Deterrence and Counterdeterrence in the Fight Against Global Terror *

Livio Di Lonardo† Scott A. Tyson‡

November 17, 2016

Abstract

The deterrence of transnational terrorist activities is a key challenge in modern foreign policy. This challenge has been rendered even more daunting by the emergence of several new non-state actors, whose ultimate goals and internal ideological cohesion are difficult to assess. We develop a theory of the interaction between a politician in a target country and a non-state group that might suffer from internal ideological disagreement between different factions. We show that factions within non-state groups will exploit the politician's uncertainty regarding the group's goals and internal cohesion so as to counter-deter the politician from using military force. While a prudent approach toward the use of military force might result in a failure to address some threats, a more aggressive approach can lead to such a large increase in the overall level of terrorism that the target country would better off committing to never use military force.

Keywords: Global Terrorism; Counterterrorism; Deterrence; Non-state Groups

*We thank Eli Berman, Chris Bidner, Brett Allen Casper, Eric Dickson, Tiberiu Dragu, Mark Fey, Scott Gehlbach, David Lake, Vanessa Lefler, Andrew Little, Christine Mele, Roger Myerson, Carlo Prato, Adam Przeworski, Peter Rosendorff, Mehdi Shadmehr, Jacob Shapiro, Alastair Smith, Craig Volden, Richard Van Weelden, Stephane Wolton, participants at the 2015 American Political Science Association Annual Meeting, the 2016 Southern Political Science Association Annual Meeting and seminar participants at the 3^{rd} Annual Formal Theory and Comparative Politics Conference for invaluable comments and discussions.

†Ph.D Candidate, New York University, Department of Politics. Contact Information: ldl297@nyu.edu

‡Harris School of Public Policy Studies, University of Chicago, Contact Information: styson@uchicago.edu

In recent years, the rapid and unprecedented proliferation of militant non-state groups and a simultaneous surge in terrorist activities have raised concerns among citizens and authorities in the West about a new wave of terrorist attacks on their home soil. When dealing with these emerging potential threats, policymakers have faced the daunting task of trying to deter extremist groups from attempting to carry out terrorist attacks without engaging moderate groups that do not intend to pose a threat to the security of potential target countries. The complexity of this task is magnified by the difficulty of assessing the nature of the groups' political goals and identifying clearly which groups represent real threats.

These challenges have recently sparked a debate regarding the appropriate response to the emergence of these new non-state groups. On the one hand, some have argued that recent terror activities should be interpreted as the first signs of a larger terrorist campaign, implying that countries usually targeted by global terrorism should attempt to eradicate these threats before they mature. On the other hand, some have argued that these emerging non-state groups might instead be seeking to create some form of government and impose control over a local population, without aiming to mount major terror campaigns against Western countries. If this is true, then a new military intervention might fail to produce any real benefit in terms of security, and could instead backfire, paradoxically creating new national security threats (Carter 2015*a*). Given the ambiguity of several non-state groups' political goals, can target countries deter extremist non-state groups from engaging in terrorist activities by threatening the use of a military intervention?

To address this question, we develop a framework that details the strategic interaction between a non-state group and a politician (representing a target country) who is uncertain about the non-state group's ultimate political goals. The non-state group initially decides whether or not to build the capacity necessary to conduct terror attacks against the target country. The politician observes this choice and decided whether or not to intervene militarily to try and eradicate the group. If the non-state group has survived, it can allocate its resources into different political tactics that can advance its ultimate goals: non-terrorist tactics, such as the provision of public goods or the administration of law, local terror tactics, and, if it has initially invested resources into building the capacity for it, global terror tactics. Different types of groups have different views with respect to

what tactics are more effective at advancing their goal. In our framework, *extremist* groups deem terrorist activities (with a global or more local reach) as the best tactic to achieve their goals, while *moderate* groups consider non-terrorist activities as the most effective tool for their political cause. We show that, in line with the conventional logic of deterrence, when military intervention imposes large costs on the non-state group, then it is effective at deterring an extremist non-state group from investing resources into terrorist activities.

However, while the threat of military force is effective at deterring non-state groups that enjoy internal unity, many non-state groups are far from being monolithic actors and are instead comprised of distinct factions with potentially different political goals (Bueno de Mesquita 2008*b*; Bapat and Bond 2012). For example, groups like al-Shabaab and Boko Haram have experienced internal disagreements among factions regarding what the group should accomplish, and specifically, whether they should refocus their efforts toward striking Western countries.[1] Although this potential factionalization might create additional challenges for target countries trying to identify terrorist threats, it can also imply the presence of moderate elements within non-state groups. This, in turn, could offer target countries the possibility of relying on these moderate factions to eliminate terrorist threats without having to resort to the costly use of military force. In light of the new strategic environment created by the potential for factional divisions within non-state groups, does the standard logic of deterrence still apply? Can a politician rely on internal divisions within the group to address her security concerns? Or does a more aggressive approach toward the use of military force ensure a higher level of security from terrorism?

To address these questions, we extend our benchmark model to include the possibility that factions within the group may have different views on which tactics to use to pursue their goals, with the politician being uncertain about the internal composition of the group. The faction initially in control of the group first decides whether or not to invest the initial group's resources into building the capacity to conduct terror attacks with transnational reach. Afterwards a second faction decides whether to give support to the faction initially in control or to withdraw its support

[1] "Boko Haram Generates Uncertainty With Pledge of Allegiance to Islamic State", *New York Times*, Rukmini Callimachi, March 7, 2015; "Boko Haram Factions Divided Over Loyalty to the Islamic State", *Council on Foreign Relations*, John Campbell, June 10, 2015; "Rumors of Pro-Isis Factions within al-Shabaab Are Not Far-fetched", *International Business Times*, Rita Katz, March 17, 2015.

and thereby gain control of the non-state group. After observing these choices, the politician decides whether or not to use military force to try and eliminate the group. Once again, if the group survives, whichever faction is in control of the group allocates its resources toward either terrorist tactics or other political activities.

We show that when there are *potential* ideological disagreements within non-state groups, target countries are unable to use the threat of military intervention to deter non-state groups from investing into global terrorist activities. In particular, different factions (both moderate and extremist) choose actions so as to strategically misrepresent their real intentions to deter the politician from using intervention. We call this strategic manipulation *counterdeterrence*, and show that it manifests in two distinct ways.

First, when the politician incurs high costs from using military force, then she will choose to intervene militarily only when she is relatively certain that the group is controlled by extremists. This initial reluctance to intervene gives moderate factions an incentive to withdraw support from extremist factions whenever the latter have invested resources to build the capacity to conduct terror attacks against the target country.

This attempt to signal that the group is no longer controlled by extremists provides ideologically cohesive extremist groups with an incentive to mimic moderates, project an image of internal division within the group, and thus keep the politician uncertain about the group's true ideological composition. This uncertainty, along with the politician's high costs to use intervention, allows extremist groups to avoid military intervention and conduct a campaign of global terror unencumbered. We call this *counterdeterrence by division*, since the politician's effort to deter global terrorism is countered by the projection of internal division by extremist cohesive groups, thus preventing the politician from distinguishing real internal divisions from tactical ones.

Second, when intervention is less costly for the politician, an attempt to counterdeter the politician by projecting an image of internal division will not be effective. However, we show that this more aggressive approach toward the use of military force creates a novel strategic effect. The threat of military intervention provides a useful instrument for factions controlling divided groups to consolidate support from factions who would otherwise challenge their control. Surprisingly,

even moderate factions invest resources toward developing the capacity to carry out global terrorist activities so as to appear extremist, attract the threat of military intervention from the target country, and de facto force internal support to deter intervention. As a consequence, all non-state groups, regardless of their ideological composition, behave the same way — investing resources into the ability to conduct global terror and maintaining internal unity. The uncertainty generated by this pooling behavior, together with the costs that intervention entail, makes the politician unwilling to intervene. We call this mechanism *counterdeterrence by unity*.

Our results show that factions within non-state groups are able to counterdeter the politician by exploiting her reliance on the factions' behavior to evaluate whether the non-state group represents a threat to the national security of her country. Can the politician do better by committing to a strategy that is unresponsive to the uncertainty generated (or maintained) by the factions' behavior? We consider two committed strategies that the politician could adopt and analyze if and when such strategies are beneficial to the target country. We first consider a strategy that prescribes the use of military intervention in response to any investment into terrorist activities. We then consider a strategy of complete disengagement, meaning that the politician never uses military force regardless of the non-state group's behavior.

We show that whenever a politician has an aggressive approach toward the use of military intervention (i.e. the cost of using force is low), and hence faces counterdeterrence by unity, she is better off committing to a counterterrorism approach that ignores the uncertainty strategically maintained by the group's factions through their behavior. More specifically, the commitment to use intervention after observing investment into global terror activities, and surprisingly even a commitment never to use military force, prevents factions within non-state groups to use the threat of intervention as tool to quell internal disagreements. This means that the politician can benefit from inaction with respect to non-state groups even if this entails that she will fail to address some real threats to her country's security.

In sum, the potential for ideological disagreement within non-state groups create a strategic environment where the threat of military intervention, rather than deterring terrorist activities, can be itself counterdeterred. This has two important policy implications. First, counterdeterrence

by division implies that relying on moderate factions to address serious terrorist threats can help cohesive extremist groups to conduct terrorist attacks unchallenged by simply mimicking the behavior of moderate factions. Second, counterdeterrence by unity implies that an aggressive approach toward the use of force raises the salience of the conflict between target country and non-state group while lowering the salience of the conflict between factions within divided non-state groups. Factions in divided groups can then trigger this dynamic so as to deter internal challenges over control of the group.

Related Literature

Early views on the deterrence of transnational terrorism were heavily influenced by the conviction that terrorists are irrational actors and, as a consequence, they would be largely unresponsive to incentives (Davis and Jenkins 2002).[2] However, this early view has come under intense scrutiny, and several scholars have since then reassessed the role of deterrence in the fight against transnational terrorism (Berman and Laitin 2008; Berman 2009; Lebovic 2007; Morral and Jackson 2009; Machain, Morgan and Regan 2011). Scholars have argued that policy-makers can deter terrorist activities by threatening large punishments (e.g., Trager and Zagorcheva (2005-2006)), by reforming institutions that can foster the development of terror groups (e.g., Aksoy and Carter (2014)), and by improving economic conditions and service provision for the aggrieved population (Abadie 2006; Berman, Shapiro and Felter 2011; Krueger and Malečkova 2003). Our results contribute to this debate and show strategies aiming at deterrence by punishment or deterrence by denial have a limited role in countering terror.[3] In fact, whenever target countries are uncertain about internal cohesion of the non-state group they face, deterrent strategies fail or even backfire. Importantly, we identify this novel source of failure to deter transnational terrorism in a framework where we treat terrorists as perfectly rational.[4]

This failure of deterrence relies on two key elements: the potential for internal division within

[2]See also George W. Bush, *The National Security Strategy of the United States of America* (Washington D.C.: U.S. Government Printing Office, September, 2002), pg. 15.

[3]See Snyder (1961) for a definition of these difference concepts of deterrence.

[4]See Carter (2012),Bueno De Mesquita (2008*a*), and Sandler (2015) for a broad overview of the political economy literature on terrorism.

a group and the politician's uncertainty about the factions' ideologies. Following Arce and Sandler (2007, 2010), we consider a target country that is uncertain about whether or not it faces a non-state group that poses a threat to the target country's national security. However, we allow for the possibility that different factions with conflicting goals may coexist within the very same group.[5] The presence of different factions within non-state groups has been shown to affect the factions' tactical decisions and the target governments' counterterrorism strategies (Siqueira 2005).[6] In particular, while some studies have shown that the use of concessions to moderate factions can lead to more violence by placating the moderates and leaving the group in the hand of the hardliners (Arce and Sandler 2003; Bueno de Mesquita 2005), our results show how a more aggressive approach can unite moderates and extremists and lead to a higher level of terrorism than a more prudent approach.[7]

Our findings also contribute to a literature on the use of provocation strategies by terrorist groups. Extant work argues that a provocation strategy is used to obtain the crucial support of the terrorists' domestic audience. Terror attacks are thus used to trigger a military response that, by imposing large scale collateral damage to civilians, could convince moderates about the necessity of employing radical measures to fight the target government (Lake 2002). As a consequence, disproportionate military responses to terrorist violence could backfire: even if a military operation could prove effective at eradicating or severely weakening the terrorists, it might end up radicalizing the aggrieved population that was initially resistant to join the group's cause (Arce and Sandler 2010; Bueno de Mesquita and Dickson 2007; de Figueiredo Jr and Weingast 2001; Dragu and Polborn 2014; Rosendorff and Sandler 2004; Carter 2015*a*). In our framework we identify a different provocation incentive: a leading faction within a terrorist group will engage in terrorism-related activities so as to trigger the threat of military intervention from the target country and in turn

[5]For additional contributions analyzing the challenges target governments face when they are forced to craft counterterrorism strategies under uncertainty about the nature of the enemy see, among others, Lapan and Sandler (1993), Mele (2012), and Overgaard (1994).

[6]In addition to the horizontal organization of groups, Shapiro and Siegel (2012), Shapiro and Siegel (2007), Shapiro (2013), and Foster and Siegel (2014) consider implications of the vertical, i.e. hierarchical, organization of terrorist groups.

[7]Other prominent effects of the internal factionalization of terror groups are the strategic use of violence by extreme factions to undermine peace negotiations between the target country and more moderate factions (Berrebi and Klor 2006; Kydd and Walter 2002) and the choice of more extremist positions from terrorist factions in control of a group to avoid splintering (Bueno de Mesquita 2008*b*).

put down challenges to its leadership from within the group. That is, the leadership of the group exploits the mutual interest that factions have in avoiding the destructive consequences of a military intervention and obtains internal support without paying the consequences of its provocation strategy. Moreover, we show how even just the *threat* of a military intervention, rather than an actual military operation, can lead to an increase in the level of terrorism violence.

A Benchmark Model of Terrorism Deterrence

We begin by considering the interaction between a monolithic non-state group seeking to advance its political goals and a politician in a target country concerned with preventing terrorist attacks on her home soil. The non-state group initially decides whether or not to build the capacity necessary to conduct a campaign of global terror against the target country. After observing this choice, the politician can decided whether or not to intervene militarily to try and eradicate the group. If the non-state group has survived, it can allocate its resources into different political tactics that can advance its ultimate goals: *non-terrorist tactics*, such as the provision of public goods or the administration of law, *local terror tactics*, and *global terror tactics*, where the latter tactic is available only if the non-state group has built the capacity to carry out attacks with a transnational reach in the first stage.

Let us now present a more detailed description of the model.

Non-state Group The non-state group moves twice, once at the beginning of the game and once at the end. Before each move, the non-state group is endowed with a unitary resource.[8]

In the first stage of the game, the non-state group decides whether to use its initial unitary resource to build the capacity necessary to conduct a campaign of terror with global reach at the last stage of the game.[9] We denote this choice by $r \in \{0, 1\}$, where $r = 1$ captures the

[8] One can think of these resources as deriving from taxation, extortion, rents from natural resources, external funding, etc.

[9] An important feature of global terrorism is that its planning and implementation is generally a complex and expensive process, especially relative to terrorist activities conducted near a group's operational center. Global terrorism not only requires the recruitment of numerous operatives and informants committed to risk (or even sacrifice) their lives, but it also requires the development of a network within which the group can transfer resources surreptitiously to these operatives. Indeed, the investment in developing such a network entails significant costs, both

recruitment of individuals willing to advance the group's cause, the creation of infrastructures needed for training and maintaining recruits, and the material support necessary to carry out transnational attacks. If the group chooses not to invest its initial resources into the development of a global terror network (i.e. $r = 0$), then these resources will be available in the last stage, along with the additional unitary resource, for investment into political tactics other than global terrorism. For the sake of convenience, we refer to $r = 1$ as *recruitment* or *development of a global terror network* interchangeably.

In the last stage, if it has survived a possible military intervention from the target country (see details below), the group can allocate its total available resources (both the new and the initial one if it was not invested towards the realization of a global terror network) into different political tactics. In particular, a level of investment $z > 0$ into *non-terrorist political tactics* provides benefits according to the function $N(z)$, which is strictly increasing and strictly concave. Instead, allocating an amount of resources equal to $y > 0$ toward a local terror campaign produces a level of localized terrorist violence given by $L(y) = \beta \cdot y$, where $\beta > 0$ captures the impact of local terror on the achievement of the group's goals.

If the group developed a global terror network (i.e. $r = 1$), then it can use that network, along with the new resource at its disposal, to implement a global terror campaign against the target country. An allocation of $x > 0$ toward *global terror tactics* produces a level of global terror given by the function $G(x)$.

Additionally, a fundamental feature of modern terrorism is that many activities aimed at fueling recruitment of operatives have the effect of radicalizing individuals who ultimately do not join a group. These so called lone wolves (Spaaij 2010; Phillips 2011), even though they are not directly responding to a group's leadership, often declare themselves "inspired" by some terror groups and carry out acts of terror.[10] We capture this increasingly important feature by assuming that a group's efforts at developing a global terror network (i.e. $r = 1$) create a positive level of terrorist activities even if the group does not invest any further into a global terror campaign (i.e. $x = 0$).

in terms of time and resources, as evidenced by the experience of Al-Qaeda, which invested an enormous amount of resources for nearly a decade (Wright 2007).

[10] "Selling Terror: How Isis Details its Brutality", *Financial Times*, Rhoula Kalif and Sam Jones, June 17, 2014.

This translates formally into $G(0) = \gamma > 0$.

For convenience, we adopt the functional form $G(x) = \gamma + \Gamma(x)$, where $\Gamma(x)$ captures the global terrorist activities directly implemented by the group and γ captures the global terror activities carried out by lone wolves. The function $\Gamma(x)$ is nonnegative, strictly increasing, strictly concave, and differentiable, with $\Gamma'(0) > \beta$.[11]

In sum, given an initial investment decision r, an allocation toward global terror x, and an allocation toward local terror y, the *total level of terror* is given by,

$$T(x, y) = rG(x) + L(y).$$

Not all non-state groups constitute a terrorist threat, either within their locality or at the global level. While some non-state groups believe that their ends are best served by using terrorist tactics, other non-state groups believe that their ends are best served by other political tactics. We characterize a group's attitude toward different political tactics by $\theta \in \{0, 1\}$. Specifically, if a non-state group deems a campaign of terror as the most effective way to serve its ultimate goals, we call it *extremist*, and denote such a group by $\theta = 1$. If, instead, a non-state group believes that the best strategy to achieve its goals entails the use of tools different from terrorism, we call such a group *moderate* and write $\theta = 0$.[12] In our framework, θ allows us to distinguish between groups that represent a threat to the target country's security, and groups that do not. The share of non-state groups that are a threat for the target country is given by $Pr(\theta = 1) = \mu \in (0, 1)$.

On the basis of this distinction, for a level of local political activities $N(z)$, and a level of terrorism $T(x, y)$, a non-state group's payoff function is

$$u(x, y, z \mid \theta) = \theta \cdot T(x, y) + (1 - \theta) \cdot N(z).$$

As is apparent from the utility function above, non-state groups are assumed to derive utility

[11] We adopt this functional form so that global terrorism that is directly orchestrated by the group, and global terrorism from lone wolves, are not complementary. Our results do not rely on this simplification. Additionally, our assumptions on technologies of terrorism ensure that global terrorism and local terrorism are substitutes, but not perfect substitutes. Our results do not hinge on this feature, see Lemma 1.

[12] The labels extremist and moderate are used for ease of exposition to represent a fundamental difference between different types of groups.

directly from the different tactics they invest resources into. However, it is important to stress that we are not necessarily treating terrorist campaigns or other political tactics as *ends* in and of themselves, but rather, we allow for the interpretation of them as *means* for the attainment of some political goals that we take as given.[13]

The Target Country and Military Intervention As mentioned above, the non-state group's global terrorist activities are aimed at a target country, where a politician is tasked with preventing terrorist attacks. The occurrence of global terror attacks generates costs for the politician in the target country. For simplicity, if the non-state group invests x into global terror acts, the politician receives a payoff equal to $-G(x)$.

The politician is uncertain about the non-state group's ultimate goals (i.e. its type), bus she knows that the group is extremist with probability $\mu \in (0, 1)$. However, the politician is able to observe whether or not a group has developed the infrastructure necessary to carry out a global terrorist campaign.[14] After observing the investment decision of the non-state group, the politician can use military intervention to try and eliminate the group, where the probability of successful elimination of the group is given by $\rho \in (0, 1]$.[15]

Military intervention entails costs for both the politician who initiates it and the non-state group that endures it. For the politician, intervention involves a sizable opportunity cost caused by the use of government revenues for staging a military operation, and it might generate negative electoral consequences resulting from the loss of human lives during the military effort (Gartner 2008; Karol

[13]Although it is important to consider the actual ultimate goals of non-state groups, we abstract from such considerations and focus on the extent to which a group represents a threat to the target country's national security. Our parsimonious approach to capturing preferences over different political tactics (i.e. terrorist vs non-terrorist) is consistent with several scenarios: 1) groups have different preferences regarding political tactics because they have different goals, which are best achieved through different tactics; 2) groups have different preferences regarding political tactics because, even if they have similar goals, they fundamentally disagree on the strategic benefits that each tactical approach produces in terms of attainment of those goals. At the same time, our approach is not suitable to capture a scenario where the difference in preferences over a variety of political tactics simply reflect a variation in non-state groups' capabilities. In fact, we assume that every non-state group is endowed with the same amount of resources and capabilities to carry out political activities. For models where rebel groups choose tactics on the basis of their capabilities see Bueno de Mesquita (2013) and Carter (2015*b*).

[14]The ability of the politician to infer whether or not the group has the capability to strike her homeland comes either directly from observing recruitment activities, or indirectly from observing activities carried out by lone wolves, which impose costs γ.

[15]An alternative, but equivalent, interpretation is that intervention eliminates the ability of the non-state group to wage terror.

and Miguel 2007). We denote the politician's cost of using military intervention by $c > 0$. For the non-state group, military intervention inevitably brings about a level of destruction that imposes costs regardless of whether or not the group manages to withstand the offensive operation. We capture these costs with $K > 0$.

In sum, conditional on the group's decision to develop a global terror network, $r = 1$, and on a level of investment into global terror activities x, the politician's expected utility from choosing to intervene is

$$-\gamma - (1 - \rho)\Gamma(x) - c,$$

while her expected utility from choosing not to intervene is $-G(x)$. For the non-state group, the expected utility from enduring intervention is

$$\rho\theta\gamma + (1 - \rho)u(x, y, z \mid \theta) - K.$$

Timing To summarize, the timing of our benchmark game is as follows:

1. Nature determines the group's type $\theta \in \{0, 1\}$ and endows the group with a unit resource;
2. The group decides whether or not to invest its resource into recruitment activities (i.e. $r \in \{0, 1\}$), making global terror activities feasible;
3. The politician observes the investment decision $r \in \{0, 1\}$ and then decides whether or not to use military intervention to try and eliminate the non-state group;
4. If the group survives, it is again endowed with a unitary resource, and it chooses to allocate its available resources either toward a campaign of terror (global or local) or toward other political tactics.

We analyze pure-strategy Perfect Bayesian Equilibria of the game, which we refer to as equilibria. Informally, an equilibrium is composed of (1) a recruitment decision for the non-state group given its type; (2) an intervention decision for the politician given the action of the non-state group; (3) a system of beliefs regarding the non-state group's type; (4) an allocation of resources into dif-

ferent political tactics for the group at the end of the game, given the first stage choice and the group's type.

Simple Deterrence

The choice of how a non-state group will choose to allocate the resources it controls at the last stage of the game will depend on the tactics that are available to the group at that stage and on the group's ultimate goals (i.e. its type). Recall that x are the resources allocated toward the a global terror campaign, y the resources allocated toward localized terrorist violence, and z the resources allocated toward other political tactics. Denote by W the resources available to group at the last stage of the game and let $a = (x, y, z)$.

Lemma 1 *In the final stage of the game, the optimal allocation $a^*(\theta_j \mid r)$ is as follows:*

(i) A moderate non-state group (i.e. $\theta = 0$) invests all resources into non-terrorist political tactics, i.e. $a^*(0 \mid r) = (0, 0, W)$ for all r;

(ii) An extremist non-state group (i.e. $\theta = 1$), following no recruitment (i.e. $r = 0$), invests all resources into local terror, i.e. $a^*(1 \mid 0) = (0, W, 0)$;

(iii) An extremist non-state group (i.e. $\theta = 1$), following recruitment (i.e. $r = 1$), invests resources toward both global and local terror, choosing $a^*(1 \mid 1) = (x^*, y^*, 0)$, where $x^* = \Gamma_x^{-1}(\beta)$ and $y^* = W - \Gamma_x^{-1}(\beta)$.

Unless the group has previously invested in developing the infrastructure necessary to conduct global terror activities, staging a terror campaign with global reach is not possible. Without an investment in recruitment activities, an extremist group will allocate all of the group's resources into local terrorism. If instead it developed a global terror network in the first stage, an extremist group will invest its resources in terrorist activities directed both at close and far enemies, and the relative investment into local and global terrorist activities is based on how instrumental local terror attacks are in the attainment of its goals (i.e. the magnitude of β).[16] On the contrary, a moderate group, who does not see terrorist tactics as an effective means to achieve its goals, allocates all its

[16] See the Appendix for a formal presentation of this decision.

resources into non-terrorist political activities, regardless of whether or not it had initially invested resources into the development of a global terror network.[17]

To rule out cases where the costs of military intervention are so prohibitive for the politician that she would never use it, we assume that if the politician knows with certainty that a non-state group is extremist and has invested into global terror, then she strictly prefers to use force in an attempt to eliminate the known threat. In other words, we are only interested in situations in which the threat of military intervention from the politician is *credible* (Zagare 2004). Formally, this implies that $c < \rho\Gamma(x^*)$.

Lemma 1 implies that extremist non-state groups represent a direct threat to the target country's national security. Under what conditions can a credible threat of military intervention deter the initial investment into the development of a terror network?

Proposition 1 *There is a unique Perfect Bayesian equilibrium where the politician intervenes after observing recruitment, a moderate group does not recruit, and there exists a* $K^\dagger$ *such that an extremist group recruits if and only if* $K \leq K^\dagger$*. Moreover, if* $K > K^\dagger$ *the level of global terrorism is 0.*

Even if the politician does not know the ultimate goals of the non-state group she is facing, a moderate group has no incentive to engage in costly recruitment activities. Therefore, recruitment is an unequivocal signal of extremism that leads the politician to attempt the removal of the group through a military intervention. This, in turn, poses a dilemma for extremist groups: is it worthwhile to invest into the development of a global terror network when such an investment leads to military intervention? If the intervention does not impose too large of a cost (i.e. $K \leq K^\dagger$), extremist groups will engage in recruitment activities, and, in case they manage to survive military intervention, they will use (some of) their resources to stage a global terror campaign. If instead the destructive impact of military intervention is high ($K > K^\dagger$), investing resources into laying the foundations for a global terror campaign is simply not worthwhile since any benefits achieved by global terrorism (assuming the group survives intervention) are outweighed by the costs intervention

[17] Even though a moderate will not choose $r = 1$ in this benchmark, sequential rationality still requires that we consider a moderate's sequential best-response to a choice it would not have undertaken.

imposes.

Proposition 1 outlines the logic behind what we call *simple deterrence*, which is a familiar mechanism from international relations (Schelling 1966; Powell 1985; Quinlan 2004; Huth 1999): when the consequences of recruitment are severe enough, the (credible) threat of military intervention deters the group from investing resources in recruitment activities.[18]

Factionalization Within Non-State Groups

Thus far we have focused on ideological differences *across* groups and we have shown how the threatened use of force is enough for the target country to deter terrorist activities. We now move on to consider the possibility that such ideological differences between moderates and extremists might also be present *within* a non-state group. While some non-state groups are characterized by a high degree of ideological cohesion, meaning that their members share the same vision with respect to what goals the group should attain, there is evidence that many other non-state groups face internal struggles that are often motivated by disagreements regarding the use of the group's resources (e.g., most recently al-Shabaab and Boko Haram).[19] Can target countries still deter global terrorism when they face uncertainty about the goals *and* the internal cohesion of non-state groups?

To answer this question we extend our benchmark model to consider a group that is comprised of two distinct, and possibly rival, factions. One faction, the *inside faction* ($\mathcal{I}$), initially controls the group, while the other faction, which we call the *outside faction* ($\mathcal{O}$), can challenge the inside faction for control of the group (see details below).

We denote the inside faction's preference type by $\theta_{\mathcal{I}} \in \{0, 1\}$ and the preference type of the outside faction by $\theta_{\mathcal{O}} \in \{0, 1\}$. The ideological composition of the group is captured by the pair

[18] We note that there are two channels by which deterrence works in our benchmark model. The first, which is sometimes referred to as *deterrence by denial*, follows from the fact that military intervention, if successful, can prevent the group from enjoying the fruits of its efforts. This channel is captured by ρ in our framework. The second channel, which is sometimes referred to as *deterrence by punishment*, is captured by the costs intervention imposes on the non-state group, K. This distinction is originally due to Snyder (1961), and is applied to terrorism by Trager and Zagorcheva (2005-2006).

[19] There is also evidence of ideological disagreement within the Islamic State between old Baath party military members and international fighters that have been attracted from outside Syria and Iraq."The Hidden Hand Behind the Islamic State Militants?Saddam Hussein's", *The Washington Post*, Liz Sly, April 4, 2015

$(\theta_{\mathcal{I}}, \theta_{\mathcal{O}})$. When both the inside and outside factions are extremist (i.e. $\theta_{\mathcal{I}} = \theta_{\mathcal{O}} = 1$), we say the group is ideologically *cohesive* and, with a slight abuse of notation, we denote this by $\theta = C$. When $\theta_{\mathcal{I}}$ and $\theta_{\mathcal{O}}$ are different, we say the group is ideologically *divided*. We categorize divided groups with respect to the preference type of the inside faction (who is initially in control). An ideologically divided group led by an extremist inside faction (i.e. $\theta_{\mathcal{I}} = 1$ and $\theta_{\mathcal{O}} = 0$) is denoted by $\theta = D_X$. In contrast, an ideologically divided group led by a moderate inside faction (i.e. $\theta_{\mathcal{I}} = 0$ and $\theta_{\mathcal{O}} = 1$) is denoted by $\theta = D_M$. The share of cohesive groups, divided groups led by an extremist $\mathcal{I}$, and divided groups led by a moderate $\mathcal{I}$ are respectively μ_C, μ_X, and μ_M, with $\mu_C + \mu_X + \mu_M = 1$. The preference types of factions are common knowledge within the group but are unknown to the politician in the target country.

The inside faction first decides whether or not to invest the initial group's resources into recruitment activities. Afterwards, the outside faction decides whether to give support to the inside faction (i.e. $s = 1$) or to withdraw support (i.e. $s = 0$) and thereby gain control of the non-state group. [20] An internal struggle over control of the group destroys a fraction $\delta \in (0, 1)$ of the group's initial resources, in case they were not invested by the inside faction toward the development of a global terror network in the first stage.

Control of the group in our model is instrumental toward the achievement of some political aims (that we have taken as given), implying an important distinction between cohesive and divided groups. While in a cohesive group there is no conflict over how to use the group's resources, in divided groups a faction can achieve its political goals only by maintaining, or obtaining, control of the group.[21]

The internal unity between inside and outside factions affects also the effectiveness of military intervention. If the outside faction, $\mathcal{O}$, does not support the inside faction, $\mathcal{I}$, then military inter-

[20] This seemingly stark assumption is useful for two reasons. First, it keeps the analysis simple without affecting our results in a substantively meaningful way. Second, and more importantly, it implies that there are no structural frictions (chances of failure or costs) that prevent the outside faction from assuming control of the group. Our results below highlight how the threat of military intervention creates a common ground between ideologically distinct factions within a group, and this assumption makes such results harder to achieve since there is nothing else holding ideologically divided groups together.

[21] A faction's payoff depends only on the ultimate allocation between global terror, local terror, and local political tactics, and not on the identity of the faction that makes the allocation decision. We relax this assumption in Supplemental Appendix B.3.

vention eliminates the non-state group with probability $q \in (0, 1]$. Instead, if $\mathcal{O}$ supports $\mathcal{I}$, then intervention successfully eliminates the non-state group with probability $\phi \cdot q$, where $\phi \in (0, 1)$ reflects the extent to which internal unity increases the group's military effectiveness, and as a consequence, its chances of surviving a foreign military intervention.[22] We are only interested in cases where a divided group represents a sufficiently easier target than a united group, so as to induce the politician to monitor the internal politics of the group in order to better evaluate the likelihood of success of military intervention. Formally, this corresponds to assuming that $\phi < \frac{\mu_C}{(\mu_C+\mu_X)^2}$.[23]

We further focus on an environment where the politician faces a challenge when deciding what foreign policy to adopt. As such, we want to rule out cases where the costs of using military force are so low that intervention always constitutes the best course of action for the politician, regardless of the accuracy of her assessment about whether the security of her country is actually at stake. Therefore we assume that the information the politician has at the start of the game is insufficient to make intervention the ideal foreign policy against united non-state groups.[24] Formally, this implies that $c \geq (\mu_C + \mu_X)\phi q \Gamma(x^*)$.

Recall that military intervention imposes a cost, K, on the group that endures it. We assume that military intervention is sufficiently costly so that individual factions would prefer to avoid it.[25] Formally, this corresponds to assuming that

$$K \geq \max\{(1-q)[\Gamma(x^*) + \beta(1-x^*)], (1-q)N(1)\} \equiv K^*.$$

Finally, and without consequence for our results, we assume that a faction that has lost control of the group does not incur the costs imposed by military intervention.[26]

To summarize, the timing of the game is as follows:

[22] If a united non-state group is the same strength as the monolithic non-state group from the benchmark model, then $\rho = \phi q$.

[23] This assumption *does not* affect the qualitative nature of the results described below.

[24] In Supplemental Appendix B.4 we analyze the case where c can be small and we show that when c is small there is no pure-strategy equilibrium. We then characterize a mixed-strategy Perfect Bayesian equilibrium in which the behavior is qualitatively similar to that presented in the main text.

[25] As in the standard deterrence literature, we restrict attention to cases in which deterrence is *capable*, meaning that intervention is sufficient to motivate deterrence absent other considerations (Powell 1985; Quinlan 2004; Zagare 2004).

[26] One can think of this as a reduced form way of capturing targeted intervention. In Supplemental Appendix B.2 we formally establish that this assumption is without consequence for our results.

1. Nature determines the preference composition of the group, $\theta \in \{C, D_X, D_M\}$, and endows the group with a unit resource;

2. $\mathcal{I}$ chooses whether to invest resources into recruitment activities, $r \in \{0, 1\}$;

3. $\mathcal{O}$ observes investment decision and chooses whether to support $\mathcal{I}$, $s \in \{0, 1\}$;

4. The politician observes $\mathcal{I}$'s investment and $\mathcal{O}$'s support decision, and chooses whether to intervene;

5. If the group survives, it is again endowed with a unit resource, and the faction in control of the group chooses how to allocate the group's available resources among local terror, global terror, and other political activities

We analyze pure-strategy Perfect Bayesian Equilibria of the game, which we refer to as equilibria. An equilibrium is composed of (1) a recruitment strategy for the inside faction given the preference composition of the group; (2) a support strategy for the outside faction given the preference composition of the group and the recruitment decision of the inside faction; (3) an intervention strategy for the politician given the actions taken by each faction and a system of beliefs regarding the preference composition of the group; (4) an allocation decision for each faction who could control the group at the end of the game (see Lemma 1).

We restrict attention to the case where a moderate inside faction of a divided group requires a strictly positive incentive to recruit for global terror, meaning that she does not recruit when indifferent. We do this because if the moderate inside faction of a divided group is not supported, then she is (technically) indifferent between recruiting and not. This indifference expands the set of equilibria but does not affect the equilibria we focus on. Moreover, we will show that a moderate faction will recruit because it expects to strictly benefit from such actions.[27]

[27] Formally, if a moderate inside faction experiences some minor disutility from global terror, this restriction would not be necessary, but would involve several tedious calculations.

Key Strategic Forces

Before presenting the main analysis, we first identify the critical strategic forces that result from the potential presence of ideological disagreement within a non-state group.

Fact 1 (*a*) *If the inside faction chooses not to recruit, then she is supported by the outside faction (and thus retains control of the group) if and only if the group is cohesive.* (*b*) *If the inside faction chooses to recruit and the group is divided, then the outside faction supports the inside faction if and only if support deters military intervention.*

Fact 1 ties internal conflict over control of the group to both the disagreement between factions regarding the ultimate allocation of the group's resources and the threat of military intervention. Part a) follows by observing that if the inside faction chooses not to invest into the development of a global terror network, then the politician has no motivation to intervene since the group cannot pose a threat to her country's national security. Hence the outside faction, in the absence of the threat of military intervention, conditions its support decision only on how it expects $\mathcal{I}$ to allocate the group's resources. In a divided group, $\mathcal{I}$ will not allocate the group's resources in a way that satisfies the outside faction, who then strictly prefers to withdraw its support from $\mathcal{I}$ even if this internal conflict destroys some of the resources the group commands. In contrast, if the group is cohesive, $\mathcal{O}$ prefers to avoid the loss of resources that a power struggle would entail.

Although one might expect an outside faction in a divided group to have no incentive to support the inside faction, the second part of Fact 1 highlights how the threat of military intervention can lead competing factions to put aside their differences in order to face a more pressing concern together. That is, military intervention, being something all factions want to avoid, can create unity between factions with otherwise conflicting ideological views, *provided that this unity is determinant in discouraging intervention.*

The ability of the threat of military intervention to unite ideologically divided groups has severe consequences for politicians in charge of terrorism prevention. Along with rendering divided groups more resilient to a military operation, it prevents the politician from gaining an accurate assessment of which groups pose a threat to her country's national security. In fact, the politician's assessment

of the ideological composition of group depends on the factions' behavior. This in turn induces factions to choose actions that prevent the politician from evaluating accurately whether or not the group seeks to conduct global terrorist activities against her country. The severity of the politician's inference problem is highlighted in the following result.

Fact 2 *There does not exist an equilibrium where the politician can learn the preference composition of the non-state group (i.e. a separating equilibrium).*

The preference composition of the non-state group can be revealed by the choices of factions only when different types of groups behave differently. If there were a fully separating equilibrium, the politician could perfectly adjust her foreign policy and would intervene against extremists who have the ability to stage a campaign of global terror. However, this is precisely what extremist factions want to avoid. As a result, there are no equilibria in which the politician can learn perfectly the ideological composition of the non-state group. The politician must always craft foreign policy under uncertainty.

Counterdeterrence

Facts 1 and 2 highlighted the crucial differences between the strategic environment analyzed in the benchmark model and the one analyzed in the model with potential factionalization within non-state groups. The logic of simple deterrence relies on the politician's use of recruitment activities as a clear signal that a non-state group poses a threat to her national security. Since in this case the politician can act with full certainty that military intervention is the best course of action, her willingness to use force deters extremist groups from developing the capability to carry out global terror attacks. On the contrary, when there is potential for internal disagreement within non-state groups, the politician can never intervene with the confidence she enjoyed in the benchmark model. The group's factions choose actions that prevent the politician from learning the ideological composition of the group. As a result of this uncertainty and of the costs of a military intervention, the politician lacks the resolve to use force and her attempts to deter recruitment activities end up being countered by the non-state group. We label this ability of the group's factions to deter

military intervention from target countries as *counterdeterrence*.

In this section we explore more in detail the logic of counterdeterrence and the different ways in which it plays out in equilibrium. First, when the politician has a prudent approach to the use of military force, cohesive groups can avoid military intervention by projecting an image of internal division and exploiting the politician's over-reliance on the presence of moderate faction within the group to eliminate threats; we call this *counterdeterrence by division*.

Second, when a politician has a more aggressive approach toward trying to eliminate the non-state group, divided inside factions in ideologically divided groups can maintain control of the group by engaging in recruiting activities and triggering the threat of military intervention. This threat forces the outside faction to preserve internal unity so as to deter a military intervention; we call this *counterdeterrence by unity*.

Counterdeterrence by Division

In recent times, especially after the prolonged operations in Afghanistan and Iraq, many democratic governments have shown more prudence in using military intervention to deal with new emerging terrorist threats around the world, favoring foreign policies characterized by indirect involvement. One of the most prevalent policies to deal with terror threats has been to empower moderate factions in anticipation that they would help fight extremist elements and thus foster security without attempting a risky and costly military intervention. Is this policy approach effective? To what extent can moderate factions within non-state groups be relied on to remove threats from extremists?

Proposition 2 *There exists a unique semi-separating equilibrium where only extremist inside factions recruit, all outside factions withdraw support, and the politician intervenes after observing internal unity if and only if* $c \geq \hat{c} \equiv \frac{\mu_C}{\mu_C+\mu_X} q\Gamma(x^*)$.

In this strategy profile inside factions with different preferences choose different recruitment strategies. This implies that by investing resources into building a global terror network, the extremist inside faction reveals to the politician its interest in carrying out a terror campaign with global reach if it were to maintain control of the group. This motivates the politician to

opt for military intervention whenever $\mathcal{I}$ maintains control. Facing the concrete threat of military intervention, a moderate outside faction in a divided group wants to signal to the politician that it does not aim to carry out global terror attacks, and so has an incentive to withdraw its support from the extremist $\mathcal{I}$ and take control of the group. In this way, the moderate outside faction indirectly helps the politician by eliminating the extremist elements within the group and rendering a military intervention superfluous.

However, this dynamic, which seems beneficial for the politician at first glance, creates a perverse incentive within cohesive groups. A cohesive group is now aware that by projecting an image of internal division it can avoid military intervention and still initiate a campaign of global terrorism, thus advancing its political goals. In fact, upon observing recruitment and internal division, the politician does not know whether the faction that is now in control of the group (i.e. $\mathcal{O}$) is truly moderate or just pretending to be moderate. This uncertainty regarding the need of a military intervention, coupled with the initial reluctance to use it (i.e. $c \geq \hat{c}$), deters the politician from intervening. Non-support is thus optimal for both the moderate and the extremist outside faction because it allows each to avoid intervention and implement their preferred resource allocation in the last stage.

Proposition 2 has important implications regarding recent debates about whether empowering (seemingly) moderate factions can help in the fight against transnational terrorism. In our model outside factions are already empowered, in the sense that they can dispose of the inside faction if they desire. However, we show that such policies have limited effectiveness because of the *strategic* incentives they create. Counterdeterrence by division suggests that while relying on moderate factions can help target countries to prevent terrorist attacks without the need for costly military intervention, it opens up the possibility for extremist factions to mimic moderates and plan their violent deeds undisturbed. It is important to observe that the politician in our model is not "fooled" by the strategic tactics of a cohesive terrorist group to appear divided. Rather, the uncertainty about the group's ideological inclinations and the high direct costs of intervention ($c \geq \hat{c}$) dissuade the politician from resorting to the use of force. That is, even if politicians are perfectly aware of the risks posed by a counterterrorism strategy centered around the support to seemingly moderate

factions, their reluctance to resort to military involvement leads them to accept such risks, which entails that the politician ends up leaving some terrorism threats unchallenged.

Counterdeterrence by Unity

A prudent approach toward the use of force and reliance on moderate factions to get rid of terrorist threats entail the risk of leaving some of these threats unchallenged. Does a more aggressive foreign policy approach improve the target country's ability to deter terrorism and to improve security? To answer this question we consider a scenario where the politician has a lower cost from using military intervention (i.e. $c < \hat{c}$), so that a cohesive group cannot deter intervention by projecting an image of ideological disagreement. As the following result shows, even a more aggressive approach toward the use of military force does not lead to deterrence of global terrorist activities.

Proposition 3 *For any c, there exists a pooling equilibrium in which all types of inside faction recruit, all types of outside faction support any inside faction that recruits, and the politician intervenes after observing nonsupport. Moreover, this is the unique equilibrium whenever $c < \hat{c}$.*

Counterdeterrence by unity is characterized by the inability of the politician to learn anything about the ideological composition of the group. Especially when the politician has a more aggressive approach toward using military force (i.e. $c < \hat{c}$), the group's factions need to maintain a high degree of uncertainty about their ultimate goals to deter the politician from using military intervention. Thus inside factions engage in recruitment activities to attract the threat of military intervention, thereby forcing outside factions to put aside their desire to shape the group's political agenda whenever their support is crucial in dissuading the politician from intervention.

The threat of military intervention creates a window of opportunity for inside factions in divided groups to retain control of the group's resources, notwithstanding the presence of ideologically divergent factions within the group. This logic leads a moderate outside faction to support an inside faction who is committed to a campaign of global terror. More surprisingly, *it also leads a moderate inside faction to invest resources into the development of a global terror network despite her clear preference against such activities.* Recruitment triggers the threat of intervention, and this in turn creates a common interest between ideologically distinct factions. Exploiting the politician's

desire to stop global terror, the moderate inside faction, by recruiting, can create a scenario in which the extremist outside faction is pivotal in deterring military intervention.

Proposition 3 shows that aggressiveness in foreign policy can be self-defeating in that it motivates factions without ambitions of launching global terror attacks to either (1) support the leadership of more extremist factions, or (2) engage in recruiting efforts themselves. This aspect is particularly relevant from a policy standpoint. It is crucial for policymakers to take into account the possibility that some groups who do not plan on orchestrating transnational terrorist attacks may have a strategic incentive to conform their behavior to the perception of what constitutes a terrorist group. A military operation driven by the false assessment of these strategically engineered threats would generate very large material costs (human lives and economic resources) and produce little benefit in terms of security.

The Consequences of Counterdeterrence

In the benchmark section we have seen how the threat of a military intervention that would impose high costs on the opponent allows target countries to deter terrorist activities. However, we have shown that, when target countries face uncertainty about the internal cohesion of non-state groups, this conventional logic of deterrence fails. This is true regardless of whether the politician has a more prudent or more aggressive approach toward the use of military force. Still these different approaches produce different levels of security from terrorism. Does a more aggressive approach lead to a lower overall level of global terror than a more prudent approach?

Fact 3 *If* $K > \max\{K^*, K^\dagger\}$*, then the expected level of global terrorism is higher under counterdeterrence by unity than under counterdeterrence by division.*

This result shows that a higher willingness to resort to a military intervention, along with not deterring global terrorist activities, actually generates a higher level of terrorism than a less interventionist approach. Importantly, this result provides a novel rationale for exercising restraint in using military force. Several studies on counterterrorism have warned about a potential "backlash effect" caused by the use of indiscriminate violence in response to terrorist attacks (or terrorist

threats). Specifically, several studies have argued that an excessive use of force may prove counterproductive because it will radicalize targeted populations and thus increase support for terrorist groups (Rosendorff and Sandler 2004; Dragu and Polborn 2014). Complementing these studies, our results suggest that the threatened imposition of excessively high costs through a military intervention can be counterproductive independently from the backlash effect identified by previous studies and even when an actual use of military force remains off the equilibrium path.

Foreign Policy Resolve

Our analysis thus far has highlighted how the potential for ideological disagreement within non-state groups produces new challenges for the deterrence of global terrorism. These challenges come from the fact that target countries have to rely on the group's actions to glean information about the group's ultimate goals. This leads factions within non-state groups to choose their actions so as to prevent the target country from learning about their ultimate goals. Given that informational challenges, can target countries do better by ignoring the informational content of the group's actions?

Several politicians, experts, and pundits have recently debated the value of drawing "red lines" in dealing with extremist groups targeting Western governments, but the theoretical rationale for why these strategies would be beneficial has not been clearly articulated. In this section, we provide such a rationale by considering two different counterterrorism approaches and show how commitment can benefit the target country. First, by committing to use military force after observing recruitment, the politician is sometimes able to deter some groups from investing into a global terror network. Second, and alternatively, by committing never to use intervention it becomes possible for politicians to rely on moderate factions to eliminate threats from within the group.[28]

For the remainder of our analysis, we will focus on the politician's welfare, which is composed of the costs associated with the level of global terrorism, $G(x)$, and the cost of intervention, c,

[28]It is important to observe that both of these counterterrorism policies require the politician to ignore any kind of information that is at her disposal when she ultimately must choose her course of action.

when used. Recall that there are qualitatively distinct ways in which the interaction between the politician and the non-state group can unfold in equilibrium. First, when the cost of intervention is low enough (i.e. $c < \hat{c}$), we have a unique equilibrium exhibiting counterdeterrence by unity. In contrast, when the cost of intervention is high (i.e. $c \geq \hat{c}$), there are two possible equilibria: one with counterdeterrence by unity and one with counterdeterrence by division. In the latter case, in which there are multiple equilibria, we focus our comparison on the equilibrium that minimizes the level of global terrorism (and consequently maximizes the welfare of the politician), which is the one characterized by counterdeterrence by division (see Fact 3). We do this so as to compare welfare under the committed strategy to the highest welfare the politician can attain in the full model.

Proposition 4 *1. If $c \geq \hat{c}$, then the politician does not benefit from commitment to non-intervention. Moreover, the politician is better off committing to intervention following recruitment only if $c \leq \frac{\mu_C}{\mu_X} G(x^*)$.*

2. If $c < \hat{c}$, then the politician is better off committing to no intervention or to intervention following recruitment.

Proposition 4 explicitly details the conditions determining when it is useful for a politician to have a rigid and committed foreign policy stance, and importantly, when such "red lines" do not benefit the politician. When the politician faces counterdeterrence by division the politician is better off not committing to militarily intervene after observing recruitment activities whenever the cost of intervention is high enough or the share of divided groups with an extremist inside faction is large enough. In fact, even when the threat of international intervention deters recruitment by cohesive groups, the presence of radicalized individuals who are not directly under the group's control (e.g., lone wolves) creates an incentive for extremist leaders in divided groups to engage in recruitment activities. Consequently, a politician who commits to use force following recruitment cannot avoid to incur the cost of military intervention in some situations, and if these costs are very high the politician's welfare is lower than under counterdeterrence by division. Moreover, the politician's welfare under counterdeterrence by division is equal that the one produced by a

commitment to never use military intervention.

When facing counterdeterrence by unity, a politician can benefit from committing to intervene following recruitment. More surprisingly, even committing not to intervene under any circumstance reduces the expected level of global terrorism. When intervention is off the table, inside factions in divided groups cannot use the induced threat of military intervention to generate support *within* the group. Recall that the threat of military intervention by a politician more willing to use it, enables both extremist and moderate inside factions to maintain control of the group. As a result, more non-state groups remain under the control of extremists, and even moderate inside factions invest in recruiting efforts. By taking intervention off the table, *moderate factions never recruit and never support extremist factions*, thus allowing the politician to rely effectively on moderates except in the case when the group is cohesive (since moderates are not present).

Conclusion

We present a theory that details the strategic interaction between a non-state group who potentially represents a transnational terrorist threat, and a politician in a target country who is in charge of terrorism prevention. The non-state group could represent a direct security threat to the target country if controlled by ideological extremists but not if controlled by ideological moderates. Importantly, within the group there may be an ideological disagreement among different factions. To combat potential security threats, the politician in the target country can use military intervention in an attempt to eradicate the group (or at least weaken it). However, the politician is uncertain about the ideological composition of the group and must rely on the behavior of the group's factions to assess it.

We show that while the threat of military intervention is effective at deterring terrorism acts from non-state groups known to enjoy internal unity, this is not the case when there is uncertainty regarding possible internal political disagreements within non-state groups. In particular, all factions within non-state groups wish to avoid military intervention regardless of their ideological leanings about the use of terrorist tactics. This implies that a politician who is carefully adapting foreign policy to match her understanding of the political dynamics within non-state groups

exposes herself to the possibility that factions will choose their actions so as to manipulate the politician's belief in a way that *counter-deters* the use of military force. This logic of counter-deterrence is driven by two alternative mechanisms. First, counterdeterrence by division results from a politician's reluctance to intervene and her excessive reliance on moderate factions to fight terror threats. Although moderate outside factions in divided groups will get rid of extremist inside factions, extremist factions in cohesive groups will project an image of internal division so as to keep the politician uncertain about the ideological orientation of the faction now controlling the group. This uncertainty, coupled with the initial reluctance to intervene, counter-deters the politician from using force. Second, and more subtly, counterdeterrence by unity results the fact that factions in divided non-state groups can use the threat of military intervention as an instrument to quell internal challenges motivated by ideological disagreements. All factions, both moderate and extremist, invest into developing a global terror network, and the politician cannot distinguish real threats from tactically engineered threats.

Finally, we address the use of commitment to specific counterterrorism strategies, and develop a theoretical rationale for how such approaches can reduce the incidence of global terrorism over those that are responsive to the internal politics within non-state groups. Our results suggest that relying on moderate factions to fight terrorist threats is only effective when the politician can credibly commit never to use intervention, even if she learned she was facing an extremist and cohesive group. This implies that committing never to use intervention can be welfare enhancing for a politician facing counterdeterrence by unity. Alternatively, by responding aggressively to the actions of inside factions, and not to the information that such actions might convey, the politician is better able to deter cohesive groups from investing in the development of a global terror network. Our results imply that the logic of deterrence can be a useful guide in the design of policy, but at the same time, they show that successful deterrence crucially requires that politicians can credibly commit to, and follow through with, certain intervention strategies ex ante.

A Appendix

Proof of Lemma 1: Given a preference type θ_j, the leader's problem is given by

$$\begin{aligned} &\max_{x,y,z} \theta_j T(x,y) + (1-\theta_j) N(z) \\ &\text{s.t. } x + y + z \leq W. \end{aligned} \tag{A.1}$$

First, observe that any leader prefers to exhaust the budget so that the constraint in (A.1) always binds. From this, the first two parts are immediate. The last part follows by substitution, and rearranging the first-order condition

$$\Gamma_x(x^*) = \beta.$$

■

Proof of Proposition 1: We begin by observing that it is never a weak best-response for a moderate to recruit. This implies that in any equilibrium the posterior belief of the politician places probability 1 on the group being extremist following the observation of recruitment. From this, the politician prefers to intervene following recruitment. Given this, an extremist (weakly) prefers to recruit as long as

$$\gamma + (1-\rho)(\Gamma(x^*) + \beta(1-x^*)) - K^\dagger(\rho) \geq 2\beta$$

which implies that extremist recruits if $K \leq K^\dagger(q)$ where $K^\dagger(q)$ is defined by

$$K^\dagger(\rho) = \gamma + (1-\rho)(\Gamma(x^*) + \beta(1-x^*)) - 2\beta.$$

■

It is useful in subsequent arguments to compute the indirect utility for each faction, so as to obtain a faction's induced preferences resulting from their anticipation of how the leader allocates the group's resources.

Lemma A.1 *Let the group's resources in the final stage of the game be given by W. If the faction in control of the group is moderate, then the indirect utility for a moderate faction is $N(W)$, and the indirect utility for an extremist faction is 0. If the faction in control of the group is extremist, then the indirect utility of a moderate faction is 0, and the indirect utility for an extremist faction is $r(\gamma + \Gamma(x^*) + \beta(1 - x^*)) + (1 - r)\beta W$.*

Proof of Lemma A.1: For a moderate faction, from Lemma 1, the indirect utility associated with the optimal choice of a moderate leader is given by

$$U^*(\theta_j \mid r) \mid_{\theta_j=0} = N(W).$$

The indirect utility of a moderate faction when the allocation choice is made by an extremist leader is 0. Similarly, from Lemma 1, the indirect utility for an extremist faction when the leader is extremist is

$$U^*(\theta_j \mid r) \mid_{\theta_j=1} = r(\gamma + \Gamma(x^*) + \beta(1 - x^*)) + (1 - r)\beta W.$$

Finally, the indirect utility of an extremist faction when a the leader is moderate is $r \cdot \gamma$. ■

Lemma A.2 *In any equilibrium in which a moderate $\mathcal{I}$ recruits only when $\mathcal{O}$ supports.*

Proof of Lemma A.2: The indirect utility of a moderate $\mathcal{I}$ who does not recruit is 0, whereas the indirect utility of a moderate $\mathcal{I}$ is positive when they recruit if and only if $\mathcal{O}$ supports. Since we have required the moderate $\mathcal{I}$ to have a strict incentive to recruit, it must be that $\mathcal{O}$ supports.

■

Proof of Fact 1: Formally, the first part of this fact is expressed as: $s^*(\theta \mid r = 0) = 1$ if and only if $\theta = C$. Since $\mathcal{I}$ did not recruit, intervention from the politician is strictly dominated regardless of the choice of $\mathcal{O}$, and thus, $\mathcal{O}$ need only consider the allocation choice of $\mathcal{I}$. If $\theta_{\mathcal{I}} = \theta_{\mathcal{O}}$, then since $\delta < 1$, $\mathcal{O}$ strictly prefers to support. In contrast, if $\theta_{\mathcal{I}} \neq \theta_{\mathcal{O}}$, since $\mathcal{I}$ chooses its preferred resource allocation the indirect utility for $\mathcal{O}$ of the opposite preference type is 0 (from Lemma A.1). Instead, the indirect utility of $\mathcal{O}$ who chooses its preferred allocation is strictly positive, and therefore $\mathcal{O}$ strictly prefers not to support $\mathcal{I}$ of the opposite preference type.

To prove the second part, let $D(s)$ be an indicator which is 1 if and only if the politician intervenes. For $\mathcal{O}$, supporting the leader yields $-K \cdot D(1)$, while withdrawing support yields,

$$[((1-\phi q)(U^*(\theta_{\mathcal{O}} \mid 1) - r\gamma) - K] \cdot D(0) + (1 - D(0))(U^*(\theta_{\mathcal{O}} \mid 1) - r\gamma).$$

When $\mathcal{O}$ is not pivotal we have that $D(0) = D(1)$ and $\mathcal{O}$ strictly prefers to not support. In contrast, if $\mathcal{O}$ is pivotal, then there are two cases:

(i) If support deters intervention, i.e. $D(1) = 1 - D(0) = 0$, then $\mathcal{O}$ strictly prefers to support if and only if

$$(1-q)(U^*(\theta_{\mathcal{O}} \mid 1) - r\gamma) < K,$$

which holds for each $\theta_{\mathcal{O}} \in \{0, 1\}$ since $K \geq K^*$.

(ii) If support invites intervention, i.e. $D(0) = 1 - D(1) = 0$, then $\mathcal{O}$ strictly prefers to support when

$$U^*(\theta_{\mathcal{O}} \mid 1) < -K$$

which never holds.

Putting these together establishes the fact. ■

Lemma A.3 *The extremist inside faction of a divided group (i.e. $\theta = D_X$) has a dominant strategy to develop a global terror network.*

Proof of Lemma A.3: If the extremist $\mathcal{I}$ in a divided group does not recruit, then by Fact 1, it expects to lose control of the group, thereby receiving a payoff of 0. In contrast, if the extremist $\mathcal{I}$ in a divided group recruits and loses control of the group, then its payoff is at least $\gamma > 0$. As a consequence, an extremist $\mathcal{I}$ strictly prefers to recruit. ■

Proof of Fact 2: Proceed so as to establish a contradiction. Suppose there is a Perfect Bayesian equilibrium in which the pair θ is fully revealed to the politician. Denote the outcome mapping $\sigma(\theta) = (r, s)(\theta)$, and observe that an equilibrium is fully separating if and only if the mapping σ is one-to-one. Consider first the strategy profile that yields the outcome profile, $\sigma(C) = (0, 1)$,

$\sigma(D_X) = (1,0)$, and $\sigma(D_M) = (0,0)$, which is fully separating. According to this profile, the optimal response to the politician is to intervene after observing $\sigma = (1,1)$. As a consequence, the outside faction in a cohesive group's sequential best-response to recruitment by the inside faction is to not support. Since the politician will not intervene, the inside faction has a profitable deviation to recruit, and hence this cannot constitute an equilibrium. Moreover, by Fact 1, this argument implies that $\sigma = (0,1)$ will not be observed in a fully separating equilibrium.

Suppose next that $\sigma(D_X) = (1,1)$ in a fully separating equilibrium. This implies that the equilibrium best-response of the politician is to fully intervene after observing $\sigma = (1,1)$ since an extremist faction is in control of the group. But since the equilibrium is fully separating, it must be that $\sigma(\theta) = (1,0)$ is achieved by either $\theta = C$ or $\theta = D_M$, and in each case $\mathcal{O}$ is extremist. When $\theta = D_X$, a deviation by the moderate $\mathcal{O}$ from $s = 1$ to $s = 0$ has two consequences. First non-support makes the politician believe that $\mathcal{O}$ is extremist, and second, non-support puts $\mathcal{O}$ in control of the group. Since the politician believes $\mathcal{O}$ (who then controls the group) is extremist, she intervenes. Putting these together, the expected payoff of the prescribed strategy to the moderate $\mathcal{O}$ is $-K$, and the expected payoff from the optimal deviation is

$$(1-q)(U^*(\theta_{\mathcal{O}} \mid 1) - r\gamma) - K.$$

Thus by comparison, the moderate $\mathcal{O}$ has a profitable deviation, contradicting that $\sigma(D_X) = (1,1)$ in any fully separating equilibrium. Combining this with Lemma A.3 implies that $\sigma(D_X) = (1,0)$ in any fully separating equilibrium.

Given the above argument, for an equilibrium to be fully seperating the image of the types $\theta = C$ and $\theta = D_M$, according the mapping σ, must be $(1,1) \times (0,0)$. For this to hold one of the following cases must constitute an equilibrium:

1. $\sigma(C) = (0,0)$ and $\sigma(D_M) = (1,1)$. This contradicts Fact 1 since an extremist $\mathcal{O}$ supports an extremist $\mathcal{I}$ if no recruitment occurs.

2. $\sigma(C) = (1,1)$ and $\sigma(D_M) = (0,0)$. The outcome $\sigma(\theta) = (1,1)$ reveals that both $\mathcal{I}$ and $\mathcal{O}$ are extremist and will thus allocate effort toward global terror. The politician, after observing

$\sigma = (1,1)$ will intervene. However, if the extremist $\mathcal{O}$, in opposition to the prescribed strategy profile, chooses to not support $\mathcal{I}$ following recruitment, then the politician will conclude that $\mathcal{O}$ is moderate. Additionally, since $\mathcal{O}$ did not support $\mathcal{I}$, $\mathcal{O}$ takes control of the group. The politician, whose posterior is that $\mathcal{O}$ is moderate with probability 1, will not intervene, and $\mathcal{O}$, who is then in control of the group, chooses her preferred allocation between global and local terror (Lemma 1). This contradicts that support of the extremist $\mathcal{I}$ is a best-response by an extremist $\mathcal{O}$.

Taken together, these establish that there does not exist a fully separating equilibrium. ■

Lemma A.4 *In a group led by an extremist inside faction who recruited, the moderate $\mathcal{O}$ and the extremist $\mathcal{O}$ must choose the same action.*

Proof of Lemma A.4: We argue by contradiction. There are two cases to consider:

(a) Suppose $s^*(D_X \mid r = 1) = 0$, and hence $s^*(C \mid r = 1) = 1$. This implies that the politician after observing the outcome $\sigma = (1,0)$ concludes that $\mathcal{O}$ is moderate and controls the group. As a consequence, the politician does not intervene, and the extremist $\mathcal{O}$ in a cohesive group prefers not to support, contradicting that $s^*(C \mid r = 1) = 1$.

(b) Suppose now that $s^*(D_X \mid r = 1) = 1$ and hence $s^*(C \mid r = 1) = 0$. There are two subcases depending on the outcome when $\theta = D_X$:

   (i) Suppose that $\sigma(D_X) = (0,0)$. The politician after observing $\sigma = (1,0)$ concludes that the group is cohesive (and thus controlled by an extremist faction). In addition, upon observing $\sigma = (0,0)$, the politician concludes that an extremist faction controls the group. In either event, the politician will intervene. But then the moderate $\mathcal{O}$ in a divided group cannot deter intervention by supporting, contradicting Fact 1.

   (ii) Suppose that $\sigma(D_X) = (1,1)$. The politician believes the leader of the group is extremist with probablity $\mu_M + \mu_X$, and thus prefers to intervene if and only if

$$c \leq (\mu_M + \mu_X)\phi q \Gamma(x^*) \tag{A.2}$$

In this case when (A.2) holds, then the politician intervenes after observing $\sigma = (1, 1)$ and the moderate $\mathcal{O}$ in a divided group does not deter intervention with support, contradicting Fact 1. In contrast, if (A.2) does not hold, the politician does not intervene upon observing $\sigma = (1, 1)$. After observing $\sigma = (1, 0)$ the politician concludes $\mathcal{O}$, who controls the group, is extremist, and thus intervenes. As a result, the extremist $\mathcal{O}$ in a cohesive group has a profitable deviation to support, contradicting $s^*(C \mid r = 1) = 0$.

Putting these together establishes the result. ■

Proof of Proposition 2: By Lemma A.3 the extremist inside faction in a divided group recruits, and so the following strategy

$$r^*(\theta) = \begin{cases} 1 & \text{if } \theta_{\mathcal{I}} = 1 \\ \\ 0 & \text{if } \theta_{\mathcal{I}} = 0, \end{cases} \tag{A.3}$$

is the only strategy in which $\mathcal{I}$ can reveal her type. The moderate $\mathcal{I}$ of a divided group does not recruit, and thus by Fact 1, the extremist $\mathcal{O}$ does not support. Next, we must check that recruitment is optimal for the extremist $\mathcal{I}$ of a cohesive group. An extremist $\mathcal{I}$ who recruits if not supported, receives a recruitment benefit of $\gamma + \Gamma(x^*)$. If instead, it were to not recruit, then it would be supported by the extremist $\mathcal{O}$ and would allocate all resources to local terror, receiving 2β.

Following recruitment by the extremist $\mathcal{I}$, Lemma A.4 establishes that both preference types of $\mathcal{O}$ must choose the same action. Suppose first that $s^*(C \mid r = 1) = s^*(D_X \mid r = 1) = 1$. In this case, the politician concludes that the group is controlled by an extremist faction, and thus intervenes. But then the moderate $\mathcal{O}$ is not pivotal in deterring intervention, contradicting Fact 1. This establishes that $s^*(C \mid r = 1) = s^*(D_X \mid r = 1) = 0$.

Last, we must show that the moderate $\mathcal{I}$ does not want to recruit. Recall that the moderate $\mathcal{I}$ only wants to recruit whenever recruitment motivates $\mathcal{O}$ to support (Lemma A.2). Consider the case in which the politician, upon observing the path $\sigma = (1, 1)$, chooses not to intervene. By deterring intervention, $\mathcal{O}$ receives γ from lone wolf activities. However, if instead the extremist $\mathcal{O}$

chooses not to support, then intervention is deterred if and only if

$$c \geq \frac{\mu_C}{\mu_C + \mu_X} q\Gamma(x^*).$$

As a result, and from Lemma A.1, $\mathcal{O}$ receives $\gamma + \Gamma(x^*) + \beta(1 - x^*)$ and thus cannot credibly support the moderate $\mathcal{I}$ who has chosen to recruit. Thus the moderate $\mathcal{I}$ does not have a profitable deviation from not recruiting, implying that the moderate $\mathcal{I}$ will not recruit. ■

Proof of Proposition 3: We first establish that there is only one possible pooling strategy profile sustainable in equilibrium. A pooling equilibrium is one in which $r^*(\theta) = x$ for all θ, and $s^*(\theta \mid r = x) = y$ for all θ. By Lemma A.3, we know that x must be 1, and thus we require that $s^*(\theta \mid r = 1) = y$ for all θ.[29] Since the moderate $\mathcal{I}$ in a divided group only recruits if the extremist $\mathcal{O}$ chooses to support, it must be that $s^*(\theta \mid r = 1) = 1$ for all θ. Thus, the only pooling equilibrium is one where all $\mathcal{I}$s recruit and all $\mathcal{O}$s support.

Let $p = Pr(\theta_{\mathcal{O}} = 1 | \sigma = (1, 0))$, so that upon observing $\sigma = (1, 0)$ the politician believes $\mathcal{O}$ is extremist with probability p. By Fact 1, for $\mathcal{O}$ to support $\mathcal{I}$ in either divided group it has to be the case that

$$c > pq\Gamma(x^*).$$

Rearranging, we obtain

$$p < \frac{c}{q\Gamma(x^*)} \equiv \hat{p}_c.$$

Therefore, for all $p \in [0, \hat{p}_c) \equiv \mathcal{P}_c$ the outside faction is pivotal in deterring intervention and hence no $\mathcal{O}$ has an incentive to deviate to $s = 0$. Notice that since $c < \phi q\Gamma(x^*)$ and $0 \leq \phi \leq 1$ we have that $\hat{p}_c \in (0, 1)$. Given that $\mathcal{O}$ has an incentive to withdraw support and intervention is avoided, it is immediate to see that no $\mathcal{I}$ has an incentive to deviate to $r = 0$.

Let us now show that given a c, each equilibrium with $r^*(\theta) = 1$ and $s^*(\theta \mid r = 1) = 1$ for all θ, and $p \in \mathcal{P}_c$ survives the Intuitive Criterion of Cho and Kreps (1987). No $\mathcal{O}$'s type is always strictly better off in equilibrium than by choosing $s = 0$. The minimum payoff $\mathcal{O}$ can get by deviating is $-K + (1 - q)U^*(\theta_{\mathcal{O}} | r = 1)$ which is smaller than 0, which is the equilibrium payoff of $\mathcal{O}$s in divided

[29] Importantly, $s^*(\theta \mid r = 0)$ need not be the same for all θ since it is off the equilibrium path.

groups. As such, there is no action and no profile θ such that $\mathcal{O}$ is worse off in equilibrium than in the case of a deviation followed by intervention. This establishes that for every c there exists a nonempty set $\mathcal{P}_c$ of off the path beliefs such that for every $p \in \mathcal{P}_c$ the pooling equilbrium described in Proposition 3 survives the Intuitive Criterion. ■

Proof of Fact 3: The first two parts follow directly from Proposition 1, Proposition 2, and Proposition 3. Specifically, if $K > K^{\dagger}$, by Proposition 1 we know that both an extremist and a moderate non-state group, without the potential for internal disagreement, will not invest in recruitment activities, thus producing a level of global terror equal to zero. In contrast, with the potential for internal disagreement, if $K > K^*$ and if $c < \hat{c}$ we have a unique equilibrium by Proposition 3, while if instead $K > K^*$ and $c \geq \hat{c}$ we have multiple equilibria. In both equilibria the expected level of global terror is strictly positive. Specifically, it is $\gamma + (\mu_C + \mu_X)\Gamma(x^*)$ under counterdeterrence by unity, and $\gamma(\mu_C + \mu_X) + \mu_C\Gamma(x^*)$ under counterdeterrence by division, where

$$\gamma + (\mu_C + \mu_X)\Gamma(x^*) > \gamma(\mu_C + \mu_X) + \mu_C\Gamma(x^*) > 0,$$

establishing the claim. ■

Proof of Proposition 4: We begin by deriving the politician's welfare in the equilibrium of Proposition 2, and denote it by $\mathcal{W}_{CD}$. In this case, extremist $\mathcal{I}$s recruit, moderate $\mathcal{I}$s do not recruit, and $\mathcal{O}$s of all preference types do not support. As such, we have that,

$$\mathcal{W}_{CD} = -\mu_C\Gamma(x^*) - (\mu_C + \mu_X)\gamma. \tag{A.4}$$

Next, consider the welfare of the politician in the equilibrium of Proposition 3, and denote it by $\mathcal{W}_{CU}$. In this case, factions of all preference types recruit and $\mathcal{O}$s of all preference types support. As such, we have that,

$$\mathcal{W}_{CU} = -(\mu_C + \mu_X)\Gamma(x^*) - \gamma.$$

If the politician commits to never intervene, then $\mathcal{I}$ in a cohesive group recruits and $\mathcal{O}$ supports since there will be no consequences in terms of military intervention. An extremist $\mathcal{I}$ in a divided

group recruits, while by Fact 1 the moderate $\mathcal{O}$ will not support. Finally, a moderate $\mathcal{I}$ in a divided group cannot generate support from $\mathcal{O}$ given the commitment of the politician not to intervene under any circumstance. As a consequence, a moderate $\mathcal{I}$ will not recruit and the extremist $\mathcal{O}$ will not support. Given this, the politician's expected level of welfare, denoted by $\mathcal{W}_{NI}$, is given by

$$\mathcal{W}_{NI} = -\mu_C \Gamma(x^*) - (\mu_C + \mu_X)\gamma. \tag{A.5}$$

Suppose the politician can credibly commit to intervene after observing recruitment from the non-state group. Since the cost imposed on the group by intervention is high enough (i.e. $K > K^\dagger$), then commitment to intervene after recruitment deters an extremist $\mathcal{I}$ in a cohesive group from recruiting. As a result, such $\mathcal{I}$ will not recruit and will be supported by the extremist $\mathcal{O}$. In a divided group, an extremist $\mathcal{I}$ recruits by Lemma A.3. The moderate $\mathcal{O}$'s best-response is to not support. Finally, a moderate $\mathcal{I}$ will not recruit since the intervention decision does not depend on support and the extremist $\mathcal{O}$ in a divided group will not support the moderate $\mathcal{I}$.

When the politician commits to intervene after recruitment, then politician's welfare is given by

$$\mathcal{W}_I = -\mu_X(\gamma + c).$$

We now consider the relevant welfare comparisons. For the first part we need to show two things: (1) $\mathcal{W}_{NI} \leq \mathcal{W}_{CD}$ and (2) $\mathcal{W}_I < \mathcal{W}_{CD}$.

By comparing (A.4) and (A.5) we can see that (1) holds at equality. For (2) we have that

$$\begin{aligned} \mathcal{W}_I - \mathcal{W}_{CD} &= -\mu_X(\gamma + c) - [-\mu_C \Gamma(x^*) - (\mu_C + \mu_X)\gamma] = \\ &= \mu_X c + \mu_C \Gamma(x^*) + \mu_C \gamma. \end{aligned} \tag{A.6}$$

The last expression is negative iff

$$c > \frac{\mu_C G(x^*)}{\mu_X},$$

establishing the claim. To establish the second part, we need to show that $\mathcal{W}_{NI} > \mathcal{W}_{CU}$ and that

$\mathcal{W}_I > \mathcal{W}_{CU}$. Let us start from the latter. We have that

$$\begin{aligned}\mathcal{W}_I - \mathcal{W}_{CU} &= -\mu_X(\gamma + c) - [-(\mu_C + \mu_X)\Gamma(x^*) - \gamma] = \\ &= \mu_X(\Gamma(x^*) - c) + \gamma(1 - \mu_X) + \mu_C\Gamma(x^*) > 0,\end{aligned}$$

where the last inequality follows from the fact that $c < \phi q\Gamma(x^*) < \Gamma(x^*)$.

Next, we show that $\mathcal{W}_{NI} > \mathcal{W}_{CU}$. We have that

$$\begin{aligned}\mathcal{W}_{NI} - \mathcal{W}_{CU} &= -\mu_C\Gamma(x^*) - (\mu_C + \mu_X)\gamma - [-(\mu_C + \mu_X)\Gamma(x^*) - \gamma] = \\ &= \mu_X\Gamma(x^*) + \mu_M\gamma > 0.\end{aligned}$$

This establishes the second part. ■

B Supplemental Materials

In this appendix we address four things: (1) the inclusion of a cohesive moderate group; (2) an analogue to Lemma A.3 in which a faction that loses control of the group endures the cost of intervention K; (3) the possibility of office related benefits; and (4) the possibility of a politician whose cost of intervention is low.

B.1 Cohesive Moderate Groups

In this subsection we consider our model with the added possibility of cohesive moderate groups. Consider a group in which the $\mathcal{I}$ and $\mathcal{O}$ factions are moderate. Formally, $\theta_{\mathcal{I}} = \theta_{\mathcal{O}} = 0$.

Lemma B.1 *Let the group be one in which $\mathcal{I}$ and $\mathcal{O}$ are moderate. $\mathcal{I}$ has a strictly dominant strategy to not recruit.*

Proof: Formally this fact is expressed as: $r^*(0,0) = 0$. For a moderate $\mathcal{I}$ the largest payoff she can achieve is one where the resource endowment is not used to recruit and the wealth she can allocate in the final stage is $W = 2$. Then by Fact 1, if $\mathcal{O}$ is also moderate, $\mathcal{I}$ strictly prefers to not recruit.

■

Lemma B.1 establishes that the main analysis we present immediately extends to the case that includes the possibility of a cohesive moderate group by iterated elimination of strictly dominated strategies.

B.2 Nontargeted Intervention

We now consider a version of our model in which the faction that loses control of the group incurs the cost of intervention, K, and show that there does not exist an equilibrium in which the extremist inside faction in a divided group recruits.

Lemma B.2 *There does not exist an equilibrium in which the extremist inside faction of a divided group does not recruit.*

Proof: We proceed by contradiction and suppose there is an equilibrium in which the extremist inside faction in a divided group does not recruit. If this is the case, then since $\gamma > 0$, it must

be that the politician intervenes upon observing recruitment. This implies that the outside faction is not pivotal in affecting the intervention decision, and hence by Fact 1, the outside faction in a divided group does not support, and also that the moderate inside faction does not recruit. We need only consider the cohesive group. Suppose first that there is an equilibrium in which the inside faction of a cohesive group recruits. Then, as above, the politician intervenes, and, to reduce the effectiveness of intervention, the sequential best-response of the outside faction is to support. But, as $K > K^*$, the inside faction of a cohesive group is better off not recruiting and allocating all resources toward local terror. This implies that in the candidate equilibrium in which the extremist inside faction in a divided group does not recruit, the inside faction in a cohesive group does not recruit. This means that the only possible equilibrium in which the extremist inside faction in a divided group does not recruit is one in with the following equilibrium path: If $\theta = C$, then $r(C) = 0$ and $s(C \mid r = 0) = 1$; if $\theta = D_X$, then $r(D_X) = 0$ and $s(D_X \mid r = 0) = 0$; $\theta = D_M$, then $r(D_M) = 0$ and $s(D_M \mid r = 0) = 0$. We need next consider the remainder of the strategy profile that supports this path as an equilibrium. As established above, the politician must respond to recruitment with intervention. Since the sequential best-response for a moderate outside faction is to not support following recruitment, we must consider the politician's belief that the group is cohesive after observing the out of equilibrium outcome path $\sigma = (1, 0)$. Let ε be the politician's belief that the group is cohesive following the path $\sigma = (1, 0)$. It is straightforward to verify that there exists a $\overline{\varepsilon}$ such that the politician cannot credibly intervene if $\varepsilon < \overline{\varepsilon}$. Since we know from above that the politician must intervene following recruitment, we know that $\varepsilon \geq \overline{\varepsilon}$. Since non-support does not deter intervention following recruitment, it is never a weak best-response for the outside faction in a cohesive group to not support. But this requires that following $\sigma = (1, 0)$, $\varepsilon = 0$, a contradiction. ■

One can achieve all of the results in the primary analysis, replacing Lemma A.3 with Lemma B.2 whenever invoked.

B.3 Commitment to the Cause

In this section we introduce a parameter that measures a faction's commitment to the cause. Let $\alpha \in (0, 1]$ scale the benefit of global terror for an inside faction that loses control of the non-state group. Substantively, the parameter α is best thought of as measuring the level of an extremist faction's committment to the cause. Committment to the cause in our model captures the level at which a faction interested in orchestrating a campaign of terror receives a benefit from the successful implementation of global terror that they themselves have not carried out. Formally, we characterize the conditions under which there exists a fully separating equilibrium. The arguments for Proposition 3 are unaffected by this alternative assumption. Observe that this result is a converse to Proposition 2.

Proposition 5 *There is a fully separating equilibrium if and only if*

$$\alpha \leq \frac{2\beta}{G(x^*)}. \tag{B.1}$$

Moreover, when (B.1) *holds, the unique fully separating equilibrium is described by*

(i) If the group is cohesive, i.e. $\theta = C$, then $\mathcal{I}$ does not recruit and $\mathcal{O}$ supports only if $\mathcal{I}$ does not recruit;

(ii) If the group is divided and $\mathcal{I}$ is extremist, i.e. $\theta = D_X$, then $\mathcal{I}$ recruits and $\mathcal{O}$ does not support;

(iii) If the group is divided and $\mathcal{I}$ is moderate, i.e. $\theta = D_M$, then $\mathcal{I}$ does not recruit and $\mathcal{O}$ does not support;

(iv) The politician intervenes if and only if $\mathcal{I}$ recruits and is supported.

Proof: We first establish sufficiency. Consider the strategy profile mentioned in the statement of the Proposition, which can succinctly be expressed as

$$r^*(\theta) = \theta_{\mathcal{I}}(1 - \theta_{\mathcal{O}}).$$

$\mathcal{O}$ chooses $s^*(\theta \mid r) = 1$ if and only if $\theta = C$ and $r = 0$, and the politician intervenes if and only if she observes $\sigma = (1, 1)$.

If $\theta = D_X$, then the prescribed strategy profile is a best-response for $\mathcal{I}$ by Lemma A.3. Given that the politician does not intervene upon observing $\sigma = (1, 0)$, by Fact 1 the moderate $\mathcal{O}$ in a divided group does not have an incentive to deviate. Consider next the case where $\theta = D_M$. $\mathcal{I}$ has an incentive to deviate if and only if $\mathcal{O}$ supports following recruitment, however, since the politician does not intervene upon observing $\sigma = (1, 0)$, recruitment does not change the optimal choice of the extremist $\mathcal{O}$ in a divided group and so the moderate $\mathcal{I}$ does not have a strict incentive to deviate from the prescribed strategy profile. Finally, consider when $\theta = C$. Notice that if $\mathcal{I}$ recruits, $\mathcal{O}$ prefers not to support since the politician does not intervene upon observing $\sigma = (1, 0)$. Since $\mathcal{O}$ supports if $\mathcal{I}$ does not recruit, $\mathcal{I}$ weakly prefers not to recruit if and only if

$$\alpha \leq \frac{2\beta}{\gamma + \Gamma(x^*)} \leq 1,$$

establishing the claim.

Necessity is established by Proposition 2. ■

We briefly discuss the substantive interpretation of Proposition 2 and Proposition 5 when considered together. Condition (B.1) requires that a extremist faction in control of the group cares more about control of the group then the ability to conduct a successful campaign of global terror. Proposition 5 illustrates the importance of commitment to the cause in deterrence. It shows that if extremists' interest in global terrorism, relative to local terrorism, is sufficiently small then it is possible to support a deterrence equilibrium that exhibits the standard logic simple deterrence.

Last, when factions interested in carrying out terror campaigns lack commitment to the cause, the internal politics of divided groups have two implications. (1) Lone wolves are unavoidable since even when the level of radicalization of extremist factions is low, the target country might experience acts of terrorism orchestrated by lone wolves that are not part of a larger and more intricate campaign. Specifically, because of internal disagreement and the inevitable loss of control of the group, an extremist $\mathcal{I}$ is pushed to recruit so as to facilitate global terror acts through lone wolves thus pushing her agenda forward before losing control of the group. (2) Cohesive groups

prefer *not* to carry out global terror because of the inherent risk of intervention, and the cost such intervention imposes.

B.4 Mixed Strategy Equilibria

The primary analysis focuses on pure-strategy Perfect Bayesian equilibria, but as can be seen from the statement of Proposition 2 and Proposition 3, these equilibria are sustained under the conditions that the cost of intervention is sufficiently high, namely $c \geq (\mu_C + \mu_X)\phi q \Gamma(x^*)$. Although we contend that this is a mild restriction considering that in the current political climate politicians face a large degree of electoral pressure against initiatives to place "boots on the ground", in this subsection we provide a brief analysis of behavior when the cost of intervention is small. We will make use of the following lemma,

Lemma B.3 *If the moderate $\mathcal{I}$ recruits, then the extremist $\mathcal{I}$ recruits regardless of whether the group is divided or cohesive.*

Proof: Suppose not. By Lemma A.3 the extremist $\mathcal{I}$ in D_X recruits. Now suppose that when $\theta = C$, $\mathcal{I}$ does not recruit. Then by Fact 1, the extremist $\mathcal{I}$ who does not recruit is supported only if $\mathcal{O}$ is extremist. There are two cases to consider:

(i) Suppose that $s^*(D_X \mid r = 1) = 0$. The politician, after observing the outcome $\sigma = (1, 0)$, does not intervene because she knows $\mathcal{O}$ is moderate. As a result, if $\theta = D_M$ the outside faction prefers to not support, so $s = 0$. Hence, the moderate $\mathcal{I}$ does not have a strict incentive to recruit and thus does not recruit.

(ii) Suppose instead that $s^*(D_X \mid r = 1) = 1$. If the moderate $\mathcal{I}$ that recruits is not supported, then the politician upon observing $\sigma = (1, 1)$, intervenes. Thus, support by the moderate $\mathcal{O}$ in a divided group does not deter intervention, contradicting Fact 1. So then it must be that the extremist $\mathcal{O}$ in a divided group supports. In this case, if $c < \frac{\mu_M}{\mu_X + \mu_M}\phi q \Gamma(x^*)$, then the politician intervenes, and the moderate $\mathcal{O}$ cannot deter intervention with support, contradicting Fact 1. In contrast, if $c \geq \frac{\mu_M}{\mu_X + \mu_M}\phi q \Gamma(x^*)$, then the politician does not intervene after observing $\sigma = (1, 1)$. In this case, if $\theta = C$ and $\mathcal{I}$ recruits, the extremist $\mathcal{O}$'s sequential

best-response is to support, thereby avoiding intervention. But this implies that the extremist $\mathcal{I}$ of a cohesive group has an incentive to recruit, contrary to the strategy prescribed.

Together, these establish the result. ■

We next show that when c is small there is no pure-strategy equilibrium.

Proposition 6 *If $c < \underline{c} = (\mu_C + \mu_X)\phi q \Gamma(x^*)$, then there does not exist a pure-strategy Perfect Bayesian equilibrium.*

Proof: Suppose to the contrary that there is a pure-strategy Perfect Bayesian equilibrium when $c < \underline{c}$. In particular, this implies that each $\mathcal{I}$'s type has a pure-strategy best-response. Consider the profile of $\mathcal{I}$'s choices

$$r^*(\theta) = \begin{cases} x_1 & \text{if } \theta = C \\ x_2 & \text{if } \theta = D_X \\ x_3 & \text{if } \theta = D_M. \end{cases}$$

By Lemma A.3, $x_2 = 1$ in any equilibrium. If $x_1 = 1$ and $x_3 = 0$, then by Proposition 2 it must be that $c \geq \frac{\mu_C}{\mu_C + \mu_X} q\Gamma(x^*)$ which contradicts the fact that $c < \underline{c}$. Now suppose $x_1 = x_3 = 0$, which constitutes a fully separating equilibrium, contradicting Proposition 2. Lemma B.3 implies that if $x_3 = 1$, then $x_1 = 1$. By Proposition 3 this can only constitute an equilibrium whenever $c \geq (\mu_C + \mu_X)\phi q \Gamma(x^*)$ which contradicts the fact that $c < \underline{c}$. Putting these together establishes that there does not exist a pure-strategy equilibrium whenever $c < \underline{c}$. ■

We next characterize a mixed-strategy Perfect Bayesian equilibrium when $c < \underline{c}$.

Proposition 7 *If $q \geq \max\{\frac{U^*(1|r=1)-2\beta}{U^*(1|r=1)-\gamma}, \frac{2c}{\Gamma(x^*)}\}$, then when facing counterdeterrence by unity, a politician can benefit by either trying to deter by committing to intervene following recruitment, or even committing not to intervene and relying on moderates to neutralize threats from extremists. there exists an equilibrium in mixed-strategies where a moderate $\mathcal{I}$ does not recruit, an extremist $\mathcal{I}$ of a divided group recruits, and an extremist $\mathcal{I}$ of a cohesive group recruits with probability*

$$\rho^* = \frac{c}{q\Gamma(x^*) - c}, \tag{B.2}$$

and $\mathcal{O}$ does not support. After observing recruitment and non-support the politician intervenes with probability

$$Q^* = \frac{\gamma + \Gamma(x^*) + \beta(1-x^*) - 2\beta}{q(\Gamma(x^*) + \beta(1-x^*))}, \tag{B.3}$$

while after observing recruitment and support the politician intervenes with probability 1.

Proof: It is immediate to see that under the strategy profile specified, a moderate $\mathcal{O}$ does not have an incentive to support a extremist $\mathcal{I}$, and hence also an extremist $\mathcal{O}$ does not have an incentive to support an extremist $\mathcal{I}$. Let us now consider the incentives of $\mathcal{I}$ when $\theta = C$. Call the probability of intervention Q. If $\mathcal{I}$ decides to recruit, its expected utility is given by

$$\gamma + Q((1-q)(U^*(1 \mid r=1) - \gamma) + (1-Q)(U^*(1 \mid r=1) - \gamma)$$

while if it decides not to recruit its expected utility is given by 2β. $\mathcal{I}$ is indifferent between $r=0$ and $r=1$ if

$$2\beta = \gamma + Q((1-q)(U^*(1 \mid r=1) - \gamma) + (1-Q)(U^*(1 \mid r=1) - \gamma).$$

Simplifying, we obtain that the indifference condition

$$Q^* = \frac{U^*(1 \mid r=1) - 2\beta}{q(U^*(1 \mid r=1) - \gamma)}. \tag{B.4}$$

We require that $0 \leq Q^* \leq 1$. First,

$$q(U^*(1 \mid r=1) - \gamma) > U^*(1 \mid r=1) - 2\beta$$

if and only if

$$\frac{U^*(1 \mid r=1) - 2\beta}{U^*(1 \mid r=1) - \gamma} \leq q,$$

establishing that $Q^* < 1$. To see that Q^* is positive observe that since $G(x^*) > 2\beta$, the numerator is positive.

Let us consider now the incentives of the politician. Denote the probability that $\mathcal{I}$ recruits

when $\theta = C$ by ρ. If the politician observes $\sigma = (0, 0)$, he does not intervene. On the contrary, upon observing $\sigma = (1, 0)$, the expected utility of intervention is given by

$$-\frac{\rho}{1+\rho}[(1-q)\Gamma(x^*) + \gamma] - c,$$

while the expected utility of no intervention is given by

$$-\frac{\rho}{1+\rho}G(x^*).$$

The politician is the indifferent when

$$\frac{\rho}{1+\rho}G(x^*) = \frac{\rho}{1+\rho}[(1-q)\Gamma(x^*) + \gamma] + c,$$

which then simplifies to

$$\rho^* = \frac{c}{q\Gamma(x^*) - c}. \tag{B.5}$$

Notice that ρ^* defines a probability whenever $c \leq \frac{q}{2}\Gamma(x^*)$ since $c < \phi\Gamma(x^*) < \Gamma(x^*)$. Putting together (B.4) and (B.5) gives us the result stated in the proposition. ■

Proposition 6 illustrates an important logic for understanding the ramifications of the internal dynamics with non-state groups on counterterrorism policies. When the cost of intervention is small enough, the politician is facing virtually no constraints when choosing whether or not to intervene. She is now willing to use military action even in the presence of uncertainty about the extent to which the group represents a threat to her country's national security.

Since the politician's uncertainty about the composition of the group will not deter intervention, $\mathcal{O}$ factions in divided groups have no reason to maintain internal unity (the only common ground in our model for different factions in divided groups is that they want to avoid intervention). Since divided groups will not exhibit internal unity, extremist $\mathcal{O}$s in cohesive groups cannot avoid intervention by mimicking moderates, and hence, they prefer to support, and face intervention together.

Because the politician's readiness to intervene, the extremist $\mathcal{I}$ of a cohesive group must randomize between her actions so as to manipulate the beliefs of the politician, thereby effectively

reducing her willingness to intervene. The politician's logic is similar, if she is too eager to intervene then she dissuades recruitment from cohesive groups but intervenes against groups that do not pose threats. Consequently, she intervenes with a likelihood that keeps inside factions in cohesive groups indifferent between recruiting, taking the chance of facing intervention, and concentrating efforts in a locally focused campaign of terrorism.

References

Abadie, Alberto. 2006. "Poverty, Political Freedom, and the Roots of Terrorism." *American Economic Review* 96(2):50–56.

Aksoy, Deniz and David B. Carter. 2014. "Electoral Institutions and the Emergence of Terrorist Groups." *British Journal of Political Science* 44(1):181–204.

Arce, Daniel G. and Todd Sandler. 2003. "Terrorism and Game Theory." *Simulation & Gaming* 34(3):319–337.

Arce, Daniel G. and Todd Sandler. 2007. "Terrorist Signalling and the Value of Intelligence." *British Journal of Political Science* 37(04):573–586.

Arce, Daniel G. and Todd Sandler. 2010. "Terrorist Spectaculars: Backlash Attacks and the Focus of Intelligence." *Journal of Conflict Resolution* 54(2):354–373.

Bapat, Navin A. and Kanisha D. Bond. 2012. "Alliances Between Militant Groups." *British Journal of Political Science* 42(2):793–824.

Berman, Eli. 2009. *Radical, Religious and Violent: The New Economics of Terrorism.* Cambridge, MA: MIT University Press.

Berman, Eli and David D. Laitin. 2008. "Religion, Terrorism and Public Goods: Testing the Club Model." *Journal of Public Economics* 92(10):1942–1967.

Berman, Eli, Jacob N. Shapiro and Joseph H. Felter. 2011. "Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq." *Journal of Political Economy* 119(4):766–819.

Berrebi, Claude and Esteban F. Klor. 2006. "On Terrorism and Electoral Outcomes: Theory and Evidence from the Israeli-Palestinian Conflict." *Journal of Conflict Resolution* 50:899–925.

Bueno de Mesquita, Ethan. 2005. "Conciliation, Counterterrorism, and Patterns of Terrorist Violence." *International Organization* 59(01):145–176.

Bueno De Mesquita, Ethan. 2008*a*. "The Political Economy of Terrorism: A Selective Overview of Recent Work." *The Political Economist* 10:1–12.

Bueno de Mesquita, Ethan. 2008*b*. "Terrorist Factions." *Quarterly Journal of Political Science* 3(4):399–418.

Bueno de Mesquita, Ethan. 2013. "Rebel Tactics." *Journal of Political Economy* 121(2):323–357.

Bueno de Mesquita, Ethan and Eric S. Dickson. 2007. "The Propaganda of the Deed: Terrorism, Counterterrorism, and Mobilization." *American Journal of Political Science* 51:364–381.

Carter, David B. 2012. "Terrorist Group and Government Interaction: Progress in Empirical Research." *Perspectives on Terrorism* 6(4-5):108–124.

Carter, David B. 2015*a*. "Provocation and the Strategy of Terrorist and Guerilla Tactics." *International Organization* forthcoming.

Carter, David B. 2015*b*. "When Terrorism is Evidence of State Success: Securing the State Against Territorial Groups." *Oxford Economic Papers* 67(1):116–132.

Cho, In-Koo and David M. Kreps. 1987. "Signaling Games and Stable Equilibria." *Quarterly Journal of Economics* 102(2):179–222.

Davis, Paul J. and Brian Michael Jenkins. 2002. *Deterrence and Influence in Counterterrorism: A Component in the War on al-Qaeda*. RAND.

de Figueiredo Jr, Rui J.P. and Barry R. Weingast. 2001. "Vicious Cycles: Endogenous Political Extremism and Political Violence." *Institute of Governmental Studies Working Paper, 2001-9* .

Dragu, Tiberiu and Mattias Polborn. 2014. "The Rule of Law in the Fight Against Terrorism." *American Journal of Political Science* 58:511–525.

Foster, Margaret and David A. Siegel. 2014. "Fire, Fire, Kill: Changes in Terror Leadership." *Mimeo — Duke University* .

Gartner, Scott Sigmund. 2008. "The Multiple Effects of Casualties on Public Support for War: An Experimental Approach." *American Political Science Review* 102(01):95–106.

Huth, Paul. 1999. "Deterrence and International Conflict: Empirical Findings and Theoretical Debates." *Annual Review of Political Science* 2:25–48.

Karol, David and Edward Miguel. 2007. "The Electoral Cost of War: Iraq Casualties and the 2004 US Presidential Election." *Journal of Politics* 69:633–648.

Krueger, Alan B. and Jitka Malečkova. 2003. "Education, Poverty, and Terrorism: Is There a Causal Connection?" *Journal of Economic Perspectives* 17(4):119–144.

Kydd, Andrew and Barbara F. Walter. 2002. "Sabotaging the Peace: The Politics of Extremist Violence." *International Organization* 56(02):263–296.

Lake, David A. 2002. "Rational Extremism: Understanding Terrorism in the Twenty-first Century." *Dialogue IO* 1(01):15–29.

Lapan, Harvey E. and Todd Sandler. 1993. "Terrorism and Signalling." *European Journal of Political Economy* 9(3):383–397.

Lebovic, James. 2007. *Deterring Terrorism and Rogue States: US National Security Policy after 9/11.* Routledge.

Machain, Carla Martinez, T. Clifton Morgan and Patrick M. Regan. 2011. "Deterring Rebellion." *Foreign Policy Analysis* 7(3):295–316.

Mele, Christine. 2012. "Terrorism and Signalling: Public Goods Provision and Asymmetric Information." *Working Paper* .

Morral, Andrew R. and Brian A. Jackson. 2009. *Understanding the Role of Deterrence in Counterterrorism Security.* RAND.

Overgaard, Per B. 1994. "The Scale of Terrorist Attacks as a Signal of Resources." *Journal of Conflict Resolution* 38(3):452–478.

Phillips, Peter J. 2011. "Lone Wolf Terrorism." *Peace Economics, Peace Science and Public Policy* 17(1):1–31.

Powell, Robert. 1985. "The Theoretical Foundations of Strategic Nuclear Deterrence." *Political Science Quarterly* 100(1):75–96.

Quinlan, Michael. 2004. "Deterrence and Deterrability." *Contemporary Security Policy* 25(1):11–17.

Rosendorff, Peter B. and Todd Sandler. 2004. "Too Much of a Good Thing? The Proactive Response Dilemma." *Journal of Conflict Resolution* 48:657–671.

Sandler, Todd. 2015. "Terrorism and Counterterrorism: An Overview." *Oxford Economic Papers* 67(1):1–20.

Schelling, Thomas. 1966. *Arms and Influence*. Yale University Press.

Shapiro, Jacob N. 2013. *The Terrorist's Dilemma: Managing Violent Covert Organizations*. New Jersey: Princeton University Press.

Shapiro, Jacob N. and David A. Siegel. 2007. "Underfunding in Terrorist Organizations." *International Studies Quarterly* 51(2):405–429.

Shapiro, Jacob N. and David A. Siegel. 2012. "Moral Hazard, Discipline, and the Management of Terrorist Organizations." *World Politics* 64(01):39–78.

Siqueira, Kevin. 2005. "Political and Militant Wings within Dissident Movements and Organizations." *Journal of Conflict Resolution* 49(2):218–236.

Snyder, Glenn H. 1961. *Deterrence and Defense: Toward a Theory of National Security*. Princeton University Press.

Spaaij, Ramón. 2010. "The Enigma of Lone Wolf Terrorism: An Assessment." *Studies in Conflict & Terrorism* 33(9):854–870.

Trager, Robert F. and Dessislava P. Zagorcheva. 2005-2006. "Deterring Terrorism: It Can Be Done." *International Security* 30(3):87–123.

Wright, Lawrence. 2007. *The Looming Tower: Al-Qaeda and the Road to 9/11.* Vintage.

Zagare, Frank C. 2004. "Reconciling Rationality with Deterrence: A Re-examinination of the Logical Foundations of Deterrence Theory." *Journal of Theoretical Politics* 16(2):107–141.