage of urbanization were included. Growing populations can be more difficult for governments to control as well as increase the recruitment pool (Fearon et al., 2007;

²¹ The overall score is derived from four main categories: "Rule of Law (property rights, freedom from corruption), Limited Government (fiscal freedom, government spending), Regulatory Efficiency (business freedom, labor freedom, monetary freedom, and Open Markets (trade freedom, investment freedom, financial freedom) (*Heritage Index of Economic Freedom*)."

Fearon & Laitin, 2001; Sambanis, 2007). Urbanization can potentially give terrorists increased mobility, communication, and access to targets. While insurgencies may benefit from rural or mountainous terrain, terrorism on the other hand may be better facilitated by urbanization (Crenshaw, 1981; Fearon et al., 2007; Fearon & Laitin, 2003; Krueger & Maleckova, 2003; Sambanis, 2007).

To control for economic impacts, the percentage of unemployed males among the male population was included.²² This is an important distinction since males are assumed more likely to participate in political violence and thus a normal unemployment rate may underestimate its importance (Collier & Hoeffler 2004; Fearon & Laitin 2003; Kavanagh, 2011; Krueger & Maleckova, 2003). The negative effects of unemployment should also be more pronounced among highly educated individuals as increased education raises expectations. The percentage of unemployed males with higher education was considered but later omitted due to data availability issues with Algeria.

While the effects of political freedom are often discussed in terrorism and insurgency literature, both Algeria and the Philippines experienced little change in political development between 2000-2010. While individual scores may have changed over the course of several years, the overall assessments for both countries remained the same, Algeria remained an anocracy while the Philippines remained democratic. Political freedom was therefore excluded.

Lastly, since both governments faced religiously inspired terrorist groups (AQIM, GIA, ASG, JI, MILF), it was important to control for events of Islamic significance such as Ramadan.

²² Due to a gap in unemployment data from Algeria, unemployment rates were averaged using the preceding and following years. The average unemployment rate among males was calculated for the years 1998, 1999, 2001, and 2002. Records from the Algeria's Office National des Statistiques were consulted however the gaps persisted.

This was not initially a consideration; however, during the coding process numerous articles mentioned the government's need to increase security because of the approaching holiday.

Methods

The assessment of governmental responses to terrorism was conducted using a Feasible GLS, Prais-Winsten time series regression. All the variables were tested for stationarity using the augmented Dickey Fuller test. In order to standardize the data, all variables were treated with first differencing. Another round of augmented Dickey Fuller tests were conducted to ensure the data was successfully rendered stationary. In instances when the results were inconclusive, a modified Dickey Fuller (DFGLS) test was applied. After the data was sufficiently deemed stationary, time series regressions were conducted. After the regressions, alternative Durbin and Breush-Godfrey methods tested for serial correlation. The Prais-Winsten method was used to correct for serial correlation. The Prais-Winsten method was selected as opposed to the Cochrane-Orcutt regression due to how the latter drops the initial observation. The above methods were applied to both Algeria and the Philippines, aggregated at the national level as well as for individual terrorist organizations.

The theory is tested using three models. All models include governmental responses (*conciliation with groups, conciliation with leaders, denial, legal restriction, violence against groups, and violence against leaders*) and the controls (*economic freedom, annual change of GDP, population, Ramadan, and percent of urbanization*). All models include governmental responses between 2000-2010. All controls except for *Ramadan* were lagged by 12 months. Models 1 and 2 are restricted to overall levels of frequency and severity at national levels. Model 1 lags governmental responses by 1 month. Model 2 lags governmental responses by 3 months.

This is done to isolate any temporal effects. Model 3 is far more comprehensive. In addition to overall levels of frequency and severity, Model 3 also investigates whether governmental responses have different consequences when applied to different groups. In Algeria, the investigation includes Al-Qaeda in the Islamic Maghreb (AQIM), the Armed Islamic Groups (GIA), and unknown attackers (UNK). In the Philippines, the investigation includes Abu Sayyaf (ASG), Jemaah Islamiyah (JI), the Moro Islamic Liberation Front (MILF), the New People's Army (NPA), and unknown attackers. Model 3 also includes the initial month governmental responses took place as well as three lags, 1 month, 2 month, and 3 month lags.

All responses taken by a government between 2000-2010, were used for overall levels of frequency and severity. When investigating an individual group, only responses that were directed towards that specific group were used, unless specifically identified. For a summary of the models, see Table 4: Model Summary. All regressions are presented in their entirety in the appendixes. Any deviations from the models are acknowledged and used mainly as discussion points and not part of the formal regressions.

Table 4: Model Summary

Models	DV	IV	Controls	Groups	Equations
Model 1	Frequency and Severity	All responses (1 month lag)	All controls (12 month lag)	Overall National Levels	Level of Terrorism $\tau =$ Responses $\tau-1 +$ Controls $\tau-12$
Model 2	Frequency and Severity	All responses (3 month lag)	All controls (12 month lag)	Overall National Levels	Level of Terrorism $\tau =$ Responses $\tau-3 +$ Controls $\tau-12$
Model 3	Frequency and Severity	All responses (Initial, 1, 2, 3 month lags)	All controls (12 month lag)	Overall levels as well as selected groups	Level of Terrorism $\tau =$ Responses $\tau +$ Responses $\tau-1 +$ Responses $\tau-2 +$ Responses $\tau-3$ + Controls $\tau-12$

CHAPTER FOUR: ALGERIA

Introduction

Using data from 2000-2010, the Algerian government's responses to terrorism were assessed using time series regression. The first section of the chapter provides a brief background to the Algerian conflict. The results of the analysis are then presented. Models 1 and 2 will be discussed at the same time while focusing on areas of statistical significance. Since Model 3 is far more comprehensive, it will be discussed in detail while addressing each hypothesis individually.

All the models include the same dependent variables, frequency and severity as well as the same governmental responses, and controls. Models 1 and 2 only investigate overall levels of frequency and severity. Model 1 includes a 1 month lag. Model 2 includes a 3 month lag. In contrast, Model 3 also investigates effects upon individual groups. Model 3 includes multiple lags to include 1, 2, and 3 month lags as well as the initial month.

Given the ten-year scope of the investigation, there was not enough observations to assess responses on an annual basis. However, potential long term effects, particularly those of conciliation and violence, are discussed in the final chapter. Discussion points, final comments, gaps in the theory, and potential for future research will be discussed in the final chapter.

Background

For decades, violence has marred Algerian history. Algeria was colonized by France in 1830 and remained a firm part of the French empire until the conclusion of the Second World War and subsequent break up of overseas European empires. From 1954 – 1962, Algeria fought a war of independence using both insurgency and terrorism, costing the lives of over a million Algerians. (BBC, 2013; Shugart, 2006). Following a military coup in 1965, Algeria emerged constitutionally committed to socialism with the National Liberation Front (FLN) as the sole inheritor of power and authority (Home Office, 2013).

Over the next ten years, Algeria experienced relative stability, if at the expense of political development. Unfortunately in 1989, an experiment in democracy ended in disaster. After allowing increased political participation, dozens of parties contested the parliamentary elections in June 1991. The newly formed Islamic Salvation Front (FIS) won 188 seats in the first round and more success expected in the second round. Faced with potentially losing his majority, President Chadli dissolved the National People's Assembly (Oberschall 2004; Home Office, 2013; International Crisis Group, 2001). Following his subsequent resignation, a five-member council headed by Mohammed Boudiaf effectively ruled Algeria. The FIS was banned and a state of emergency declared. Despite its intended length of one year, it persisted for over 19 years (Lowe, 2011). Later in 1996, all religious parties were banned (Home Office, 2013). The assassination of President Boudiaf forecasted a decade of insurgency and over twenty years of terrorism (International Crisis Group, 2001).

During the first years of the conflict, the Algerian government and the FIS attempted to negotiate a compromise; however, the conflict quickly entered a downward spiral with increased

levels of indiscriminate violence perpetrated by both sides. Frustrated by a lack of progress, many FIS supporters defected to the more radical splinter organization, the Armed Islamic Group (GIA). From its inception, the GIA used indiscriminate violence against civilians, particularly foreigners (Memorial Institute for the Prevention of Terrorism, 2008). Killing civilians at fake checkpoints quickly became one of its favorite tactics (Reuters, 2005; AP 2009). Facing a drain of support, the FIS created its own armed wing, the Islamic Salvation Army (AIS) with the intention of creating an Islamic state under Sharia law (Memorial Institute for the Prevention of Terrorism, 2008).

Since 1992, over 150,000 Algerians have been killed with both sides accusing the other of brutal indiscriminate violence (BBC, 2013; Home Office, 2013; Reuters, 2005). The Algerian government has accused the GIA of killing entire villages, while the GIA has made counter accusations that the massacres were attempts to discredit their legitimate political grievances (Cronin 2006; Renard, 2008). As the war escalated Algerian security forces were increasingly accused of vigilante violence, sometimes even at random, due to increased desperation and frustration (International Crisis Group, 2001).

Between 1995-1998, the government began major offensives nearly destroying the AIS as an effective fighting force, which placed renewed pressure upon the FIS to negotiate. In 1997, the FIS declared a unilateral ceasefire (Memorial Institute for the Prevention of Terrorism, 2008). In 1999, Abdelaziz Boutflika won his first Presidential elections (BBC, 2009). Following a series of tactical victories, Boutflika proposed an amnesty for referendum approval. In September 1999, a vast majority of Algerians approved the Civil Concord, an amnesty program for those not guilty of crimes against civilians. To the dismay of victims and their families,

President Boutflika extended the amnesty by presidential decree to include accused terrorists, as long as individuals turned themselves in before January 13, 2001 (BBC, 2013; International Crisis Group, 2001).

After the government promised to remove restrictions on political participation and release political prisoners, the AIS disbanded in January 2000. An estimated 80 percent of the insurgents accepted amnesty (BBC, 2013; Home Office, 2013). Between September and December 1999, thousands of political prisoners were released. Despite promises to extend political rights to all Algerians, the FIS remained banned as did its successor, the Wafa party (International Crisis Group, 2001).

While the amnesty neutralized thousands of insurgents and caused the dissolution of AIS, it had the unintended consequence of consolidating violent opposition in increasingly radical hands. The main beneficiaries of remaining fighters were the GIA and the Salafist Group for Call and Combat (GSPC), which separated from the GIA in 1998. The remaining groups share the same organizational and ideological lineage reflecting a continued process of splintering with increased radicalization at every separation (Memorial Institute for the Prevention of Terrorism, 2008).

Facing a smaller yet just as lethal terrorist threat, Algerian security forces reportedly used questionable methods. Things deteriorated to the extent that even news wire services commented on the infrequent arrests relative to the frequent deaths of terrorist suspects. According to a report disclosed by a government appointed committee in March 2005, security forces were responsible for the unlawful disappearances of over 6,000 individuals. Despite accusations of excessive violence, Algerian security forces continued to make tactical gains, such as the arrest of GIA

leader Nourredine Boudiafi in January 2005. In times of increased threat levels, significant resources were used to establish a ring of roadblocks around Algiers, which successfully prevented a terrorist attack within the city for nearly two years although violence continued elsewhere (AFP, 2010).

Experiencing similar tactical gains as in 1999, Boutflika once again offered an amnesty for approval by referendum in September 2005. An estimated 97 percent of Algerians approved a six-month amnesty that began in March 2006. Under the Charter for Peace and National Reconciliation, both rebels and security forces were pardoned. Thousands of political prisoners were released, including the founder of the GIA, Abdel-Haq el-Ayadia (Home Office, 2013).

Diminished by military operations and the multiple amnesties, GIA members reportedly began defecting to its successor, the GSPC (Memorial Institute for the Prevention of Terrorism, 2006). It appears as though tactical and political success left a smaller yet equally lethal terrorist threat. After becoming the eminent terrorist threat in Algeria, the GSPC began modifying its targeting, tactics, and propaganda. The group increasingly targeted softer foreign commercial targets using explosives rather than firearms reflecting a shift from insurgency to terrorism. In 2003, it announced its alliance with Al-Qaeda. Four years later, it officially changed its name to the Al-Qaeda Organization in the Islamic Maghreb (Memorial Institute for the Prevention of Terrorism, 2006; Loidolt, 2011; Render, 2008). To visualize how the frequency of GIA and AQIM changed, see Figure 1: Comparing GIA and AQIM Frequencies of Terrorism.

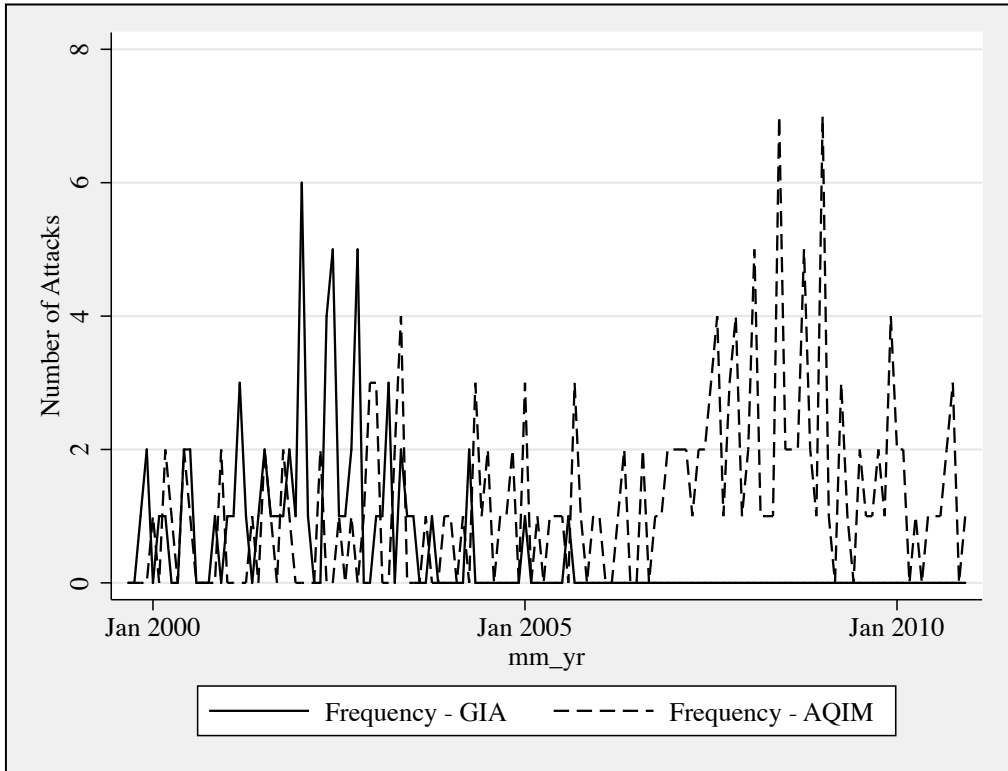


Figure 1: Comparing GIA and AQIM Frequencies of Terrorism

As seen with the recent deaths of 37 hostages in 2013 at an oil facility, a joint Algerian-European business venture, radical extremism remains a threat both to Algeria and foreign business interests in the country (CNN, 2013). However, the frequency and severity of attacks has been reduced significantly. The following section will use time series regression to attempt to assess the government’s responses.

Descriptive Statistics

Table 4 provides descriptive statistics on a monthly basis from January 2000 to December 2010. The dependent variables, the frequency and severity of terrorism are also

included. Data from September 1999 to December 1999 was excluded since it was collected to create lags.

Table 5: Descriptive Statistics for Governmental Responses, Algeria

	Variable	Mean	SD	Min	Max
Overall	freq_all	4.197	3.412	0.000	20.000
	sev_all	29.470	38.529	0.000	191.000
	concil_group_all	0.076	0.293	0.000	2.000
	concil_leader_all	0.008	0.087	0.000	1.000
	denial	0.136	0.344	0.000	1.000
	legal_rest	0.015	0.123	0.000	1.000
	vio_group_all	18.167	25.319	0.000	149.000
AQLM	vio_lead_all	0.061	0.240	0.000	1.000
	freq_aqlim	1.242	1.354	0.000	7.000
	sev_aqlim	10.652	30.012	0.000	191.000
	vio_group_aqlim	4.568	9.887	0.000	48.000
GIA	vio_lead_aqlim	0.023	0.150	0.000	1.000
	freq_gia	0.462	1.037	0.000	6.000
	sev_gia	4.341	11.918	0.000	66.000
	vio_group_gia	2.689	11.209	0.000	110.000
UNK	vio_lead_gia	0.038	0.192	0.000	1.000
	freq_unk	2.477	2.522	0.000	16.000
	sev_unk	14.083	21.368	0.000	122.000
	vio_group_unk	10.197	21.593	0.000	149.000

Note: The above figures only include data from 2000-2010. Data was collected to allow for lags between September 1999 and December 1999. Additionally, denial and legal restriction are not broken down by group since Algeria applied these responses equally to all groups. (n = 132).

Overall, there were an average of 4 attacks a month, resulting in an average 29 casualties. AQIM averaged of 1 attack and over 10 casualties a month.²³ When GSPC changed its name to AQIM, it affected both its frequency and severity of attacks, reflecting changes beyond rhetoric but a significant increase in lethality (See Figure 2: Overall Frequency and Severity of Terrorism,

²³ AQIM was treated as the same organization for averages and regressions. When specifically discussing averages prior to its name change in 2007, it will be referred to as GSPC.

Algeria). Prior to February 2007, the GSPC averaged less than 1 attack a month, doubling to almost 2 attacks after becoming AQIM. The subsequent increase in severity was even more dramatic, increasing from an average of 3 monthly casualties to over 22 (See Table 6: Effects of GSPC transition to AQIM, Algeria). AQIM's deadliest month also occurred during the same period.

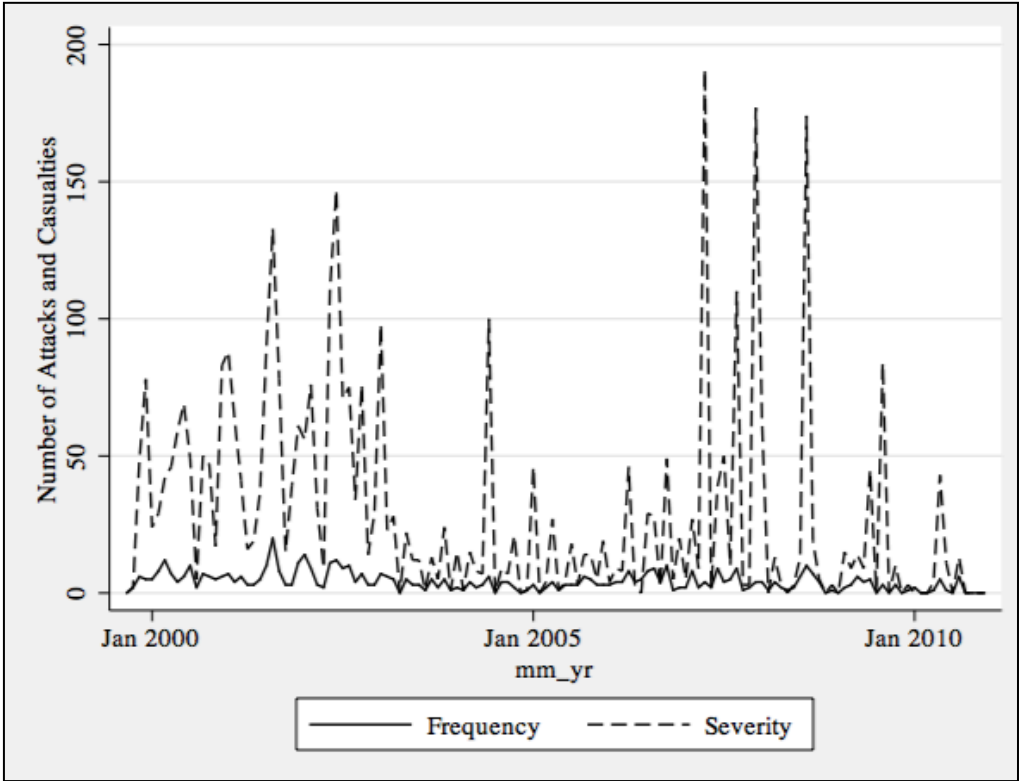


Figure 2: Overall Frequency and Severity of Terrorism, Algeria

Table 6: Effects of GSPC Transition to AQIM, Algeria

Organization	Mean	SD	Min	Max	Obs.
GSPC - Frequency	0.8453	0.9740	0	4	85
AQIM - Frequency	1.9787	1.6217	0	7	47
GSPC - Severity	3.9412	9.8686	0	77	85
AQIM - Severity	22.7872	46.4070	0	191	47

GIA averages are underestimated as it was most active between 2000-2003, with only four attacks between 2004-2010. At the height of its activity, the GIA averaged 1 attack and 11 casualties a month. Unknown perpetrators were the most active and lethal, averaging 2 attacks and 14 casualties a month over the 132-month period. This was only surpassed by AQIM following its international transition. Between 2000 and 2003, the unknown attacks were most likely split evenly between the GIA and GSPC. This is based on the known attacks in that same period. Most of the casualties, however, were most likely caused by the GIA as it was the most lethal group during that time.

Table 7: Active GIA Period, January 2000 to December 2003, Algeria

Organization	Mean	SD	Min	Max	Obs.
GIA - Frequency	1.1875	1.4241	0	6	48
GIA – Severity	11.5417	17.6031	0	66	48

On average, Algerian security forces killed or arrested 18 terrorists a month during the 132-month period. Breaking down the use of violence against groups, security forces killed or arrested 4 members of AQIM and 2 members of the GIA a month. Unfortunately, the articles often contained too little information to assign a group’s membership to an average of 10 arrests

or killing of terrorists a month. To see if security forces targeted specific groups more frequently at various periods, it is possible to analyze the averages for specific periods such the GIA most active period as well as the GSPC's transition to AQIM. It appears that Algerian security forces targeted specific groups by their levels of lethality. During the height of the GIA's activity, between 2000 and 2003, Algerian security forces killed or arrested an average of 7 members, dropping to less than 1 from 2004 to 2010. During the same period, security forces only killed or arrested an average of 2 members of GSPC; however, the use of violence dramatically increased to an average of 7 following the GSPC transition to AQIM. This may also reflect diminished support from the population, particularly if AQIM was seen as not representing the best interest of Algerians due to its increased internationalization.

Table 8: Governmental Use of Violence, Algeria

Organization	Period	Mean	SD	Min	Max	Obs.
GIA - Active	Jan 2000 - Dec 2003	7.2917	17.7716	0	110	48
GIA - Inactive	Dec 2003 - Dec 2010	0.0595	0.4486	0	4	84
GSPC	Jan 2000 – Dec 2003	2.3333	6.59249	0	33	48
GSPC	Jan 2000 - Feb 2007	2.9419	6.5769	0	33	86
AQIM	Feb 2007 - Dec 2010	7.6170	13.5752	0	48	47

Results

The results are mixed requiring an understanding of the particular circumstances in Algeria during the period of investigation. The results for the overall levels of frequency and severity at the national level as well as for specific terrorist groups were achieved using separate regressions. Models 1 and 2 will be discussed together while focusing on areas of statistical

significance. Frequency will be discussed first followed by severity. The regressions can also be found in Appendix A (Model 1 and 2). Results for Model 3 tended to have greater statistical significance; as a result, Model 3 will be discussed by itself while addressing individual hypotheses.. Model 3 will be discussed by itself while addressing individual hypotheses. In order to facilitate the review of multiple lags, specific results were taken from separate regressions to form the tables. The original regressions for Algeria can be found in Appendix C. All regressions used robust standard errors.

Models 1 and 2 Frequency

The results do not show statistical support for H1A, H2A, H3A, H4A (See Table 9: Models 1 and 2: Effect of Gov. Responses on the Freq of Terrorism, Overall, Algeria). However, there was support for H1C and H4C with Model 1 and its 1 month lag. In support of H1C, *conciliation with leaders* was significant at the 1% level with a coefficient of 6.383. Algeria averaged 4.197 attacks a month. As a result, *conciliation with leaders* would increase the frequency of attacks by nearly 2 attacks a month. In support of H4C, *violence against leaders* had a coefficient of -1.907 with a 10% significance level. Once again, considering that Algeria averaged 4.197 attacks a month, this would represent nearly a 50% reduction.

Model 2 with a 3 month lag had results in opposition to H4A; however, the real life implications were minor. *Violence against groups* led to a decrease of -.026 attacks with a significance level of 5%. While in opposition to the theory, the real life effects would be marginal with such a small coefficient.

Table 9: Models 1 and 2 - Frequency of Terrorism, Overall, Algeria

Governmental Response	Model 1 (1 Month Lag)	Model 2 (3 Month Lag)
concil_group_all	-2.143003 (1.37)	.1064063 (0.06)
concil_leader_all	6.383012 (2.93)***	-3.053182 (1.13)
denial	-.229869 (0.23)	-.3272628 (0.37)
legal_rest	-.5677002 (0.15)	-.4309447 (0.11)
vio_group_all	-.001429 (0.15)	-.0263106 (2.24)**
vio_lead_all	-1.907836 (1.68)*	.368584 (0.38)
Controls		
eco_free_lag	.5018303 (0.89)	.5733162 (1.07)
gdp_change	.458209 (2.02)**	.4284363 (1.50)
pop_lag	-2.526081 (1.93)*	-1.778771 (1.09)
ramadan	.0714955 (0.09)	-.0897343 (0.14)
urban_percent_lag	12.10349 (2.07)**	8.962095 (1.23)
Constant	-.176176 (0.69)	-.1572061 (0.64)
R-Squared	0.1046	0.0920

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Regarding the controls, only Model 1 showed any statistical significance. Unexpectedly, *gdp_change* had a positive relationship with the frequency of terrorism. While

counter intuitive, the results were marginal with a coefficient of .458 with a 5% significance level. Equally surprising, increases in population led to -2.526 with a 10% significance level. In contrast, Increases in urbanization had expected results, leading to an increase in frequency with a coefficient of 12.103 significant at the 5% level. This is nearly 3 times the average frequency of attacks.

To summarize, in support of the theory, *conciliation with leaders* had the unintended consequence of increasing the frequency of attacks with a 1 month lag. Additionally, in support of the theory, *violence against leaders* decreased the frequency of attacks with a 1 month lag. In opposition to the theory, *violence against groups* decreased the frequency of attacks with a 3 month lag. Model 1 and Model 2 suggest conciliation can have potentially negative repercussions from a policy standpoint while violence can potentially reduce the frequency of terrorism.

Models 1 and 2 Severity

The results do not show statistical support for H1B, H2B, and H3B (See Table 10: Models 1 and 2: Effect of Gov. Responses on the Sev of Terrorism, Overall, Algeria). However, there was support for H1D, H4B, and H4D with Model 1 and its 1 month lag. In support of H1D, *conciliation with leaders* was significant at the 5% level with a coefficient of 52.840. Since, Algeria averaged 29.470 casualties a month, this would represent nearly a 55% increase in casualties. In support of H4D, *violence against leaders* had a coefficient of -20.167 with a 10% significance level. Considering the average for monthly casualties, Algeria would experience a decrease of approximately 46% in casualties following violence targeting terrorist leaders.

Model 2 with a 3 month lag had results in support of H4D; however, the real life implications were minor. *Violence against groups* led to a decrease of -.352 in the number of casualties with a significance level of 1%. While in support of the theory, in terms of lives the reduction would be minor.

Regarding the controls, only Model 1 showed any statistical significance. Unexpectedly, *gdp_change* had a positive relationship with the frequency of terrorism with a coefficient of 6.539 with a 5% significance level. Increases in population decreased casualties by -59.324 with a 10% significance level. This is surprising since it was assumed increases in population would strain the government's ability to maintain control and increase the size of the potential recruitment pool. Less surprisingly, increases in urbanization resulted in an increase in the severity of attacks by 214.205 casualties. While expected since urbanization would assist terrorist mobility, an increase of this degree is unexpected and is most likely an outlier at least in magnitude.

To summarize, in support of the theory, *conciliation with leaders* had the unintended consequence of increasing the severity of attacks with a 1 month lag. In support of the theory, *violence against leaders* decreased the severity of attacks with a 1 month lag. Additionally in support of the theory, *violence against groups* decreased the severity of attacks with a 3 month lag. Model 1 and Model 2 suggest conciliation can have potentially negative repercussions from a policy standpoint while violence can potentially reduce the severity of terrorism.

Table 10: Models 1 and 2 - Severity of Terrorism, Overall, Algeria

Governmental Response	Model 1 (1 Month Lag)	Model 2 (3 Month Lag)
concil_group_all	-6.649922 (0.47)	-13.65647 (1.34)
concil_leader_all	52.84094 (2.06)**	-23.38882 (1.37)
denial	-17.77581 (1.13)	8.721822 (0.98)
legal_rest	2.59253 (0.08)	8.368982 (0.31)
vio_group_all	-.1333686 (1.23)	-.3520933 (3.06)***
vio_lead_all	-20.16711 (1.80)*	2.779959 (0.28)
Controls		
eco_free_lag	7.637688 (1.55)	7.754459 (1.34)
gdp_change	6.538692 (2.10)**	3.92837 (1.44)
pop_lag	-49.32385 (1.97)**	-30.41477 (1.59)
ramadan	2.688085 (0.31)	-1.697627 (0.18)
urban_percent_lag	214.2053 (1.92)*	132.7187 (1.57)
Constant	-.6659711 (0.23)	-.8076499 (0.27)
R-Squared	0.0959	0.0908

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Results by Hypotheses

Model 3

H1A: Conciliation with groups will increase the frequency of terrorist attacks during a four-month period.

The results do not support H1A, acts of *conciliation* did not increase the frequency of terrorism. Table 11 presents the effects of *conciliation* for Algeria overall as well as the effects upon GIA, AQIM, and unknown perpetrators. For presentation purposes, the coefficients and their significance levels were gathered from separate regressions and placed on individual charts. The original regressions can be found in Appendix A: Regressions for Algeria.

Table 11: Effects of Conciliation on the Frequency of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	0.758 (0.450)	-4.633 (3.980)***	2.835 (1.510)	1.730 (1.290)
AQIM	0.924 (1.500)	-0.819 (1.820)*	-0.026 (0.070)	-0.421 (0.700)
GIA	0.783 (1.660)*	-0.218 (0.410)	0.082 (0.210)	0.043 (0.100)
UNK	0.616 (0.420)	-2.724 (3.60)***	1.932 (1.680)*	1.495 (1.840)*

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

The effect of *Conciliation* on the overall frequency of attacks was significant at the 1% level with a coefficient of -4.633 with a 1-month lag. Its negative relationship dissipates with a 2-month lag. Following an act of conciliation, the following month saw a reduction in the frequency of attacks well below the monthly average of 4.1970; however, the benefits disappear

after a 2 and 3 month lag with coefficients of 2.835 and 1.730. The positive relationships are however statistically insignificant. Considering these results, while conciliation may reduce the frequency of terrorism over the course of 4 months; the real life implications may be marginal.

Unexpectedly AQIM had a reduction of -0.819 with a 1-month lag at a 10% significance level.²⁴ This could be explained by the GSPC's less radical ideology in the earlier years of the investigation, at least relative to its later post-shift to AQIM.²⁵ The GIA did see a slight increase in the initial month, however this was only significant at the 10% level. As with the overall frequency, the effect of *conciliation* on unknown perpetrators was significant at the 1% level with a coefficient of -2.724. However, the frequency of unknown perpetrators later increase with 2 and 3 month lags. It appears as though, *conciliation* could reduce the overall frequency as well as the frequency from unknown perpetrators in initial month. However, due to the increases with 2 and 3 month lags, the real life effects may be marginal. Considering these mixed results, H1A remains unsupported.

H1B: Conciliation with groups will increase the severity of terrorist attacks during a four-month period.

As with H1A, the results show mixed results. Table 12 presents the effects of *conciliation* for Algeria overall as well as the effects upon GIA, AQIM, and unknown perpetrators. *Conciliation* decreased the severity of unknown perpetrators with a coefficient of -16.921 at the 1% significance level with a 1-month lag. This reduction would reduce severity from unknown

²⁴ The regressions for all Algerian terrorism, AQIM, GIA, and UNK contained the same variable, *concil_group_all* because the manner in which the Algerian government offered conciliation, treating all terrorists equally regardless of affiliation.

²⁵ The GSPC, as AQIM was originally known as, was created in reaction to the GIA's attacks on civilians. As it became more affiliated with al-Qaeda, it too became more radicalized.

perpetrators well below its average of 14.083. As with the frequency of attacks, reductions with a 1-month lag were balanced by increases with a 2-month lag. Effects dissipated with a 3-month lag. *Conciliation* increased the overall severity as well as the severity from unknown perpetrators with coefficients of 28.773 and 11.153 with a 2-month lag. These effects were significant at the 5% level. Once again, it appears as though *conciliation* has beneficial effects that quickly dissipate with the net affect canceling each other out over the course of a four-month period. Due to the degree of increase at the overall level over the course of 4 months, the number of casualties may be slightly higher. H1B finds weak support.

Table 12: Effects of Conciliation on the Severity of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	-8.356 (0.680)	-24.779 (1.610)	28.773 (2.15)**	-4.974 (0.340)
AQIM	3.502 (0.460)	-4.953 (0.690)	9.029 (1.120)	-3.252 (0.490)
GIA	6.413 (0.590)	-3.626 (0.360)	9.035 (1.280)	-2.709 (0.490)
UNK	-2.578 (0.380)	-16.921 (3.080)***	11.153 (2.100)**	1.942 (0.220)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H1C: Conciliation with leaders will increase the frequency of terrorist attacks during a four-month period.

The results show mild support for H1C. Table 13 presents the effects of *conciliation with leaders* on the overall frequency of attacks in Algeria, as well as the impacts upon the frequency of attacks conducted by the GIA, AQIM, and unknown perpetrators. The overall frequency of

attacks increased in the initial month with a significance level of 10%. The frequency of overall attacks with a 1-month lag increased considerably with a coefficient of 10.367 with a 1% significance level. It appears the frequency of attacks doubled from its average of 4.197 attacks following *Conciliation with leaders*. The frequency from unknown perpetrators also doubled beyond its average of 2.477 with a coefficient of 5.939 with a 1% significance level. The positive effect begins to reverse with a 2-month lag; however, the net effect for the overall frequency appears to be positive. This delay could be explained by the time required for leaders to gain control over supporters or stop attacks that were already planned. H1C finds support.

Table 13: Effects of Conciliation with leaders on the Frequency of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	5.630 (1.840)*	10.367 (3.220)**	-5.057 (1.650)*	-3.453 (1.730)*
AQIM	-1.634 (1.22)	1.955 (1.49)	1.249 (0.92)	-.331 (0.27)
GIA	-.697 (0.91)	.471 (0.55)	-.317 (0.51)	-.094 (0.15)
UNK	1.910 (0.81)	5.939 (2.76)***	-3.049 (1.49)	-3.886 (2.29)**

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H1D: Conciliation with leaders will increase the severity of terrorist attacks during a four-month period.

The results give some support to H1D in both statical and real life terms. Table 14 presents the effects of *conciliation with leaders* for the overall severity of attacks in Algeria, as well as the impacts upon the severity of attacks conducted by the GIA, AQIM, and unknown

perpetrators. Conciliation with leaders has a positive relationship with increased numbers of casualties at the 5% and 1% significance for the overall numbers of casualties during the initial month and 1-month lag with considerable coefficients of 66.749 and 95.491. It was also significant the 1% level for unknown terrorists with a 1-month lag as well as for AQIM at the 5% level with a 2-month lag. Although not significant, the trends diminish with a 3-month lag. In terms of actual lives lost, in the initial month, the number of casualties nearly doubled. With a 3-month lag, it nearly triples with 56 more casualties. The increases in overall levels began to diminish after two months. This is a similar pattern as seen with the frequency of attacks following conciliation with leaders. Sharp increases followed by gradual reductions of decreasing magnitude.

Table 14: Effects of Conciliation with leaders on the Severity of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	66.749 (2.350)**	95.491 (3.130)***	-43.995 (1.740)*	-10.593 (0.440)
AQIM	30.944 (1.410)	-0.007 (0.000)	38.307 (2.140)**	-22.419 (1.750)*
GIA	-1.996 (0.140)	2.166 (0.150)	-13.632 (1.400)	0.915 (0.110)
UNK	24.474 (1.470)	50.439 (3.390)***	-14.423 (1.180)	-7.406 (0.630)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H2A: Denial will reduce the frequency of terrorist attacks during a four-month period.

The results do not support H2A. *Denial* did not reduce the frequency of terrorism but rather had the opposite effect. Table 15 presents the effects of *denial* for Algeria overall, as well

as the individual impacts upon the frequency of GIA, AQIM, and unknown perpetrators. In the initial month, *denial* actually increased the overall frequency of terrorism with significance at the 5% level and a coefficient of 2.004. The frequency of AQIM attacks with a 1-month lag had a similar effect with the higher significance level of 1% and a coefficient of 1.056. With an average overall frequency of 4.197 attacks a month, *denial* could raise the frequency to six attacks in the initial month, almost a 30 percent increase. The frequency of AQIM attacks with a 1-month lag also increased its frequency.

Table 15: Effects of Denial on the Frequency of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	2.004 (2.070)*	0.431 (0.410)	-0.644 (0.650)	-1.600 (1.400)
AQIM	-0.182 (0.440)	1.056 (2.790)**	0.217 (0.520)	-0.421 (0.890)
GIA	0.323 (1.060)	0.243 (0.790)	-0.528 (1.760)	-0.070 (0.270)
UNK	1.208 (1.760)	0.550 (0.660)	0.133 (0.190)	-0.934 (1.020)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

This may be explained by the nature in which *denial* was employed by the governments or by how it was coded. *Denial* was defined as a physical attempt to reduce terrorist mobility; it presented itself in the articles as roadblocks, installation of cameras, or curfews. These actions may be reactive rather than proactive responses to already existing terrorist attacks. For instance, if Algeria experienced heightened levels of terrorist attacks, the government may have responded with temporary roadblocks to protect sensitive sites. Even if *denial* successfully prevented future

attacks, the frequency would have appeared to increase in that month. It could also be that when the Algerian government received reports of possible attacks, it responded with *denial* forcing terrorists merely to switch targets while the frequency continued to rise. During heightened security levels, the Algerian government often created rings of roadblocks around the capital thereby decreasing terrorism around the capital but doing little in the periphery.

It may also reflect the Algerian terrorist's *modus operandi*, the use of fake roadblocks to ambush civilians and security forces. In search of funds, terrorists often used captured uniforms to deceive and lure their victims, rob them, and then cut their throats (AFP, 2004; Sirri, 2004). Unfortunately, the regular use of roadblocks without adequate identification procedures may actually increased the opportunity to exercise a favored tactic.

H2B: Denial will reduce the severity of terrorist attacks during a four-month period.

Denial had limited and contradictory effects. Table 16 presents the effects of *denial* for Algeria overall, as well as the individual impacts upon the severity of attacks conducted by GIA, AQIM, and unknown perpetrators. *Denial* had contradictory effects limited to the severity of GIA attacks. With a 2-month lag, denial decreased the severity of GIA with a coefficient of -6.362 at the 10% significance level. A month later it had the opposite effect with a coefficient of 5.616 at the 10% significance level. These effects cancelled each other out. H2B remains unsupported.

Table 16: Effects of Denial on the Severity of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	21.270 (0.93)	-25.673 (1.23)	-10.396 (0.89)	-6.238 (0.38)
AQIM	11.863 (0.85)	-4.421 (0.57)	-2.119 (0.27)	-9.420 (1.21)
GIA	3.918 (0.97)	4.723 (1.23)	-6.362 (1.68)*	5.616 (1.88)*
UNK	-3.347 (0.64)	5.298 (0.75)	3.972 (0.64)	-3.463 (0.44)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H3A: Legal Restriction will decrease the frequency of terrorist attacks during a four-month period.

The results do not support H3A. Table 17 presents the effects of *legal restriction* for Algeria overall, as well as the individual impacts upon the frequency of GIA, AQIM, and unknown perpetrators. It was significant for the overall level of terrorism at the 5% level with a coefficient of 7.292 as well as for unknown perpetrators at the 1% significance level with a coefficient of 7.676. Both occurred with a 2-month lag. While AQIM and GIA experienced decreases, they would not cancel out the dramatic increase in the overall level of terrorism. With monthly attack averages of 4.197 and 2.689, overall frequency of attacks increased 73 percent while the frequency of unknown attacks increased 185 percent.

Table 17: Effects of Legal Restriction on the Frequency of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	4.306 (1.760)*	3.259 (1.430)	7.292 (2.360)*	1.701 (0.600)
AQIM	1.035 (1.240)	0.434 (0.470)	0.767 (0.900)	-1.784 (2.030)*
GIA	0.051 (0.090)	0.419 (0.660)	-0.986 (1.740)*	-1.218 (1.820)
UNK	1.910 (1.060)	2.878 (1.890)*	7.676 (3.51)**	0.790 (0.370)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

These results may be less surprising after considering the manner in which Algeria conducted its legal restriction. During the period of investigation, 2000-2010, the Algerian government already enjoyed considerable police powers under the 1992 state of emergency. When it did use legislative means to increase its powers, it usually involved restrictions on the media or public demonstrations. Rather than empowering authorities, these actions most likely only alienated the public and antagonized political opponents both terrorist and non-terrorist alike. The increase in unknown attacks could represent an uneasiness in opposing legal and relatively more legitimate means of repression.

H3B: Legal Restriction will increase the severity of terrorist attacks during a four-month period.

The results show support for H3B. Table 18 presents the effects of *legal restriction* for Algeria overall, as well as the individual impacts upon the severity of attacks conducted by the GIA, AQIM, and unknown perpetrators. While legal restriction had the effect of reducing the severity of GIA attacks with 2 and 3 month lags, any reductions were more than made up for by

dramatic increases by unknown perpetrators with 1 and 2 month lags. The reductions in GIA attacks could be explained by attacks unattributed to the GIA by open sources. While the significance levels for overall levels of causalities are insignificant, the directions and magnitudes of the coefficient are consistent with the theory.

In practical terms, one month following *legal restriction*, there was an increase of approximately 9 casualties above the average of 21 casualties from unknown terrorists. After a 2-month lag, Algeria experienced nearly three times the number of casualties from unknown assailants. The effect seems to wane for unknown terrorists with a 3 month lag; while the overall levels continue to raise although this rise is statically insignificant. These findings serve as warnings that when formulating legal restrictions governments should be wary of measures that simply antagonize their populations rather than actually increasing the government’s ability to reduce terrorism levels.

Table 18: Effects of Legal Restriction on the Severity of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	32.538 (1.250)	22.632 (1.140)	21.315 (0.680)	41.433 (1.380)
AQIM	11.863 (0.850)	-4.422 (0.570)	-2.119 (0.270)	-9.420 (1.210)
GIA	-8.312 (1.490)	6.511 (1.000)	-14.030 (1.960)*	-18.131 (1.930)*
UNK	10.812 (0.710)	30.411 (2.100)**	73.275 (3.790)***	24.380 (1.270)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H4A: Violence towards groups will increase the frequency of attacks during a four-month period.

The results do not support the hypothesis. Table 19 presents the effects of *violence* for Algeria overall, as well as the individual impacts upon the frequency of GIA, AQIM, and unknown perpetrators. The frequency of GIA attacks was reduced at the 5% significance level with a coefficient of -0.009 during the initial month. *Violence* reduced the overall frequency at the 1% significance level with a coefficient of -.030 with a 3-month lag. The frequency of unknown perpetrators was also reduced with a 3-month lag. While the hypothesis is not supported, the evidence is rather weak due to weak coefficients.

Table 19: Effects of Violence towards groups on the Frequency of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	-0.008 (0.800)	-0.010 (0.830)	0.004 (0.370)	-0.030 (2.800)***
AQIM	-0.014 (0.840)	-0.020 (0.930)	-0.019 (0.840)	0.011 (0.630)
GIA	-0.027 (2.39)**	0.016 (1.370)	0.019 (1.400)	-0.014 (1.270)
UNK	-0.009 (1.240)	-0.005 (0.490)	-0.008 (0.770)	-0.013 (1.740)*

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H4B: Violence towards groups will decrease the severity of terrorist attacks during a four-month period.

The results show support for H4B; however, their real life affects are minor. Table 20 presents the effects of *legal restriction* for Algeria overall, as well as the individual impacts upon the severity of attacks conducted by the GIA, AQIM, and unknown perpetrators. Overall

numbers of casualties were statically significant at the 5% and 1% levels with all three lags. The severity of GIA attacks was also reduced at the 5% level in the initial month. Despite the statistical significance of both reductions, Algeria would still experience around three dozen casualties a month.

Table 20: Effects of Violence towards groups on the Severity of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	-0.094 (0.560)	-0.231 (2.160)**	-0.042 (0.260)	-0.498 (3.810)***
AQIM	0.439 (1.160)	-0.442 (1.390)	-0.223 (0.970)	-0.402 (0.950)
GIA	-0.526 (3.160)***	0.031 (0.160)	-0.075 (0.360)	-0.225 (1.210)
UNK	-0.098 (1.090)	-0.100 (1.390)	-0.148 (1.910)*	-0.092 (1.550)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H4C: Violence targeting leaders will decrease the frequency of terrorist attacks during a four-month period.

The results show support for H4C. Table 21 presents the effects of *violence targeting leaders* for the overall frequency of attacks in Algeria, as well as the impacts upon the frequency of attacks conducted by the GIA, AQIM, and unknown perpetrators. Violence targeting leaders generally reduced terrorism. The overall frequency of attacks was most affected with a coefficient of -3.025 at the 5% significance level with a 1 month lag. This would reduce terrorism below its overall average of 4.197 attacks. The frequency of AQIM attacks was reduced in the initial month as well as with a 2-month lag. GIA attacks were also reduced

with a 1 and 2 month lag. The effects diminish after 3 months. This most likely reflects the government's ability to disrupt terrorist planning and resource allocation due to leadership removal.

Table 21: Effects of Violence towards leaders on the Frequency of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	-0.001 (0.000)	-3.025 (2.350)**	-1.342 (0.820)	-0.203 (0.200)
AQIM	-1.222 (2.550)**	-0.460 (0.940)	-1.428 (2.120)**	0.178 (0.200)
GIA	-0.894 (1.220)	-1.316 (2.11)**	-0.786 (1.660)*	-0.340 (0.640)
UNK	1.067 (1.190)	-1.077 (1.310)	-1.124 (1.080)	0.643 (0.840)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H4D: Violence targeting leaders will decrease the severity of terrorist attacks during a four-month period.

The results show support for H4D. Table 22 presents the effects of *violence against leaders* for the overall severity of attacks in Algeria, as well as the impacts upon the severity of attacks conducted by the GIA, AQIM, and unknown perpetrators. Violence against AQIM leaders was significant at the 5% level with a coefficient of -19.715, increasing to the 1% level and nearly doubles the coefficient size with a 1 month lag. Violence against GIA had a similar significance with far less magnitude. This could simply be reflective of the smaller average for GIA inflicted casualties. The effect however begins to weaken after three months, although this trend is statistically insignificant.

Table 22: Effects of Violence towards leaders on the Severity of Terrorism, Algeria

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	30.847 (1.460)	-25.416 (1.790)	-21.122 -(1.370)	-6.908 (0.460)
AQIM	-19.715 (2.010)*	-40.201 (3.020)**	-15.982 (1.090)	-25.112 (1.570)
GIA	-7.528 (1.700)	-10.741 (2.340)**	-8.473 (1.840)	1.200 (0.200)
UNK	12.931 (0.950)	-8.427 (0.780)	-14.769 (1.800)	2.229 (0.300)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Controls

For the most part, the majority of controls were statistically insignificant. *Ramadan* reduced the frequency of unknown perpetrators by -.925 with a 10% significance level. It also reduced the severity of AQIM attacks by -13.372 casualties with a 5% significance level. This is less than AQIM's monthly average of 10.652. While this may seem unsurprising considering most Algerians are Muslims, one would expect greater reductions in the overall levels.

An increase in urbanism was associated with a reduction in casualties from unknown terrorists. This relationship was significant at the 5% level with a large coefficient of -113.1502. This may be explained by an unexpected decrease in urbanism in the year 2000, one of the most violent years in the 10 year period.

The severity of unknown perpetrators increased with increases in population. *Pop_lag* had a coefficient of 25.326 with a 10% significance level. This is approximately 10 more than the average for unknown perpetrators. This means that for every increase of 100,000 in population size, the severity of unknown attacks would increase by 10. There probably is nothing

special about the relationship between unknown attacks and population size. It probably reflects reflects the quality of open source data rather than an actual increased desire by terrorist groups to hide their identities.

Unexpectedly, increases in the change of annual GDP were associated with increases in the frequency and severity of GIA attacks. *GDP_change* increased both the frequency and severity of GIA attacks at the 10% level with respective coefficients of .292 and 2.090. This is most likely explained by increases in GIA attacks during improved economic conditions in 2002 and 2003.

CHAPTER FIVE: THE PHILIPPINES

Introduction

The following will assess governmental responses in the Philippines. It will use a similar format as the preceding chapter. The first section of the chapter provides a brief background to the conflict. The results of the analysis will then be presented. Models 1 and 2 will be discussed at the same time while focusing on areas of statistical significance. Since Model 3 is far more comprehensive, it will be discussed in detail while addressing each hypothesis individually.

All the models include the same dependent variables, frequency and severity as well as the same governmental responses, and controls. Models 1 and 2 only investigate overall levels of frequency and severity. Model 1 includes a 1 month lag. Model 2 includes a 3 month lag. In contrast, Model 3 also investigates effects upon individual groups. Model 3 includes multiple lags to include the initial month, 1, 2, and 3 months lags.

Given the ten-year scope of the investigation, there was not enough observations to assess responses on an annual basis. However, potential long term effects, particularly those of conciliation and violence, are discussed in the final chapter. Discussion points, final comments, gaps in the theory, and potential for future research will be discussed in the final chapter.

Background

In the 16th century, the Philippines became a Spanish colony. The centuries of Spanish colonialism had obvious political effects, deterring organic political development, but it also had cultural ramifications, fragmenting society (BBC, 2012; Country Profile: Philippines). Over 82 percent of Filipinos are Roman Catholic. There is a 5 percent Muslim minority concentrated mainly on the southwestern portion of Mindanao Island and the southwestern archipelagos (CIA Factbook).

After the Spanish American War of 1898, the Philippines entered a period of U.S. military rule that continued until 1935. Under the Commonwealth, the Philippines experienced self-rule for the first time in centuries. Following World War II, in 1946, like so many other colonies, the Philippines became fully independent (BBC, 2012; Rogers 2004).

Unfortunately, independence did not mean stability or political freedom. Angered by a lack of land reform, the Huks, former members of the People's Anti-Japanese Army, a wartime militia with a communist ideology, launched an insurgency that peaked between 1949 and 1951. A lack of training and arms sapped their initial momentum and within a few years, the entire movement dissolved (Dolan, 1991).

Peace however did not last long. After being elected President in 1965, Ferdinand Marcos faced renewed opposition from communists in the north and Moro separatists in the south during the late 1960s. Threatened by these dual threats, in 1972, Marcos suspended Parliament and placed the entire country under martial law. Expanded presidential powers were established under a new constitution the following year (Library of Congress, 2006). Martial law was finally lifted in 1981. This however did not prevent the assassination of Marcos's main opponent, Benigno

Aquino in 1983 (BBC, 2012). In 1986, the Philippines took a step towards democracy when mass demonstrations, diminished military support, and pressure from the Catholic church forced Marco's resignation and flight to the United States. Ironically, he was replaced by Corazon Aquino, the widow of his former rival (BBC, 2012; Library of Congress, 2006).

Elections did not guarantee a sense of legitimacy or stability. In 2000, President Estrada narrowly survived impeachment charges of corruption. Once again mass demonstrations took to the streets and forced the President to leave office in 2001. His vice-president, Gloria Arroyo, took over the presidency and won reelection in 2004 despite allegations of corruption. After gaining independence, corruption and cronyism have been par for the course. Since 1965, the Philippines have had five presidents; out of those, two have resigned, two have been arrested, and one has physically fled the country (BBC, 2012; Library of Congress, 2006; Dolan, 1991; Hedman, 2006).

Beyond corruption, combating insurgency and terrorism face challenges inherent in the cultural, geographic, and political characteristics of the Philippines. Geographically, the Philippines is comprised of over 7,000 islands (CIA Factbook). While island geography is supposed to favor the counterinsurgent, this may not hold true when there are thousands of islands or the indigenous population has a long maritime history (Galula 1969). The traditional term for village or community, barangay, is actually Malay for boat and it represents a long history of fishing and nautical navigation. Galula also assumes the counterinsurgent has an adequate navy to patrol its shores. As of 2006, the Philippines had less than 70 ships with only half of those serviceable (Library of Congress, 2006). With 36,289 kilometers of coastline, that leaves 1451 kilometers per operational vessel to patrol (CIA Factbook).

Culturally, the Philippines remain ethnically and religiously divided. While the term “Moro” is derived from the Spanish term for Moors, the Moros are also ethnically distinct. (Library of Congress, 2006). Moro society itself is deeply divided along ethnic and tribal lines. Moro communities also have the highest levels of poverty and unemployment in the Philippines (Jones & Morales 2012). For instance, the Basilan and Jolo provinces with Moro majorities are two of the worst in terms of development. Land ownership is also problematic. In Basilan, Muslims comprise 71 % of the population yet only own 25 % of the land (Donnelly 2004).

Changes in traditional power structures have also left power vacuums in Moro society. Historically, Moro communities were led by a *datu* or chieftain whose power was based upon kinship ties and the numbers of supporters. In order to increase these numbers, villages often raided their neighbors (Dolan, 1991). Ironically, centralized power and the delegitimization of violence have eroded the traditional power structures within Moro society. Village and tribal leaders are no longer able to use violence to consolidate their power. The current situation particularly in the peripheral islands suffers from weak local leaders and an absent government. As a result, far too often even when leaders seek peace, they have found it almost impossible to control their supporters (Collier 2006).

While there have been numerous terrorists groups in the Philippines, due to the above challenges, resistance from the Moro minority has been problematic. In 1972, Nur Misuari created the Moro National Liberation Front (MNLF) in order to achieve an independent state for the Moro people. In 1976, MNLF agreed to a referendum to determine the future of the southern islands with Muslim minorities; however, the effort failed due to the Christian majority (Jones & Morales 2012; Memorial Institute for the Prevention of Terrorism, 2006). Eventually, a truce was

signed, and in 1996, the government created the Autonomous Region of Muslim Mindanao with Misuari as its leader.²⁶ While these negotiations failed to end terrorism, they did successfully split the Moro opposition. In 1978, after unsuccessfully challenging Misuari for MNLF leadership, Hashim Salamat created the Moro Islamic Liberation Front, with greater emphasis on Islam (Memorial Institute for the Prevention of Terrorism, 2006; Rogers 2004).²⁷

Following military operations and the mass surrender of nearly two thousand members, the MILF signed peace agreements with the government in 2001 and 2003 (Banos, 2006). However, noncompliant members continued to conduct terrorism and associate with members of both ASG and JI (Hedman 2006). While, the MILF has officially renounced terrorism and actually conducted joint operations against ASG and JI; terrorism has continued to kill hundreds of individuals every year (Hedman 2006).

In addition to the MILF, the Philippines also suffers from transnational religious terrorism. The ASG was formed by Abdurajak Janjalani, who was suspected of ties with Al-Qaeda, in order to create pan-Islamic state from Mindanao to the southern portion of Thailand (Memorial Institute for the Prevention of Terrorism, 2006; Rogers 2004). It splintered from the MNLF after the creation of the autonomous region. While it still verbalizes Islamic ideology, it has devolved into a criminal organization dependent upon ransom and extortion (James & Morales 2012; Rogers, 2004). In 1998, Philippine security forces killed Janjalani. With the death of its founder, the ASG has become increasingly decentralized. This decentralization potentially

²⁶ After connecting Misuari to a 2001 terrorist attack, the government placed Misuari under house arrest (“Moro National Liberation Front”).

²⁷ The MILF was originally called the “new MNLF.” In 1984, it officially changed its name to MILF (Trager & Zagorchev 2005/2006).

limits the impact of eliminating ASG leaders (Memorial Institute for the Prevention of Terrorism, 2006).

The last group, Jemaah Islamiya (JI), was created in 1993 as an Islamic terrorist group. It gained notoriety after the 2002 Bali bombing. Although it primarily operates in Malaysia, it also operates in the Philippines and has ties with renegade members of MILF and ASG. In 2003, one of its top leaders, Hambali, was captured by Philippine security forces (Memorial Institute for the Prevention of Terrorism, 2006; Jones & Morales, 2012).

In recent years, the threat of communist terrorism, particularly from the New People's Army (NPA) has eclipsed Islamic terrorism. Formed in 1969, the NPA is the armed wing of the Communist Party of the Philippines, Marxist-Leninist (CPP-ML). As an insurgency, it reached its height between 1969 and 1976 while receiving support from China. After losing its benefactor and a series of military defeats, the NPA has transformed into a terrorist organization that is increasingly associated with criminal activity. In order to weaken the government, the NPA has sought to dissuade foreign investments by attacking foreign companies. It also has a history of assassinating political opponents (Memorial Institute for the Prevention of Terrorism, 2006). Negotiations between the government and communist factions took place in Norway in 2004. However, they quickly broke down due to the NPA's insistence that the United States remove the Communist Party of the Philippines (CPP) and NPA from its list of foreign terrorists (Hedman, 2006). In 2007, the government offered an amnesty program specifically to the communists without preconditions beyond individuals forgoing future terrorist activities.

Descriptive Statistics

Table 23 provides the descriptive statistics for both the independent and dependent variables. Overall, the Philippines averaged 3.886 attacks with an average of 18.773 casualties a month reaching the highest levels of violence in 2003 during negotiations with the MILF (See Figure 3: Overall Frequency and Severity of Terrorism by, the Philippines). Overall, the MILF was the deadliest, averaging 1.197 attacks and 9.788 casualties a month, three more than the overall average. In contrast, the NPA averaged 1.114 attacks with 2.644 casualties a month. The casualty rate from NPA attacks is almost a quarter of that from MILF attacks. The second deadliest group, in terms of casualty rates per attacks, ASG, averaged .614 attacks and 6.932 casualties a month. JI averaged only .091 attacks resulting in 1.780 casualties a month.

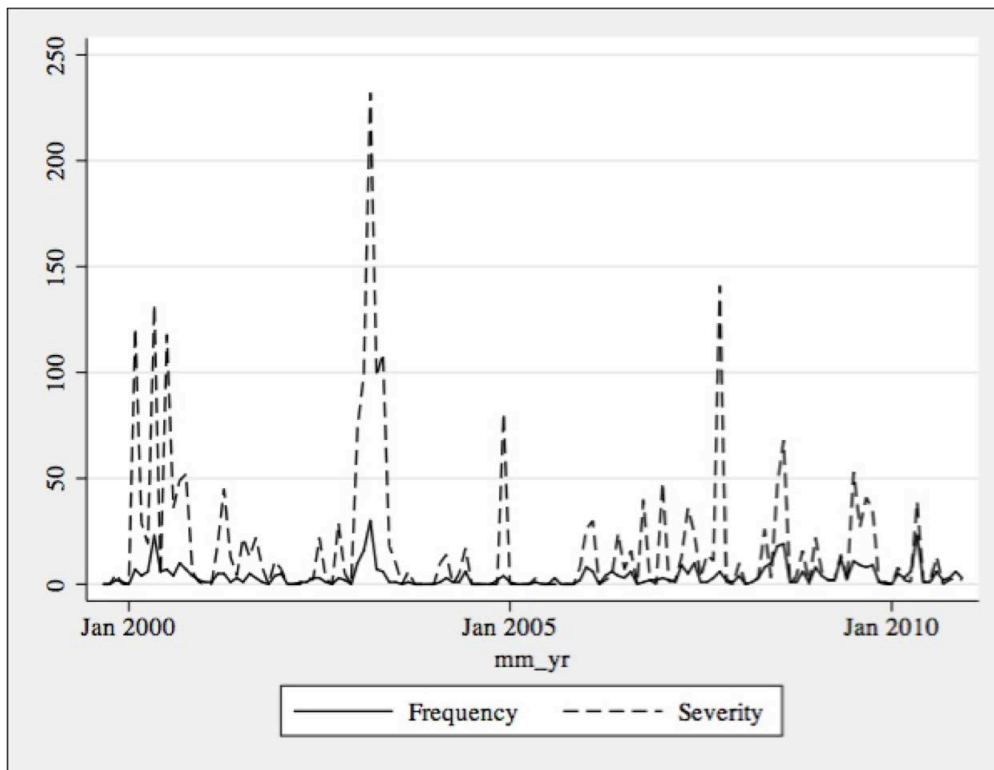


Figure 3: Overall Frequency and Severity of Terrorism by, the Philippines

In terms of governmental violence, the government killed or arrested an average 25.750 terrorists a month. In comparison, the government used violence against the MILF an average 11 times a month. This is nearly double the use of violence against the NPA. As was the case with Algeria, this probably reflects the government targeting the most lethal group, as opposed to potential bias against Islam (See Table 23: Descriptive Statistics for Governmental Responses, the Philippines).

Table 23: Descriptive Statistics for Governmental Responses, the Philippines

	Variable	Mean	SD	Min	Max
Overall	freq_all	3.886	4.942	0.000	30.000
	sev_all	18.773	34.533	0.000	232.000
	concil_group_all	0.076	0.293	0.000	2.000
	concil_leader_all	0.667	0.473	0.000	1.000
	denial	0.227	0.421	0.000	1.000
	legal_rest	0.098	0.299	0.000	1.000
	vio_group_all	25.750	43.641	0.000	284.000
	vio_lead_all	0.038	0.192	0.000	1.000
ABU	freq_abu	0.614	1.053	0.000	7.000
	sev_abu	6.932	25.090	0.000	255.000
	vio_group_abu	8.167	24.092	0.000	225.000
	vio_lead_abu	0.015	0.123	0.000	1.000
JI	freq_ji	0.091	0.486	0.000	5.000
	sev_ji	1.780	11.751	0.000	122.000
	vio_group_ji	0.258	0.825	0.000	4.000
	vio_lead_ji	0.015	0.123	0.000	1.000
MILF	freq_milf	1.197	3.053	0.000	22.000
	sev_milf	9.788	29.492	0.000	229.000
	concil_group_milf	0.038	0.192	0.000	1.000
	concil_leader_milf	0.015	0.123	0.000	1.000
	vio_group_milf	11.000	35.401	0.000	238.000
	vio_lead_milf	0.008	0.087	0.000	1.000
NPA	freq_npa	1.114	1.600	0.000	9.000
	sev_npa	2.644	6.065	0.000	44.000
	concil_group_npa	0.053	0.257	0.000	2.000
	concil_leader_npa	0.659	0.476	0.000	1.000
	vio_group_npa	6.258	9.521	0.000	45.000
UNK	freq_unk	1.114	1.600	0.000	9.000
	sev_unk	2.644	6.065	0.000	44.000
	vio_group_unk	6.258	9.521	0.000	45.000

Note: The above figures only include data from 2000-2010. Data was collected to allow for lags between September 1999 and December 1999. Additionally, denial and legal restriction are not broken down by group since Algerian applied these responses equally to all groups. (n = 132).

Results

The results are mixed requiring an understanding of the particular circumstances in the Philippines during the period of investigation. The results for the overall levels of frequency and severity at the national level as well as for specific terrorist groups were achieved using separate regressions. Models 1 and 2 will be discussed together while focusing on areas of statistical significance. Frequency will be discussed first followed by severity. The regressions can also be found in Appendix B (Model 1 and 2). Model 3 will be discussed by itself while addressing individual hypotheses. In order to facilitate the review of multiple lags, specific results were taken from separate regressions to form the tables. The original regressions for Algeria can be found in Appendix D. All regressions used robust standard errors.

Models 1 and 2 Frequency

The results do not show statistical support for H1A, H1C, H2A, H4A, and H4C (See Table 24: Models 1 and 2: Effect of Gov. Responses on the Freq of Terrorism, Overall, the Philippines). However, there was support for H3A with Model 1 and its 1 month lag. In support of H3A, legal restriction was significant at the 10% level with a coefficient of -2.335. Since the Philippines averaged 3.886 attacks a month, legal restriction would decrease the frequency of attacks by 60% a month. Relative to Algeria, legal restriction in the Philippines was more successful most likely due to the increased detention powers provided to police forces.

In contrast, Model 2 with a 3 month lag had opposite results. With the additional lag, *legal restriction* actually led to an increase in the frequency of attacks. With a coefficient of 2.791 significant at the 1% level, *legal restriction* actually increased the frequency of attacks. This contradiction could be explained by terrorists adopting to the new tactical situation created by *legal restriction*.

Regarding the controls, only *ramadan* showed any statistical significance in both Models 1 and 2. Since Islamic terrorists conducted a large percentage of the terrorist attacks in the Philippines, Ramadan could be expected to decrease the frequency of attacks. In Model 1, *ramadan* had a negative coefficient of -1.936 and a significance level of 5%. Model 2 showed similar results with a negative coefficient of -1.689 and a significance level of 5%.

Table 24: Models 1 and 2 - Frequency of Terrorism, Overall, the Philippines

Governmental Response	Model 1 (1 Month Lag)	Model 2 (3 Month Lag)
concil_group_all	.7620652 (0.58)	-1.065209 (0.98)
concil_leader_all	.7076387 (0.30)	2.328467 (0.71)
denial	.5493915 (0.54)	-1.03401 (1.23)
legal_rest	-2.334746 (1.82)*	2.790783 (3.08)***
vio_group_all	.0243781 (1.60)	-.0147192 (1.35)
vio_lead_all	-.8998221 (0.74)	.5762816 (0.53)
Controls		
eco_free_lag	-.5684399 (0.96)	-1.11319 (1.48)
gdp_change	.2573886 (0.85)	.3528264 (1.04)
pop_lag	.0488402 (0.54)	.0432179 (0.46)
ramadan	-1.936288 (2.38)**	-1.688535 (2.07)**
urban_percent_lag	5.608334 (0.44)	11.00894 (0.72)
Constant	-.1013983 (0.30)	-.1395058 (0.39)
R-Squared	0.1214	0.1067

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Models 1 and 2 Severity

The results do not show statistical support for H1B, H1D, H2B, H4B, and H4D (See Table 25: Models 1 and 2: Effect of Gov. Responses on the Freq of Terrorism, Overall, the Philippines). Only the findings regarding *legal restriction* had any statistical significance. In Model 1 with a 1 month lag, in contrast to H2B, *legal restriction* decreased the severity of terrorism by -14.433, significant at the 5% level. While in Model 2 with a 3 month lag, *legal restriction* had the opposite effect increasing the severity of terrorism by 24.364, significant at the 5% level. While supportive of H2B, it is problematic since the frequency also increased. It appears after 3 months, legal restriction led to both an increase in the frequency and the severity of terrorism. None of the controls were statistically significant.

Table 25: Models 1 and 2 - Severity of Terrorism, Overall, the Philippines

Governmental Response	Model 1 (1 Month Lag)	Model 2 (3 Month Lag)
concil_group_all	7.81576	-1.387494
	(0.70)	(0.21)
concil_leader_all	5.147438	1.049396
	(0.54)	(0.06)
denial	5.893445	-5.851286
	(1.13)	(0.81)
legal_rest	-14.43319	24.36413
	(2.07)**	(2.27)**
vio_group_all	.1411323	-.0797565
	(1.23)	(0.83)
vio_lead_all	-.9794199	5.112145
	(0.11)	(0.44)
Controls		
eco_free_lag	3.776319 (0.79)	2.749147 (0.49)
gdp_change	1.827141 (1.00)	2.306311 (1.14)
pop_lag	1.267975 (1.44)	1.17309 (1.35)
ramadan	-3.800011 (0.53)	-5.431989 (0.72)
urban_percent_lag	-128.5764 (0.94)	-91.98967 (0.66)
Constant	-1.104571 (0.53)	-1.187754 (0.54)
R-Squared	0.1029	0.0976

Note: Absolute value of t-statistic in parentheses. *p ≤ .10; **p ≤ .05; ***p ≤ .01 (two-tailed tests). n = 132.

Results by Hypotheses

Model 3

H1A: Conciliation with groups will increase the frequency of terrorist attacks during a four-month period.

The results show weak support for H1C. Table 26 presents the effects of *conciliation* with groups upon the overall frequency of attacks in the Philippines, as well as the impacts upon the frequency of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators.²⁸ Regressions for the Philippines in their entirety can be found in Appendix B: Regressions for the Philippines.

Conciliation had a positive relationship with the overall frequency of terrorism in the initial month with a significance level of 5% and a coefficient of 3.068. If this increase is added to the average number of overall attacks, the Philippines would experience approximately 7 attacks in a month, nearly twice as much as the monthly average. The frequency of unknown perpetrators also increased with a coefficient of .734 with a 10% significance level. These effects however dissipated in significance levels with any lag.

²⁸ The Philippine government did not negotiate with ASG or JI. However, it reached several deals with the MILF. One of the major goals of these agreements was to increase cooperation between the government and the MILF to reduce ASG and JI attacks. For this reason, agreements with the MILF were also included in the regressions for ASG and JI.

Table 26: Effects of Conciliation on the Frequency of Terrorism, the Philippines

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	3.068 (2.510)**	1.069 (1.010)	1.002 (1.060)	0.331 (0.420)
ASG	0.549 (1.020)	0.104 (0.180)	0.852 (1.030)	1.168 (1.270)
JI	0.034 (0.430)	-0.013 (0.100)	0.145 (1.520)	0.002 (0.020)
MILF	2.689 (1.200)	0.598 (0.540)	1.262 (1.120)	-0.330 (0.46)
NPA	0.101 (0.160)	0.738 (1.110)	0.360 (0.840)	-0.108 (0.280)
UNK	0.734 (1.770)*	-0.224 (0.510)	-0.705 (1.480)	-0.064 (0.140)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

The lack of strong positive or negative effects of *conciliation* is surprising. It may reflect the manner in which the Philippines conducted conciliation, particularly in regards to the NPA. When the Philippines offered amnesty to the NPA in 2007, its terms were less defined. Unlike the 6 month window offered by the Algerian government, the Philippine government placed no such time constraints. Perhaps this explains why it had such little effects in the following months. From the perspective of the NPA, *conciliation* probably lacked political incentives, such as land redistribution.

H1B: Conciliation with groups will increase the severity of terrorist attacks during a four-month period.

The results find extremely weak support for H1B. Table 27 presents the effects of *conciliation* with groups upon the overall severity of attacks in the Philippines, as well as the impacts upon the severity of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators. Conciliation with the MILF led to an increase in JI severity. With a coefficient of 4.223 at the 10% level with a 2 month lag, this is nearly double the number of casualties. This could reflect JI attempts to spoil MILF negotiations with the government. Unfortunately, *conciliation*'s effects on the overall levels of severity were statistically insignificant.

Table 27: Effects of Conciliation on the Severity of Terrorism, the Philippines

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	11.58266 (0.95)	7.650972 (0.75)	13.83424 (1.38)	6.75842 (0.95)
ASG	21.16331 (1.45)	-.7368992 (0.05)	11.84599 (0.54)	41.16816 (1.45)
JI	.6538745 (0.34)	2.423996 (0.70)	4.22324 (1.92)*	2.07706 (1.09)
MILF	7.633843 (0.73)	-2.674646 (0.22)	13.36519 (1.04)	-1.29865 (0.20)
NPA	-.1725718 (0.10)	.6295496 (0.41)	-2.10274 (1.62)	-1.412804 (1.14)
UNK	.2196835 (0.03)	4.933534 (0.78)	-4.204489 (0.75)	3.235764 (0.67)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H1C: Conciliation with leaders will result in an increase in the frequency of terrorist attacks during a four-month period to a greater extent than conciliation with groups.

The results do not support H1C. Table 28 presents the effects of *conciliation with leaders* upon the overall frequency of attacks in the Philippines, as well as the impacts upon the frequency of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators. Contrary to the theory as well as the Algerian results, conciliation with leaders resulted in reductions in the overall frequency as well as the frequency of ASG and NPA attacks. The frequency of overall attacks was below its average of 3.886 with a 2-month lag and significant at the 5% level. While the frequency of NPA attacks was also below its average of 1.14 with a 3-month lag and 5% significance level. This is particularly surprising since the effects are even greater than conciliation with groups however they are delayed until the 2 and 3 month lags. Perhaps Philippine terrorist leaders were more willing than their followers to negotiate, and it took several months before they could gain control over their followers.

Table 28: Effects of Conciliation towards leaders on the Frequency of Terrorism, the Philippines

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	0.946 (0.410)	3.246 (1.570)	-4.203 (2.060)**	1.516 (0.500)
ASG	-0.254 (0.590)	-0.763 (1.710)*	-0.763 (1.010)	0.093 (0.190)
JI	0.152 (0.990)	-0.338 (1.270)	-0.036 (0.310)	-0.089 (0.610)
MILF	2.237 (1.370)	1.527 (0.920)	-2.798 (1.080)	1.976 (0.870)
NPA	0.882 (0.830)	1.002 (0.700)	-1.271 (1.570)	-2.704 (2.160)**
UNK	-0.666 (0.490)	2.304 (1.550)	-0.822 (0.830)	-1.960 (1.580)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H1D: Conciliation with leaders will increase in the severity of terrorist attacks during a four-month period to a greater extent than conciliation with groups.

The results regarding H4C are mixed. Table 29 presents the effects of *conciliation with leaders* upon the overall severity of attacks in the Philippines, as well as the impacts upon the severity of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators. Initially, conciliation with leaders led to increases in the severity of attacks for both the Philippines overall and unknown perpetrators at the 5% and 1% levels. This however was countered by decreases in overall levels and the severity of NPA attacks at the 5% and 1% levels at 2 and 3 month lags, respectively.

Table 29: Effects of Conciliation with leaders on the Severity of Terrorism, the Philippines

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	11.407 (0.810)	16.810 (2.020)*	-26.326 (2.53)*	-3.793 (0.210)
ASG	0.271 (0.030)	-0.548 (0.060)	1.853 (0.160)	-0.965 (0.080)
JI	3.163 (0.890)	-7.640 (1.120)	0.011 (0.000)	-2.148 (0.670)
MILF	-3.153 (0.260)	3.597 (0.230)	-35.886 (1.730)	-23.927 (1.290)
NPA	-1.924 (0.300)	1.782 (0.480)	0.733 (0.140)	-10.575 (2.500)**
UNK	6.863 (2.540)*	5.795 (2.380)*	-4.499 (0.960)	-3.646 (0.440)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H2A: Denial will reduce the frequency of terrorist attacks during a four-month period.

The results do not support H2A. Table 30 presents the effects of *denial* upon the overall frequency in Philippines, as well as the impacts upon the frequency of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators. As with Algeria, *denial* failed to reduce the frequency of terrorism specifically the frequency of MILF attacks. Both the overall and MILF frequency were significant at the 5% level with coefficients of 2.33 and 1.016. The increased frequency of MILF attacks continued to the 2-month lag with a similar significance level and coefficient. It was not until the third lag that any reduction occurred, and this was restricted to the NPA with only a 10% level and a low magnitude.

Table 30: Effects of Denial on the Frequency of Terrorism, the Philippine

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	2.133 (2.460)**	1.130 (1.200)	-0.605 (0.510)	-1.317 (1.160)
ASG	0.370 (1.170)	-0.540 (1.580)	-0.169 (0.600)	0.078 (0.320)
JI	-0.066 (0.660)	-0.069 (0.560)	-0.082 (0.540)	0.302 (1.440)
MILF	1.016 (2.510)**	1.138 (2.660)**	0.054 (0.130)	-0.176 (0.480)
NPA	0.510 (1.420)	-0.250 (0.740)	-0.317 (0.640)	-0.769 (1.790)*
UNK	0.679 (1.280)	0.474 (0.850)	-0.645 (0.950)	-0.253 (0.360)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H2B: Denial will increase the severity of terrorist attacks during a four-month period.

The results weakly support H2B. Table 31 presents the effects of *denial* upon the overall severity of attacks in the Philippines, as well as the impacts upon the severity of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators. *Denial* increased the severity at the 10% percent significance level with a coefficient of 12.105. Had it achieved a higher significance level, it would have supported the hypothesis that denial could increase the number of casualties due to increased planning and resource allocation due to a reduction in targets.

Table 31: Effects of Denial on the Severity of Terrorism, the Philippines

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	12.10541 (1.93)*	2.663095 (0.52)	-5.632643 (-0.91)	-4.793846 (-0.72)
ASG	5.749192 (0.63)	-8.695357 (1.18)	.5151115 (0.09)	-2.238578 (0.39)
JI	-.74404 (0.35)	.6416379 (0.22)	-.2083897 (0.05)	6.983289 (1.33)
MILF	8.277825 (1.66)*	4.994665 (1.47)	1.077757 (0.31)	-1.739772 (0.52)
NPA	3.413438 (1.55)	.6136982 (0.36)	-1.069416 (0.71)	-.7520658 (0.40)
UNK	1.118812 (0.36)	-1.996175 (0.57)	-7.589275 (1.65)	-4.256952 (0.79)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H3A: Legal Restriction will decrease the frequency of terrorist attacks during a four-month period.

The results show weak support for H3A. Table 32 presents the effects of *legal restriction* upon the overall frequency of attacks in the Philippines, as well as the impacts upon the frequency of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators. *Legal restriction* reduced the overall frequency with a coefficient of -2.759 at the 10% significance level. It also reduced MILF attacks with a coefficient of -1.680 at the 1% significance level. This could potentially reduce MILF attacks below its monthly average of 1.197. This could reflect the increased detention powers provided by the Human Security Act of 2007; however, if this were the case, one would expect similar reductions regardless of lags (BBC, 2007).

Table 32: Effects of Legal Restriction on the Frequency of Terrorism, the Philippines

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	1.241 (0.840)	-2.759 (1.780)*	1.610 (0.880)	1.633 (1.100)
ASG	-0.437 (1.070)	0.296 (0.650)	-0.152 (0.380)	-0.278 (0.680)
JI	0.023 (0.240)	0.127 (1.150)	-0.138 (1.320)	-0.071 (0.620)
MILF	0.415 (0.700)	-1.680 (2.650)***	0.269 (0.550)	0.051 (0.090)
NPA	-0.170 (0.370)	-0.259 (0.370)	0.502 (0.670)	0.950 (1.690)
UNK	0.137 (0.210)	-0.600 (0.880)	0.114 (0.140)	0.600 (0.990)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H3B: Legal Restriction will increase the severity of terrorist attacks during a four-month period.

The results are mixed but the net effects seem not to support H3B. Table 33 presents the effects of *legal restriction* upon the overall severity of attacks in the Philippines, as well as the impacts upon the severity of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators. *Legal restriction* led to an increase in the severity of MIF attacks with a 2-month lag. The coefficient was 8.790 with a 10% significance level. Although, a positive relationship exists legal restriction would not increase the severity of MILF attacks beyond its monthly average of 9.788. The severity of NPA attacks initially decreased with a coefficient of -3.971 with a 10% significance level. However, with a 3-month lag it increased with a coefficient of

2.994 also at the 10% significance level. Considering the net effect over the course of 4 months it appears *legal restriction* increased the severity of attacks but only slightly.

Table 33: Effects of Legal Restriction on the Severity of Terrorism, the Philippines

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	9.293258 (1.27)	-10.77486 (1.46)	8.962269 (1.25)	12.75379 (1.25)
ASG	-.1100235 (0.01)	6.789067 (0.73)	.9668076 (0.15)	-13.29077 (1.57)
JI	-.9733923 (0.41)	1.58769 (0.56)	-3.903893 (1.43)	-.1416185 (0.04)
MILF	5.192356 (1.26)	-7.163538 (1.52)	8.790237 (1.79)*	.6396101 (0.15)
NPA	-3.971874 (1.82)*	-3.417256 (1.64)	.4403843 (0.24)	2.993559 (1.67)*
UNK	1.333786 (0.30)	.1964706 (0.04)	-1.727179 (0.35)	10.61692 (1.28)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H4A: Violence towards groups will increase the frequency of attacks during a four-month period.

The results weakly support H4A. Table 34 presents the effects of *violence* with groups upon the overall frequency of attacks in the Philippines, as well as the impacts upon the frequency of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators. The positive relationship between violence and the overall frequency occurred in the initial month with multiple significance levels at the 1%, dropping to the 5% level with a 1-month lag. Regardless of the significance levels, the coefficients are low, never raising above .582. While violence did result

in frequency increases, it does so in a weak manner, with averages barely above its norm of 3.886 attacks a month.

Table 34: Effects of Violence towards groups on the Frequency of Terrorism, the Philippines

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	0.582 (5.880)***	0.023 (2.490)**	0.011 (0.110)	0.007 (0.850)
ASG	0.002 (0.740)	0.002 (0.710)	0.002 (0.740)	0.001 (0.420)
JI	0.038 (1.030)	0.011 (0.300)	-0.058 (1.520)	0.007 (0.230)
MILF	0.059 (5.270)**	0.019 (2.250)**	0.002 (0.240)	-0.004 (0.780)
NPA	0.039 (2.270)**	0.024 (1.230)	0.027 (1.210)	0.031 (1.450)
UNK	0.008 (2.180)**	0.004 (1.150)	0.004 (1.040)	0.003 (0.590)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H4B: Violence towards groups will decrease the severity of terrorist attacks during a four-month period.

The results do not support H4B. Table 35 presents the effects of *violence* with groups upon the overall severity of casualties in Philippines, as well as the impacts upon the severity of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators. Violence against groups resulted in increases in the severity of overall levels with significance levels of 5% in the initial month as well as with the 2-month lag. The severity of from MILF and unknown attacks also increased in the initial month while the severity of NPA attacks did not increase until the third lag. As with violence’s effect on the frequency of attacks, the coefficients are weak with

none rising above .358. While contrary to the theory, in terms of life and death the effects are barely noticeable.

Table 35: Effects of Violence towards groups on the Severity of Terrorism, the Philippines

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	0.325 (3.510)**	0.075 (0.700)	0.261 (3.290)**	0.022 (0.280)
ASG	0.082 (1.130)	0.057 (0.880)	0.025 (0.350)	0.004 (0.070)
JI	0.775 (0.960)	0.240 (0.320)	-1.395 (1.420)	0.745 (1.060)
MILF	0.358 (2.660)**	0.089 (0.540)	0.173 (1.620)	0.035 (0.390)
NPA	0.049 (0.720)	0.023 (0.370)	0.036 (0.360)	0.196 (1.990)*
UNK	0.086 (1.920)*	-0.006 (0.150)	0.105 (1.740)*	-0.025 (0.520)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

H4C: Violence targeting leaders will decrease the frequency of terrorist attacks during a four-month period.

The results show very weak support for H4C. Table 36 presents the effects of *violence targeting leaders* upon the overall frequency of attacks in the Philippines, as well as the impacts upon the frequency of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators. Violence against leaders reduced the overall frequency of attacks with a 2-month lag with a coefficient of -2.916 with a 10% significance level. It also reduced the frequency of JI attacks with coefficients of -0.555 and -0.693 with 1 and 3 month lags. Although the reductions are slight, it is below JI's month average of .091. The frequency of MILF attacks with a 1-month lag

actually increased. Due to mixed results, with strong reductions occurring only after two months, the hypothesis has weak support.

Table 36: Effects of Violence towards leaders on the Frequency of Terrorism, the Philippines

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	1.171 (0.820)	-0.032 (0.020)	-2.916 (1.650)*	-2.111 (1.440)
ASG	-0.404 (0.710)	0.126 (0.210)	-1.004 (1.590)	-0.434 (0.750)
JI	0.161 (1.120)	-0.555 (1.680)*	-0.199 (0.780)	-0.693 (2.080)**
MILF	-0.176 (0.290)	1.318 (1.820)*	0.720 (0.990)	-1.026 (1.620)
NPA ²⁹	n/a	n/a	n/a	n/a
UNK	0.482 (0.520)	-0.576 (0.570)	-1.283 (1.040)	-1.224 (1.090)

Note: Absolute value of t-statistic in parentheses. * $p \leq .05$; ** $p \leq .01$ (two-tailed tests).
n = 132.

H4D: Violence targeting leaders will decrease the severity of terrorist attacks during a four-month period.

The results weakly support H4D. Table 37 presents the effects of *violence targeting leaders* upon the overall severity of attacks in the Philippines, as well as the impacts upon the severity of attacks conducted by the ASG, JI, MILF, NPA, and unknown perpetrators. Violence against leaders reduced the severity of JI attacks with all three lags with significance levels of 10% and 5% levels. The coefficients ranged from -15.510 to -20.266. The number of casualties

²⁹ The Philippine government did not kill or capture NPA leaders that were senior enough to be scored.

from JI was significantly less than its average of 1.780. ASG severity was also reduced with a coefficient of -15.510 with a 10% significance level. This too was below its average of 6.932. These results suggest that the effects of violence against leaders were magnified when it was against smaller groups. Perhaps the larger organizations were able to successfully absorb these losses with established succession lines.

Table 37: Effects of Violence towards leaders on the Severity of Terrorism, the Philippines

Terrorist Org.	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
Overall	8.908 (0.890)	3.102 (0.240)	-17.227 (1.190)	-3.653 (0.230)
ASG	-5.701 (0.570)	0.434 (0.040)	-15.072 (1.920)*	-3.834 (0.680)
JI	-9.146 (1.370)	-19.396 (2.280)**	-15.510 (1.860)*	-20.266 (1.930)*
MILF	-3.911 (0.590)	7.152 (0.740)	1.317 (0.200)	-5.521 (0.990)
NPA	n/a	n/a	n/a	n/a
UNK	5.961 (0.730)	1.603 (0.150)	-17.258 (1.450)	-9.544 (0.700)

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Controls

For the most part, the controls were statically insignificant with patterns of similar to Algeria. As can be expected given the Islamic natures of many of the terrorist groups, *Ramadan* tended to reduce the frequency of terrorism. However, the reductions tended to be weak. *Ramadan* reduced the frequency of ASG with a -0.7633051 at the 5% significance level. Surprisingly the largest reduction occurred in the frequency of NPA attacks, a communist non-

religiously inspired group. *Ramadan* actually had the opposite effect on JI, leading to an increase with a coefficient of .188 with a 10% significance level. While seemingly small, the effect is actually larger considering the low frequency average for JI. This could be explained by it being largely an international group and therefore less susceptible to public opinion.

Ramadan also tended to reduce the severity of attacks, although it was not universal. There were reductions in the overall number of casualties however it was statically insignificant. Once again, there was a reduction in the severity of NPA attacks significant at the 1% level with a coefficient of -4.249, far below its average of 2.644. Interestingly enough, the severity of attacks only increased with JI and unknown perpetrators. The rise in casualties from unknown perpetrators was significant at the 5% level with a coefficient of 9.418. This is nearly a 400% increase. While it could be merely reflect the poor quality of open source information, the rise in casualties from unknown perpetrators most likely stems from terrorist not wishing to be portrayed as “unIslamic” during a holy holiday.

Economic freedom seemed to reduce the frequency and severity of JI attacks at the 5% and 1% levels with the largest coefficient of -7.700, far below its average of 1.780. It had the opposite effect upon the severity of NPA attacks resulting in a coefficient of 2.169 at the 5% significance level.

The frequency and severity of JI attacks was also positively affected by increases in urbanism at the 5% level with coefficients of 7.735 and 163.003. These finding should however be viewed with some skepticism considering the overall levels of frequency and severity were not affected. One would expect the overall trends to be more affected by these very broad variables.

Increases in population size were associated with increases in severity from unknown perpetrators. The increase occurred with a 5% significance level with a coefficient of .762 reflecting a small increase with every population increase of 100,000. Curiously, increases in population had an opposite effect upon JI, with negative coefficient of -0.037 at the 10% level. These effects, however, can probably be discarded considering population factors should have affected the overall trends of frequency and severity.

CHAPTER SIX: CONCLUSION

Models 1 and 2 will be discussed first, followed by Model 3. Most of the discussion will be devoted to Model 3, considering its increased statistical significance as well as its more comprehensive nature. Each response will be discussed in the context of each case. Although the unit of analysis for the regressions was monthly, potential long term effects will be discussed using aggregated annual data. The thesis will conclude with final remarks including potential improvements to the design as well as topics for future research.

Discussion: Model 1 and 2

Models 1 and 2 had limited statistical significance. In the context of Algeria, Model 1 with a 1 month lag suggests *conciliation with leaders* can have the unintended consequence of actually increases both the frequency and severity of terrorism. *Violence against leaders* decreased both the frequency and severity. In Model 2 with a 3 month lag suggests *violence against groups* can potentially reduce frequency and severity of terrorism; however, with limited real world significance due to small coefficients.

In the Philippines, the only variable with any statistical significance was *legal restriction*. Model 1 showed that *legal restriction* can potentially reduce the frequency and severity; however, the benefits disappeared after using Model 2 with a 3 month lag. This suggests terrorists were able to adapt to the increased detention powers provided by the Human Security Act of 2007.

Discussion: Model 3

Conciliation

In the context of Algeria, *conciliation with groups* reduced the frequency and severity of terrorism. These findings consistently appeared with a 1-month lag, suggesting their affects begin to wane with time. However, they also show that *conciliation with leaders* without offering incentives to the larger membership can create moral hazard resulting in increases in both frequency and severity of terrorism. After two months, the positive relationship between *conciliation with leaders* and the frequency and severity of terrorism began to diminish suggesting perhaps either the leaders began to consider the benefits of conciliation or they suffered from diminished resources after expending them in the first two months, although the attacks never decreased below their historical averages.

In contrast, *conciliation with groups* in the Philippines increased attacks, although due to rather small coefficients the real life impacts are marginal. *Conciliation with leaders* had mixed results often leading to decreases in the overall frequency as well as the severity of attacks only after two months. There are several potential explanations. Attacks that were already planned may have simply continued due to the decentralized nature of their communication lines. Or it may have taken leaders two months to gain control of their supporters. Unexplainably, conciliation with NPA leaders took even longer to take effect. This may reflect a more decentralized command structure although this is speculation without further evidence.

The discrepancy between Algeria and the Philippines may be explained by the reluctance of Algerian terrorist leaders to begin a genuine peace process. Facing certain destruction from military action, these leaders may have been seeking a respite from governmental attack. These

findings suggest concessions such as amnesty may fail if they merely decriminalize terrorism without addressing grievances.

From a theoretical standpoint, there are several implications. The research appears to support the findings of Bueno de Mesquita (2005), Crenshaw (1981), Gurr (1998), and Kydd & Walter (2006). Conciliation often led to increases in both the frequency and severity of terrorism at least initially. It also challenges Dugan & Chenoweth's assertion that conciliation reduces terrorism in the short term (2012). The research suggests governments should take into account the internal characteristics of groups when weighing the cost of conciliation. In order for conciliation to benefit the government, terrorist leaders must be willing and capable to control their members. This supports the argument posed by Bar (2012) when he suggested deterrence was a feasible policy when dealing with highly centralized organizations such as Hezbollah.

Denial

For both Algeria and the Philippines, *denial* failed to reduce the frequency of attacks. Contrary to H3B, *denial* did occasionally reduce the severity of attacks in the Philippines. Perhaps *denial* caused terrorist to adjust to less favorable targets, although they attacked just as frequently. This appears to support the findings of Enders & Sandler (1993). Their research found increased airport security merely forced terrorists to switch to other tactics such as assassination.

The manner in which *denial* manifested itself in the coding process could also skew these results. The use of roadblocks and other security measure during heightened security levels, particularly during the initial month, may lead to perceived increases. Because roadblocks were

the most often manifestation of *denial*, this could reflect reactive governmental responses to terrorists attacks that had already taken place within that month. That may explain why *denial* did not reduce the frequency of attacks as expected by the theory.

Legal Restriction

Legal restriction had mixed effects. In Algeria, *legal restriction* did not reduce the frequency of attacks, but as expected, it increased the severity of attacks. In Algeria, this probably reflects the already expansive police powers enjoyed by the state following the emergency of 1992. The policy was slightly more successful in the Philippines. In accordance with the theory, *legal restriction* reduced the frequency of attacks. Unexpectedly, it also reduced the severity of attacks. In contrast to Algerian *legal restriction*, the Philippine anti-terrorist law (Human Security Act of 1992) expanded police detention powers. Rather than simply antagonize the population, the law actually increased the government's power.

Violence

In Algeria, *violence against groups* did not result in increased reprisal attacks as expected. In contrast, the Philippines did see increases in frequency as expected by the theory. This discrepancy could be explained by the differing terrain. In Algeria a large number of operations took place in remote mountainous regions. Perhaps this allowed the Algerian government to isolate its targets. Terrorists in the Philippines may have been more dispersed across the many archipelagos. This difficulty was only compounded by the Philippines lacking an adequate navy. Despite Galula's predictions, the island geography, in this case, appears to

have favored the terrorist (1963). The findings suggest that in the short term, *violence against leaders* rather than whole groups appears to be the most effective means to reduce the frequency and severity of terrorism. This challenges Dugan & Chenoweth's assertion that repression is associated with increases in terrorism (2012). In a broader sense, it also challenges much of the literature that underrates violence, particularly violence against leaders, as a viable policy option. Governments should focus on gathering viable information concerning terrorist organizations and use that information to selectively target leaders in a manner that limits civilian casualties. By doing so, conciliation may potentially create a public good from decreased levels of terrorism, while the use of violence potentially serves as a deterrent.

Long Term Effects

Algeria

In 2000 and 2006, Algeria offered conciliation in the form of amnesty programs. Between 2000 and 2002, Algeria experienced increases in both frequency and severity. However, to disregard the benefits of conciliation would be premature. It may be that conciliation merely took longer to take effect. By 2003, Algeria experienced a 48 percent reduction in frequency and a 52% reduction in severity (See Table 38: Frequency and Severity of Terrorism, Algeria). Similarly, by 2009, the frequency of attacks dropped 56% while the severity dropped 7%. The minor drop in severity is probably explained by the dramatic increase in the severity of AQIM attacks. Although the frequency of AQIM dropped nearly 60%, its severity rose 45%. This could reflect an increased detachment from Algerian casualties due to a more international focus. Training and planning procedures may have also improved due to its new relationship with al-Qaeda.

Table 38: Frequency and Severity of Terrorism, Algeria

Case	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq
Algeria	79	84	87	49	29	36	61	52	43	27	15
AQIM	9	10	8	20	12	15	29	33	18	11	4
GIA	8	15	24	10	2	2	0	0	0	0	0
UNK	60	58	54	19	17	19	32	19	25	16	10
Case	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev
Algeria	520	680	679	253	184	155	202	626	295	189	71
AQIM	31	45	27	123	29	69	108	583	226	157	33
GIA	80	118	283	73	8	11	0	0	0	0	0
UNK	401	516	364	57	147	75	94	43	69	32	36

Note: The unit of analysis was on a monthly basis however for the purposes to presentation the data was aggregated to the annual level.

Following multiple amnesties, as well as a series of operations that successfully eliminated numerous leaders, the GIA disintegrated only to have its members join more radical groups such as AQIM. Although smaller, its lethality was just as high. However, it appears successful military operations have begun to have a cumulative effect even on AQIM. By 2010, the frequency of AQIM attacks have dropped nearly 90%.

Philippines

Despite reaching a ceasefire agreement, the MILF had its most violent year in 2003. However, by the following year, the MILF conducted only 3 attacks, a reduction of over 90%. The severity of its attacks also dropped over 80%. In contrast, after offering amnesty to the NPA, the frequency and severity continued to rise even three year later.

While often criticized for its inability to control its members, the MILF appears just as successful in doing so. After 2003, the overall severity of attacks dropped nearly 60% while after the NPA amenesty of 2007, overall severity levels also dropped 60%. In practical terms,

conciliation appears to have had significantly reduced the loss of lives (See Table 40: Frequency and Severity of Terrorism, the Philippines).

Table 39: Frequency and Severity of Terrorism, the Philippines

Case	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq	Freq
Philippines	97	42	35	74	22	16	46	53	74	76	67
ASG	14	11	16	3	4	9	4	3	3	7	7
JI	5	0	0	0	0	0	1	6	0	0	0
MILF	55	11	4	50	3	0	2	3	21	8	1
NPA	7	8	11	12	9	6	11	10	27	23	19
UNK	14	11	3	9	6	1	26	29	23	36	40
Case	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev	Sev
Philippines	862	290	377	649	254	139	184	429	184	221	104
ASG	95	127	306	8	126	131	33	22	6	22	31
JI	122	0	0	0	0	0	0	113	0	0	0
MILF	477	60	9	585	84	0	5	3	98	53	0
NPA	65	21	30	39	32	8	9	19	59	20	38
UNK	91	82	28	17	12	0	137	271	21	126	35

Note: The unit of analysis was on a monthly basis however for the purposes to presentation the data was aggregated to the annual level.

Concluding Remarks

Several takeaways are important to mention. Offers of amnesty may be more effective when applied to insurgents then terrorists. In Algeria it took three years before the overall levels of frequency and severity were significantly reduced. However, it did successfully drain thousands of supporters from an insurgency that at one time poised an existential threat to the government. Similarly, with major agreements reached with the MILF including cooperation against other extremist groups, the Philippines successfully lowered terrorism levels. In the long

term, the 2003 agreement with the MILF appears to have led to significant reductions in both frequency and severity.

Offering benefits to groups while attributing costs to leaders appears to have the greatest benefits. Unfortunately, the investigation failed to assess government actions towards the support population. This was the result of two factors. First, the coding process was unable to identify concessions to the support population. While there were instances such as payments to victims of government action, it was impossible to code them on a monthly basis. This remains the most serious limitation of the method and the investigation as whole. Second, it appears neither the Algerian or Philippine governments incorporated concessions to the support populations as major parts of their counterterrorist policies. Regardless of the particular reason, the interaction between the government and the support population was not adequately assessed. This could be addressed by either adjusting the coding process or by including additional cases.

While the project investigated effects upon specific groups, this process was severely hampered by the nature of the data. Due to the presence of an extreme amount of unknown perpetrators in the GTD, any conclusions regarding specific terrorist groups should be considered with hesitation. This by no means is a slight to the GTD; it merely reflects the data is only as good as the open sources that originally reported the information. Unfortunately due to the large number of unknown perpetrators, assessing the success or failure of government policy towards individual groups is problematic. With these issues acknowledged, the results at least suggest internal dynamics and the context of governmental action are more important than ideological factors. There did not seem to be any pattern of results among Islamic groups. This casts doubt upon Miller's assertion that governmental responses need to be tailored to a group's ideological beliefs (2007).

The two newly developed databases allow several topics for future research. First, it would be beneficial to expand the scope of the investigation. This is particularly true in regards to Algeria. By expanding the scope to twenty years, it would be interesting to see how the pattern of violence shifted from the 1990s during periods of insurgency to later when the conflict was dominated by terrorism. It would also be interesting to isolate certain time periods. For instance, it appears conciliation had different effects whether one compares the amnesty of 2000 to the amnesty of 2006. After regressing the same model with data between 2000 and 2005, conciliation had the effect of reducing the frequency of overall terrorism by nearly 5 attacks with a 1 month lag and a significance level of 1%. When comparing a similar regression between 2006-2010, conciliation only reduced the frequency of overall terrorism by 2 attacks with a significance level of less than 10%.³⁰ This may be the effect of negative reputation. Since the government reportedly did not honor its commitment to expand political participation, perhaps terrorists were less likely to participate in future amnesties. Or it could reflect increased radicalization or isolation from the very society, the terrorists wish to change, as was suggested by Crenshaw (1981).

Methodologically, there are three main areas to improve the research design. First, by including the initial month in Model 3, there may be confusion in what is actually happening first, the independent variable or the dependent variable. For instance, with *denial*, increases in terrorism may have occurred first followed by the government's response, roadblocks. Even if they successfully decreased terrorism, it would appear as the opposite. Second, *conciliation with groups* could be coded as a simple dummy variable rather than a categorical variable. Third, in

³⁰ This is not formally presented as a regression but merely serves as a point of discussion for future research.

order to avoid too few events per variable as was often the case with *conciliation with leaders*, *legal restriction*, and *violence with leaders*. In order to avoid variables with too few events, future research could combine *conciliation with groups* with *conciliation with leaders* and *violence against groups* with *violence against leaders*. Unfortunately, *legal restriction* unless defined differently, would have to be dropped.

Because the databases cover some responses in even more detail than what was covered in this study, a series of investigations could explore one response at a time in greater depth. For instance, the effects of arrests and kills could be separately investigated. Similarly, it would be interesting to see if arresting leaders is more beneficial than killing them, due to increased intelligence gains following interrogation. Research could also investigate whether conciliation causes terrorist infighting and does that infighting actually affect the frequency and severity of terrorism.

This research assessed four common governmental responses: *conciliation*, *denial*, *legal restriction*, and *violence*. *Conciliation* appears to have mixed results. In general, the results show that *conciliation* may lead to increases in terrorism in the short term while suggesting potential reductions in the long term. Concessions such as amnesties without political concessions do not address root grievances and therefore their effects may be limited. *Denial* and *legal restriction* often led to increases in terrorism, merely forcing terrorists to shift targets. While the effects of *violence* often depended upon whether it was applied to groups or their leaderships. Unfortunately, the most successful policies, whether those of *conciliation* or *violence*, often drove defectors to more radical, lethal groups. At this point, governments must be willing and capable to engage these groups violently, concentrating their efforts on terrorist leaders.

APPENDIX A
ALGERIA - MODELS 1 & 2

Frequency

Table 1: Models 1 and 2 - Frequency of Terrorism, Overall, Algeria

Governmental Response	Model 1 (1 Month Lag)	Model 2 (3 Month Lag)
concil_group_all	-2.143003 (1.37)	.1064063 (0.06)
concil_leader_all	6.383012 (2.93)***	-3.053182 (1.13)
denial	-.229869 (0.23)	-.3272628 (0.37)
legal_rest	-.5677002 (0.15)	-.4309447 (0.11)
vio_group_all	-.001429 (0.15)	-.0263106 (2.24)**
vio_lead_all	-1.907836 (1.68)*	.368584 (0.38)
Controls		
eco_free_lag	.5018303 (0.89)	.5733162 (1.07)
gdp_change	.458209 (2.02)**	.4284363 (1.50)
pop_lag	-2.526081 (1.93)*	-1.778771 (-1.09)
ramadan	.0714955 (0.09)	-.0897343 (-0.14)
urban_percent_lag	12.10349 (2.07)**	8.962095 (1.23)
Constant	-.176176 (0.69)	-.1572061 (-0.64)
R-Squared	0.1046	0.0920

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Severity

Table 2: Models 1 and 2 - Severity of Terrorism, Overall, Algeria

Governmental Response	Model 1 (1 Month Lag)	Model 2 (3 Month Lag)
concil_group_all	-6.649922	-13.65647
	(0.47)	(1.34)
concil_leader_all	52.84094	-23.38882
	(2.06)**	(1.37)
denial	-17.77581	8.721822
	(1.13)	(0.98)
legal_rest	2.59253	8.368982
	(0.08)	(0.31)
vio_group_all	-.1333686	-.3520933
	(1.23)	(3.06)***
vio_lead_all	-20.16711	2.779959
	(1.80)*	(0.28)
Controls		
eco_free_lag	7.637688	7.754459
	(1.55)	(1.34)
gdp_change	6.538692	3.92837
	(2.10)**	(1.44)
pop_lag	-49.32385	-30.41477
	(1.97)**	(1.59)
ramadan	2.688085	-1.697627
	(0.31)	(0.18)
urban_percent_lag	214.2053	132.7187
	(1.92)*	(1.57)
Constant	-.6659711	-.8076499
	(0.23)	(0.27)
R-Squared	0.0959	0.0908

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

APPENDIX B
THE PHILIPPINES - MODELS 1 & 2

Frequency

Table 1: Models 1 and 2 - Frequency of Terrorism, Overall, the Philippines

Governmental Response	Model 1 (1 Month Lag)	Model 2 (3 Month Lag)
concil_group_all	.7620652 (0.58)	-1.065209 (0.98)
concil_leader_all	.7076387 (0.30)	2.328467 (0.71)
denial	.5493915 (0.54)	-1.03401 (1.23)
legal_rest	-2.334746 (1.82)*	2.790783 (3.08)***
vio_group_all	.0243781 (1.60)	-.0147192 (1.35)
vio_lead_all	-.8998221 (0.74)	.5762816 (0.53)
Controls		
eco_free_lag	-.5684399 (0.96)	-1.11319 (1.48)
gdp_change	.2573886 (0.85)	.3528264 (1.04)
pop_lag	.0488402 (0.54)	.0432179 (0.46)
ramadan	-1.936288 (2.38)**	-1.688535 (2.07)**
urban_percent_lag	5.608334 (0.44)	11.00894 (0.72)
Constant	-.1013983 (0.30)	-.1395058 (0.39)
R-Squared	0.1214	0.1067

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Severity

Table 2: Models 1 and 2 - Severity of Terrorism, Overall, the Philippines

Governmental Response	Model 1 (1 Month Lag)	Model 2 (3 Month Lag)
concil_group_all	7.81576 (0.70)	-1.387494 (0.21)
concil_leader_all	5.147438 (0.54)	1.049396 (0.06)
denial	5.893445 (1.13)	-5.851286 (0.81)
legal_rest	-14.43319 (2.07)**	24.36413 (2.27)**
vio_group_all	.1411323 (1.23)	-.0797565 (0.83)
vio_lead_all	-.9794199 (0.11)	5.112145 (0.44)
Controls		
eco_free_lag	3.776319 (0.79)	2.749147 (0.49)
gdp_change	1.827141 (1.00)	2.306311 (1.14)
pop_lag	1.267975 (1.44)	1.17309 (1.35)
ramadan	-3.800011 (0.53)	-5.431989 (0.72)
urban_percent_lag	-128.5764 (0.94)	-91.98967 (0.66)
Constant	-1.104571 (0.53)	-1.187754 (0.54)
R-Squared	0.1029	0.0976

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

APPENDIX C
ALGERIA - MODEL 3³¹

³¹ The Appendix is ordered by frequency and then severity. Regressions for the overall levels are presented first, followed by individual organizations in alphabetical order.

Frequency

Table 1: Effect of Gov. Responses on the Freq of Terrorism, Overall, Algeria

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	.7575237 (0.45)	-4.633338 (3.98)***	2.835449 (1.51)	1.72981 (1.29)
concil_leader_all	5.629511 (1.84)*	10.36672 (3.22)***	-5.057051 (1.65)	-3.452627 (1.73)*
denial	2.003844 (2.07)**	.43087 (0.41)	-.6436911 (0.65)	-1.599527 (1.40)
legal_rest	4.305961 (1.76)*	3.258987 (1.43)	7.292083 (2.36)**	1.700537 (0.60)
vio_group_all	-.0075005 (0.80)	-.0098522 (0.83)	.0041655 (0.37)	-.0300579 (2.80)***
vio_lead_all	-.0014455 (0.00)	-3.024652 (2.35)**	-1.341639 (0.82)	-.2028817 (0.20)
Controls				
eco_free_lag	.0869518 (0.15)			
gdp_change	.4369312 (1.42)			
pop_lag	-1.606108 (0.91)			
ramadan	-.8800815 (1.25)			
urban_percent_lag	7.660249 (0.40)			
Constant	-.0882968 (0.99)			
R-Squared	0.3667			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 2: Effect of Gov. Responses on the Freq of Terrorism, AQIM, Algeria

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	.9242292 (1.50)	-.8190965 (1.82)*	-.0264912 (0.07)	-.4214097 (0.70)
concil_leader_all	-1.634201 (1.22)	1.954878 (1.49)	1.249368 (0.92)	-.3309473 (0.27)
Denial	-.1815688 (0.44)	1.056065 (2.79)***	.217147 (0.52)	-.4207234 (0.89)
legal_rest	1.034715 (1.24)	.4339754 (0.47)	.7667104 (0.90)	-1.784084 (2.03)**
vio_group_aqcom	-.0142857 (0.84)	-.0202511 (0.93)	-.0194151 (0.84)	.0107132 (0.63)
vio_lead_aqcom	-1.222053 (2.55)**	-.4595228 (0.94)	-1.428179 (2.12)**	.1780371 (0.20)
Controls				
eco_free_lag	-.1499047 (0.66)			
gdp_change	-.1220171 (0.82)			
pop_lag	1.51394 (0.98)			
ramadan	-.3650241 (1.25)			
urban_percent_lag	-6.581294 (1.01)			
Constant	-.0071289 (0.07)			
R-Squared	0.1757			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 3: Effect of Gov. Responses on the Freq of Terrorism, GIA, Algeria

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	.7825022 (1.66)*	-.2183844 (0.41)	.0819636 (0.21)	.0428538 (0.10)
concil_leader_all	-.696716 (-0.91)	.4708222 (0.55)	-.3172168 (0.51)	-.0939541 (0.15)
denial	.3234785 (1.06)	.2434527 (0.79)	-.52832 (1.76)*	-.0703683 (0.27)
legal_rest	.0511065 (0.09)	.4188917 (0.66)	-.9863446 (1.74)*	-1.218469 (1.82)*
vio_group_gia	-.0270168 (2.39)**	.0161046 (1.37)	.0185381 (1.40)	-.0139238 (1.27)
vio_lead_gia	-.89391 (1.22)	-1.315935 (2.11)**	-.785759 (1.66)*	-.3396331 (0.64)
Controls				
eco_free_lag	.2088833 (1.04)			
gdp_change	.2923316 (1.74)*			
pop_lag	-1.737851 (1.51)			
ramadan	-.1814149 (0.74)			
urban_percent_lag	8.106201 (1.56)			
Constant	-.0609929 (0.97)			
R-Squared	0.359			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 4: Effect of Gov. Responses on the Freq of Terrorism, UNK, Algeria

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	.6155894 (0.42)	-2.723785 (3.60)***	1.932421 (1.68)*	1.495312 (1.84)*
concil leader all	1.909647 (0.81)	5.938581 (2.76)***	-3.049412 (1.49)	-3.886007 (2.29)**
denial	1.20839 (1.76)*	.5504887 (0.66)	.1327337 (0.19)	-.9336178 (1.02)
legal rest	1.910232 (1.06)	2.878457 (1.89)*	7.676346 (3.51)***	.789517 (0.37)
vio_group_all	-.0093361 (1.24)	-.0054329 (0.49)	-.0079698 (0.77)	-.0133095 (1.74)*
vio lead all	1.067375 (1.19)	-1.076994 (1.31)	-1.123648 (1.08)	.6428765 (0.84)
Controls				
eco_free_lag	-.1424582 (0.47)			
gdp_change	.0887352 (0.60)			
pop_lag	1.805069 (1.55)			
ramadan	-.9253705 (1.87)*			
urban_percent_lag	-8.037907 (1.62)			
Constant	.0044685 (0.03)			
R-Squared	0.391			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Severity

Table 5: Effect of Gov. Responses on the Severity of Terrorism, Overall, Algeria

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	-8.356025 (0.68)	-24.7793 (1.61)	28.77254 (2.15)**	-4.974243 (0.34)
concil_leader_all	66.7487 (2.35)**	95.49078 (3.13)***	-43.9947 (1.74)*	-10.59345 (0.44)
denial	21.27012 (0.93)	-25.67259 (1.23)	-10.39566 (0.89)	-6.238397 (0.38)
legal_rest	32.53828 (1.25)	22.63156 (1.14)	21.31495 (0.68)	41.43288 (1.38)
vio_group_all	-.0942601 (0.56)	-.2308795 (2.16)**	-.0420485 (0.26)	-.4983053 (3.81)***
vio_lead_all	30.84742 (1.46)	-25.41561 (1.79)*	-21.12151 (1.37)	-6.908359 (0.46)
Controls				
eco_free_lag	8.198756 (1.24)			
gdp_change	5.233677 (1.35)			
pop_lag	-28.7362 (1.16)			
ramadan	-4.031252 (0.42)			
urban_percent_lag	120.2673 (1.10)			
Constant	-.1960515 (0.07)			
R-Squared	0.3422			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 6: Effect of Gov. Responses on the Severity of Terrorism, AQIM, Algeria

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	3.501812 (0.46)	-4.953386 (0.69)	9.029194 (1.12)	-3.252415 (0.49)
concil_leader_all	30.94445 (1.41)	-.0065038 (0.00)	38.30727 (2.14)**	-22.41938 (1.75)*
denial	11.86327 (0.85)	-4.421608 (0.57)	-2.118514 (0.27)	-9.419828 (1.21)
legal_rest	12.40563 (1.10)	-.9984999 (0.16)	-6.706176 (0.45)	-8.112475 (0.92)
vio_group_aqcom	.4394835 (1.16)	-.4421076 (1.39)	-.2229959 (0.97)	-.4015139 (0.95)
vio_lead_aqcom	-19.71461 (2.01)**	-40.20058 (3.02)***	-15.98201 (1.09)	-25.11154 (1.57)
Controls				
eco_free_lag	-9878163 (0.55)			
gdp_change	-1.553591 (0.70)			
pop_lag	-8.405199 (0.31)			
ramadan	-13.37211 (2.34)**			
urban_percent_lag	23.14336 (0.21)			
Constant	1.605206 (0.67)			
R-Squared	0.1178			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 7: Effect of Gov. Responses on the Severity of Terrorism, GIA, Algeria

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	6.412661 (0.59)	-3.626383 (0.36)	9.034644 (1.28)	-2.70915 (0.49)
concil_leader_all	-1.99636 (0.14)	2.165875 (0.15)	-13.63244 (1.40)	.9154127 (0.11)
denial	3.918125 (0.97)	4.722641 (1.23)	-6.361557 (1.68)*	5.615846 (1.88)*
legal_rest	-8.312359 (1.49)	6.510674 (1.00)	-14.03025 (1.96)**	-18.13072 (1.93)**
vio_group_gia	-.5256617 (3.16)***	.0308583 (0.16)	-.0749648 (0.36)	-.2254425 (1.21)
vio_lead_gia	-7.528492 (1.70)*	-10.74066 (2.34)**	-8.472983 (1.84)*	1.200289 (0.20)
Controls				
eco_free_lag	3.163251 (1.08)			
gdp_change	2.090565 (1.87)*			
pop_lag	-8.016645 (1.10)			
ramadan	-3.73128 (1.28)			
urban_percent_lag	39.07569 (1.19)			
Constant	-.7784131 (1.07)			
R-Squared	0.3594			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 8: Effect of Gov. Responses on the Severity of Terrorism, UNK, Algeria

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	-2.578341 (0.38)	-16.92073 (3.08)***	11.15312 (2.10)**	1.942152 (0.22)
concil_leader_all	24.47432 (1.47)	50.43908 (3.39)***	-14.42283 (1.18)	-7.405842 (0.63)
denial	-3.347251 (0.64)	5.297331 (0.75)	3.972471 (0.64)	-3.463235 (0.44)
legal_rest	10.81248 (0.71)	30.41119 (2.10)**	73.27514 (3.79)***	24.37985 (1.27)
vio_group_all	-.0983012 (1.09)	-.1002583 (1.39)	-.1482229 (1.91)*	-.0921095 (1.55)
vio_lead_all	12.93121 (0.95)	-8.427351 (0.78)	-14.76904 (1.80)	2.229169 (0.30)
Controls				
eco_free_lag	-1.340065 (0.45)			
gdp_change	-2.385241 (1.16)			
pop_lag	25.32627 (1.89)*			
ramadan	-3.707324 (1.01)			
urban_percent_lag	-113.1502 (1.98)**			
Constant	-.0456354 (0.03)			
R-Squared	0.3562			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

APPENDIX D
THE PHILIPPINES - MODEL 3³²

³² The Appendix is ordered by frequency and then severity. Regressions for the overall levels are presented first, followed by individual organizations in alphabetical order.

Frequency

Table 1: Effect of Gov. Responses on the Frequency of Terrorism, Overall, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	3.068167 (2.51)**	1.06945 (1.01)	1.002351 (1.06)	.3306092 (0.42)
concil_leader_all	.9457803 (0.41)	3.245964 (1.57)	-4.202523 (2.06)**	1.516138 (0.50)
denial	2.132783 (2.46)**	1.129608 (1.20)	-.6052695 (0.51)	-1.317181 (1.16)
legal_rest	1.241378 (0.84)	-2.758799 (1.78)*	1.610039 (0.88)	1.633069 (1.10)
vio_group_all	.0582176 (5.88)**	.0228935 (2.49)*	.0111165 (1.11)	.0066943 (0.85)
vio_lead_all	1.170993 (0.82)	-.032239 (0.02)	-2.915592 (1.65)	-2.111335 (1.44)
Controls				
eco_free_lag	-.566314 (0.72)			
gdp_change	.2057507 (0.59)			
pop_lag	.0237917 (0.31)			
ramadan	-.8937881 (0.97)			
urban_percent_lag	6.53261 (0.49)			
Constant	-.0635963 (0.20)			
R-Squared	0.4257			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 2: Effect of Gov. Responses on the Freq of Terrorism, ASU, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_milf	.5489756 (1.02)	.1038576 (0.18)	.8522221 (1.03)	1.16825 (1.27)
concil_leader_milf	-.2538677 (0.59)	-.7627398 (1.71)*	-.7627398 (1.01)	.0934735 (0.19)
Denial	.3700598 (1.17)	-.54026 (1.58)	-.1689824 (0.60)	.078349 (0.32)
legal_rest	-.4365046 (1.07)	.2955955 (0.65)	-.1522843 (0.38)	-.2775417 (0.68)
vio_group_abu	.001894 (0.74)	.0016477 (0.71)	.0021253 (0.74)	.0010163 (0.42)
vio_lead_abu	-.4039995 (0.71)	.1255298 (0.21)	-1.003574 (1.59)	-.4336471 (0.75)
Controls				
eco_free_lag	-.1781712 (0.85)			
gdp_change	.0501575 (0.56)			
pop_lag	-.0027695 (0.11)			
ramadan	-.7633051 (2.43)**			
urban_percent_lag	-2.809069 (0.71)			
Constant	.0031993 (0.04)			
R-Squared	0.2508			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 3: Effect of Gov. Responses on the Frequency of Terrorism, JI, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_milf	.0344802 (0.43)	-.0126348 (0.10)	.1447659 (1.52)	.0020855 (0.02)
concil_leader_milf	.1521423 (0.99)	-.3376485 (1.27)	-.0360768 (0.31)	-.0893845 (0.61)
denial	-.0657369 (0.66)	-.0691904 (0.56)	-.0820889 (0.54)	.3022002 (1.44)
legal_rest	.0227248 (0.24)	.1274728 (1.15)	-.1380994 (1.32)	-.0708031 (0.62)
vio_group_ji	.0377675 (1.03)	.0107433 (0.30)	-.0579145 (1.52)	.0065948 (0.23)
vio_lead_ji	.1613433 (1.12)	-.5550262 (1.68)*	-.1989477 (0.78)	-.6925183 (2.08)**
Controls				
eco_free_lag	-.2748196 (2.06)**			
gdp_change	.0140891 (0.31)			
pop_lag	-.0368485 (1.75)*			
ramadan	.1875661 (1.77)*			
urban_percent_lag	7.734546 (2.18)**			
Constant	.0116096 (0.32)			
R-Squared	0.2370			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 4: Effect of Gov. Responses on the Frequency of Terrorism, MILF, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_milf	2.689321 (1.20)	.5983138 (0.54)	1.26227 (1.12)	-.3300411 (-0.46)
concil_leader_milf	2.236889 (1.37)	1.52709 (0.92)	-2.79804 (1.08)	1.976444 (0.87)
Denial	1.015893 (2.51)**	1.138301 (2.66)***	.0541802 (0.13)	-.1756992 (0.48)
legal_rest	.4145799 (0.70)	-1.680038 (2.65)***	.2688525 (0.55)	.051174 (0.09)
vio_group_milf	.0585054 (5.27)***	.018875 (2.25)**	.0022563 (0.24)	-.0044974 (0.78)
vio_lead_milf	-.1759313 (0.29)	1.31756 (1.82)	.7201776 (0.99)	-1.025558 (1.62)
Controls				
eco_free_lag	.0533042 (0.30)			
gdp_change	.0180561 (0.26)			
pop_lag	-.0005948 (0.02)			
ramadan	.2266665 (0.47)			
urban_percent_lag	-4.999162 (0.85)			
Constant	.0228292 (0.16)			
R-Squared	0.6271			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 5: Effect of Gov. Responses on the Freq of Terrorism, NPA, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_npa	.1008972 (0.16)	.737994 (1.11)	.3604573 (0.84)	-.1084097 (0.28)
concil_leader_npa	.8820524 (0.83)	1.002368 (0.70)	-1.270595 (1.57)	-2.703881 (2.16)**
Denial	.5100247 (1.42)	-.2500122 (0.74)	-.3171462 (0.64)	-.7685193 (1.79)*
legal_rest	-.1700876 (0.37)	-.2592077 (0.37)	.5022122 (0.67)	.9495755 (1.69)*
vio_group_npa	.0387379 (2.27)**	.0237277 (1.23)	.0268009 (1.21)	.0310681 (1.45)
vio_lead_npa	n/a	n/a	n/a	n/a
Controls				
eco_free_lag	.3910485 (1.27)			
gdp_change	-.0149215 (0.16)			
pop_lag	-.0233905 (0.52)			
ramadan	-.8061707 (2.09)**			
urban_percent_lag	.3302758 (0.05)			
Constant	.0601302 (0.55)			
R-Squared	0.2504			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 6: Effect of Gov. Responses on the Freq of Terrorism, UNK, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	.7337408 (1.77)*	-.2241876 (0.51)	-.7050884 (1.48)	-.0635682 (0.14)
concil_leader_all	-.6664543 (0.49)	2.303694 (1.55)	-.822451 (0.83)	-1.959599 (1.58)
denial	.6791516 (1.28)	.4738992 (0.85)	-.6445071 (0.95)	-.2530302 (0.36)
legal_rest	.1374477 (0.21)	-.6002109 (0.88)	.1138687 (0.14)	.5998975 (0.99)
vio_group_all	.0080408 (2.18)**	.00385 (1.15)	.0039207 (1.04)	.0025381 (0.59)
vio_lead_all	.4816167 (0.52)	-.575766 (0.57)	-1.283046 (1.04)	-1.223561 (1.09)
Controls				
eco_free_lag	-.1068424 (0.42)			
gdp_change	.0097095 (0.05)			
pop_lag	.0184877 (0.46)			
ramadan	-.4858323 (0.86)			
urban_percent_lag	6.456234 (0.98)			
Constant	-.049527 (0.27)			
R-Squared	0.1677			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Severity

Table 7: Effect of Gov. Responses on the Severity of Terrorism, Overall, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	11.58266 (0.95)	7.650972 (0.75)	13.83424 (1.38)	6.75842 (0.95)
concil_leader_all	11.40736 (0.81)	16.80996 (2.02)**	26.32588 (2.53)**	-3.793119 (0.21)
denial	12.10541 (1.93)	2.663095 (0.52)	-5.632643 (-0.91)	-4.793846 (-0.72)
legal_rest	9.293258 (1.27)	-10.77486 (1.46)	8.962269 (1.25)	12.75379 (1.25)
vio_group_all	.3249164 (3.51)***	.074915 (0.70)	.2606554 (3.29)***	.0219596 (0.28)
vio_lead_all	8.907585 (0.89)	3.102078 (0.24)	-17.22661 (1.19)	-3.65279 (0.23)
Controls				
eco_free_lag	8.953634 (1.50)			
gdp_change	.6886409 (0.30)			
pop_lag	1.062613 (1.24)			
ramadan	-3.177648 (0.38)			
urban_percent_lag	-108.1902 (0.73)			
Constant	-.6487405 (0.32)			
R-Squared	0.3719			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 8: Effect of Gov. Responses on the Severity of Terrorism, ABU, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_milf	21.16331 (1.45)	-.7368992 (0.05)	11.84599 (0.54)	41.16816 (1.45)
concil_leader_milf	.2710173 (0.03)	-.5482785 (0.06)	1.852581 (0.16)	-.9645567 (0.08)
Denial	5.749192 (0.63)	-8.695357 (1.18)	.5151115 (0.09)	-2.238578 (0.39)
legal_rest	-.1100235 (0.01)	6.789067 (0.73)	.9668076 (0.15)	-13.29077 (1.57)
vio_group_abu	.0821698 (1.13)	.0567823 (0.88)	.0252684 (0.35)	.0035884 (0.07)
vio_lead_abu	-5.700873 (0.57)	.4335872 (0.04)	-15.07171 (1.92)	-3.833833 (0.68)
Controls				
eco_free_lag	.9475663 (0.21)			
gdp_change	-.8241402 (0.62)			
pop_lag	.3995856 (0.48)			
ramadan	-4.924577 (0.68)			
urban_percent_lag	-14.75518 (0.13)			
Constant	-.4372109 (0.22)			
R-Squared	0.2016			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 9: Effect of Gov. Responses on the Severity of Terrorism, JI, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_milf	.6538745 (0.34)	2.423996 (0.70)	4.22324 (1.92)*	2.07706 (1.09)
concil_leader_milf	3.163214 (0.89)	-7.639556 (1.12)	.0105529 (0.00)	-2.147603 (0.67)
Denial	-.74404 (0.35)	.6416379 (0.22)	-.2083897 (0.05)	6.983289 (1.33)
legal_rest	-.9733923 (0.41)	1.58769 (0.56)	-3.903893 (1.43)	-.1416185 (0.04)
vio_group_ji	.7745115 (0.96)	.2396742 (0.32)	-1.395171 (1.42)	.7445588 (1.06)
vio_lead_ji	-9.146185 (1.37)	-19.39559 (2.28)*	-15.51007 (1.86)*	-20.26576 (1.93)
Controls				
eco_free_lag	-7.700306 (2.43)**			
gdp_change	.5923149 (0.74)			
pop_lag	-1.048129 (2.06)**			
ramadan	4.499115 (1.61)			
urban_percent_lag	163.0036 (2.05)**			
Constant	.5134605 (0.56)			
R-Squared	0.2296			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 10: Effect of Gov. Responses on the Severity of Terrorism, MILF, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_milf	7.633843 (0.73)	-2.674646 (0.22)	13.36519 (1.04)	-1.29865 (0.20)
concil_leader_milf	-3.153154 (0.26)	3.597295 (0.23)	-35.88649 (1.73)*	-23.92669 (1.29)
Denial	8.277825 (1.66)*	4.994665 (1.47)	1.077757 (0.31)	-1.739772 (0.52)
legal_rest	5.192356 (1.26)	-7.163538 (1.52)	8.790237 (1.79)*	.6396101 (0.15)
vio_group_milf	.3578623 (2.66)***	.0887519 (0.54)	.1725766 (1.62)	.0346879 (0.39)
vio_lead_milf	-3.910973 (0.59)	7.152248 (0.74)	1.316632 (0.20)	-5.521393 (0.99)
Controls				
eco_free_lag	5.804764 (1.65)			
gdp_change	1.465306 (0.90)			
pop_lag	.1911973 (0.30)			
ramadan	-5.238814 (0.90)			
urban_percent_lag	-119.1132 (1.13)			
Constant	.3332068 (0.20)			
R-Squared	0.3476			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 11: Effect of Gov. Responses on the Severity of Terrorism, NPA, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_npa	-0.1725718 (0.10)	.6295496 (0.41)	-2.10274 (1.62)	-1.412804 (1.14)
concil_leader_npa	-1.923976 (0.30)	1.782284 (0.48)	.7331185 (0.14)	-10.5746 (2.50)**
Denial	3.413438 (1.55)	.6136982 (0.36)	-1.069416 (0.71)	-.7520658 (0.40)
legal_rest	-3.971874 (1.82)*	-3.417256 (1.64)	.4403843 (0.24)	2.993559 (1.67)*
vio_group_npa	.048719 (0.72)	.0233148 (0.37)	.0359167 (0.36)	.1959882 (1.99)**
vio_lead_unk	n/a	n/a	n/a	n/a
Controls				
eco_free_lag	2.168996 (2.38)**			
gdp_change	.0488921 (0.23)			
pop_lag	-.1933729 (1.53)			
ramadan	-4.248979 (2.94)***			
urban_percent_lag	-11.0636 (0.61)			
Constant	.3540269 (0.68)			
R-Squared	0.2405			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

Table 12: Effect of Gov. Responses on the Severity of Terrorism, UNK, the Philippines

Government Response	Initial Month	1 Month Lag	2 Month Lag	3 Month Lag
concil_group_all	.2196835 (0.03)	4.933534 (0.78)	-4.204489 (0.75)	3.235764 (0.67)
concil_leader_all	6.862837 (2.54)**	5.795073 (2.38)**	-4.498858 (0.96)	-3.645614 (0.44)
denial	1.118812 (0.36)	-1.996175 (0.57)	-7.589275 (1.65)	-4.256952 (0.79)
legal_rest	1.333786 (0.30)	.1964706 (0.04)	-1.727179 (0.35)	10.61692 (1.28)
vio_group_all	.0862509 (1.92)*	-.0061059 (0.15)	.1046572 (1.74)*	-.0247622 (0.52)
vio_lead_all	5.961009 (0.73)	1.602763 (0.15)	-17.25756 (1.45)	-9.54394 (0.70)
Controls				
eco_free_lag	.1070388 (0.03)			
gdp_change	-.0943064 (0.09)			
pop_lag	.7622279 (2.13)**			
ramadan	9.417654 (2.08)**			
urban_percent_lag	23.32995 (0.35)			
Constant	-.9822409 (0.81)			
R-Squared	0.3241			

Note: Absolute value of t-statistic in parentheses. * $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed tests). $n = 132$.

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