



INSTITUTE FOR DEFENSE ANALYSES

**Deterrence and WMD Terrorism:
Calibrating its Potential Contributions
to Risk Reduction**

Brad Roberts

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PREFACE

This document reports the work performed by the Institute for Defense Analyses (IDA) for the U.S. Department of State in fulfillment of the task entitled “Terrorism, WMD, and Deterrence.”

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EXECUTIVE SUMMARY

What can deterrence contribute to reducing the risks of terrorism with weapons of mass destruction (WMD) posed by militant Islamic extremists? What can be done to enhance its performance?

These extremists are part of a large network and movement with many and varied elements that must play specific roles in enabling the successful exploitation of the full lethal potential of WMD. Those elements include:

- jihadi foot soldiers
- the terrorist professionals who provide training and other logistical guidance and support
- the leaders of al Qaeda
- groups affiliated by ideology and aspiration (so-called franchisees)
- operational enablers (financiers etc.)
- moral legitimizers
- state sponsors
- passive state enablers (generally weak states that are unable or unwilling to prevent terrorists from exploiting their territory or other assets).

In the period since 9/11, a broad base of social science research has emerged testing various propositions about how to influence these different actors. That work is broad but not yet comprehensive. There are few signs that it is cumulative. Some of it is rooted in a solid evidentiary base; much of it is little more than theory-building and even, occasionally, wishful thinking. But it does point to some useful insights, conclusions, and hypotheses.

First, deterrence is not irrelevant to the effort to combat terrorism and to reduce the risks of WMD terrorism. But nor is it foundational to strategy in the way that it was in the Cold War. Deterrence is but one of many tools of influence and not always the most promising one.

Second, deterrence, like other tools of influence, is a strategy to create disincentives in an adversary's mind to courses of action he might otherwise adopt. But sometimes those disincentives already exist. As this review will demonstrate, there are many sources of self-restraint within the network/movement of militant Islamic extremists. Sometimes the primary goal of an influence strategy might be simply to reinforce those existing restraints.

Third, both modes of deterrence—deterrence by the threat of punishment and deterrence by denial—are relevant. But they operate differently across elements of the network/movement, sometimes in combination, sometimes only one or the other. Deterrence by threat of punishment seems especially promising vis-à-vis state sponsors and operational enablers. Deterrence by denial seems especially promising vis-à-vis foot soldiers, professionals, and leaders.

Fourth, the cumulative effect of deterrence on the WMD terrorism threat is nearly impossible to predict. But three potential effects stand out:

1. Deterrence may succeed in lowering the lethality of individual attacks with WMD, by inhibiting the cooperation of those most capable of developing and employing WMD in ways that reap their full lethal potential. Especially if state sponsors and critical operational enablers can be deterred from facilitating such attacks, small cells and others operating with limited training and skills seem unlikely to be able to master all of the technical and operational requirements of successful WMD attacks.
2. Deterrence may succeed in curtailing campaigns of attacks. Such campaigns are the most certain way to reap the full lethal potential of WMD and seem particularly plausible with biological weapons. Deterrence by denial may show such campaigns to be ineffective in achieving their intended results. Deterrence by punishment may inhibit the continued cooperation of the enablers and others who were willing to accept the risks of a spectacular blow but not the costs of sustained retaliation by those being attacked. Both modes of deterrence may drive the residual networks attempting campaign-style attacks to untried developmental and delivery methods with the associated increased risks to operational security.
3. Deterrence may induce the leadership of al Qaeda to utilize nuclear weapons, when and if they acquire them, only for purposes of deterrence and defense as they conceive them rather than for purposes of aggression and terrorism. It may

induce caution of the kind that has been induced in other new acquirers of these capabilities.

How might the performance of deterrence in reducing the risks of WMD terrorism be enhanced? Key recommendations:

1. Continue capability and capacity development for protection of key assets but inform investment strategies with a better understanding of how the leadership of al Qaeda and other jihadists understand U.S. centers of gravity.
2. Continue capability and capacity development for punishing each of the components of the terrorist network/movement in ways that are meaningful specifically to them.
3. Do not expect that a restatement of declaratory policy can lend much weight to U.S. threats against those audiences most susceptible to deterrence by threat of punishment. They already know what they think and their views are likely to change in the ways that the United States would prefer only in response to U.S. behavior over time and not in response to policy restatements.
4. Investigate terrorist leadership perceptions of the endgame in Iraq for what they suggest about their expectations of future U.S. behaviors.
5. Investigate the applicability of the willingness function to terrorist networks.
6. Accelerate the development and integration of broad U.S. government (USG) capacities for deterring non-state actors.
7. Refresh national guidance.
8. Explore alternative future deterrence contingencies.

INTRODUCTION

What can deterrence contribute to reducing the risks of terrorism with weapons of mass destruction (WMD)? In the months after 9/11, there was sharp despair over the possibility that deterrence might not contribute anything at all to the challenges posed by militant Islamic extremists. The *National Security Strategy* issued in that period summarized the prevailing view as follows:

Traditional concepts of deterrence will not work against a terrorist enemy whose avowed tactics are wanton destruction and the targeting of innocents; whose so-called soldiers seek martyrdom in death and whose most potential protection is statelessness.¹

But more recently thinking seems to have shifted at senior levels of the Bush administration. The *National Strategy for Combating Terrorism* issued in September 2006 clearly states that deterrence is a primary objective, a theme echoed in other guidance as well.² If “traditional concepts” are out, what new concepts should inform counter-terror planning and operations? What role might deterrence already be playing? What more can reasonably be asked of deterrence against such a diffuse and motivated enemy? How can its contributions to risk reduction be enhanced in the course of a “long war”?

Some preliminary thinking on facets of these questions has already been done at senior levels of government. To cite in full the guidance on deterring WMD terrorism from the *National Strategy for Combating Terrorism*:

A new deterrence calculus combines the need to deter terrorists and supporters from contemplating a WMD attack and, failing that, to dissuade them from actually conducting such an attack. Traditional threats may not work because terrorists show a wanton disregard for the lives of innocents and in some cases for their own lives. We require a range of deterrence strategies that are tailored to the situation and the adversary. We will make clear that terrorists and those who aid or sponsor a WMD attack would face the prospects of an overwhelming

¹ *National Security Strategy of the United States of America, September 2002*, from chapter 5.

² *National Strategy for Combating Terrorism, September 2006*, p. 14. See also the national strategy for defense against biological threats, *Biodefense for the 21st Century*, section on attribution and deterrence.

response to any use of such weapons. We will seek to dissuade attacks by improving our ability to mitigate the effects of a terrorist attack involving WMD—to limit or prevent casualties, economic disruption, or panic. Finally, we will ensure that our capacity to determine the source of any attack is well-known, and that our determination to respond overwhelmingly to any attack is never in doubt.³

Similarly, the academic community has explored different facets of these questions from various perspectives and with varied methodologies.⁴ But there does not appear to have been a systematic exploration of these questions that builds on the cumulative insights gathered in the period since 9/11.

This paper is not intended to fill this gap all on its own. Within the resources available, it cannot systematically and rigorously explore every facet of the problem. But it does attempt to take a comprehensive view of the topic. It proceeds as follows: The following section establishes the scope of inquiry with some framing arguments about the nature of the WMD terrorism threat and the functions of deterrence. A key argument here is that the WMD terrorism threat from militant Islamist extremists is not monolithic and that there is analytical value in disaggregating the threat by exploring distinct components of the terrorist network/movement. The next section of the paper explores the current and potential contributions of deterrence in influencing the behaviors of those specific components. The paper then derives some conclusions of a more general kind about the impact of deterrence on the prospects for WMD terrorism. It concludes with an exploration of how that impact can be strengthened and a series of policy recommendations. A primary purpose of this paper is to stimulate further work that can be helpful to future policy formulation. It is essentially an interim assessment based on a body analytical work done by a larger community that remains in development, written with the hope that it can help bring into focus some next steps for deepening

³ Ibid.

⁴ The work of the analytic community on deterring terrorism can be divided into three main clusters. One cluster is composed of work from the 1970s and 1980s done by social scientists to explore the ways in which patterns of terrorism were influenced by state responses. A second cluster emerged in the year or so after 9/11, when various study teams, generally associated in one way or another with the federal government, explored first-order questions about how deterrence might be applied to the newly revealed challenges. A third cluster is the much more diffuse work done in a wide variety of institutions in the last 2-3 years that explores specific mechanisms or targets of deterrence. Work from all three clusters is cited liberally in the body of this report.

understanding of how “the new deterrence calculus” can be brought together in the coming years.⁵

⁵ For a discussion of Defense Department thinking about the challenges of tailoring deterrence to new security requirements, see M. Elaine Bunn, *Can Deterrence be Tailored?* Strategic Forum No. 225 (Washington, D.C. National Defense University, Institute for National Strategic Studies, 2007).

SCOPE OF INQUIRY

To focus this analysis in a way that can be useful to policymakers, this paper proceeds with the following understandings about the nature of the WMD terrorism threat and the functions of deterrence.

First, it is important to define “WMD.” This label masks substantial differences between chemical, biological, and nuclear weapons in terms of their lethality and other impacts, in their ease of acquisition and use, and in their potential appeal to individuals with specific motivations. It also obscures the ways in which the precursor materials to these weapons might be used to poison a place or a population in a way that does not seek to exploit the full lethal potential of actual weapons. But the label also reflects the important similarities among these weapons. If developed and employed with a high level of technical skill, they can create effects quite distinct from those associated with the traditional “bombs and bullets” of the terrorist art. Their effective employment could generate casualties that are orders of magnitude larger in number than the more traditional tools. The prospect of a campaign of attacks with such weapons would have a potent effect on the targeted societies far in excess of the potential impact of campaigns of more conventional attacks. This paper utilizes the short-hand “WMD” because of these similarities and effects. In a few places in the analysis it highlights distinctions among the weapon types that are relevant from the perspective of the function of deterrence.

Second, which actors matter in characterizing the WMD terrorist threat? Varied non-state actors have shown an interest in WMD or their precursor materials, including cults (recall the Rajneeshis and Aum Shinrikyo), the American militia movement (recall Larry Wayne Harris), loners (recall the Alphabet Bomber), and even the occasional national separatist movement (recall the Tamil Tigers).⁶ Moreover, many types of actors have shown an interest in attacks that kill indiscriminately in very large numbers and thus

⁶ Jonathan B. Tucker, ed., *Toxic Terror: Assessing Terrorist Use of Chemical and Biological Weapons* (Cambridge, Mass.: MIT Press, 2000).

might find WMD appealing.⁷ But the focus here is on militant Islamic extremists who have enlisted in “jihad” against the so-called near and far enemies. One good reason for embracing the term “WMD,” as argued in the preceding paragraph, is that these extremists have embraced the term; the moral case for mass casualty attacks on noncombatants has been set out in a fatwa entitled “A Treatise on the Legal Status of Using Weapons of Mass Destruction on the Infidels.”⁸

Militant Islamic extremists evidently share a set of beliefs aligned in an ideological construct that motivates terrorist acts on behalf of jihad.⁹ But the network and movements of which they are a part consist of many actors other than the individual perpetrators of terrorism and movement leaders. As the *National Strategy for Combating Terrorism* argues:

The enemy we face today in the War on Terror is not the enemy we faced on September 11. Our effective counterterrorist efforts, in part, have forced the terrorists to evolve and modify their ways of doing business. Our understanding of the enemy has evolved as well. Today, the principal enemy confronting the United States is a transnational movement of extremist organizations, networks, and individuals—and their state and non-state supporters—which have in common that they exploit Islam and use terrorism for ideological ends. This transnational movement is not monolithic. Although al-Qaida functions as the movement’s vanguard and remains, along with its affiliate groups and those inspired by them, the most dangerous manifestation of the enemy, the movement is not controlled by any single individual, group, or state. What united the movement is a common vision, a common set of ideas about the nature and destiny of the world, and a common goal of ushering in totalitarian rule.¹⁰

⁷ One study compiled data on 34 terror events from 1970 to 2003 that killed 100 or more people and characterized the primary motivation of the perpetrators, concluding that those motivations included leftist, rightist, religious, ethnonationalist, state, narco-terror, and others, including some in combination. See Victor Asal and Andrew Blum, “Holy Terror and Mass Killings? Reexamining the Motivations and Methods of Mass Casualty Terrorists,” *International Studies Review*, Vol. 7 (2005), pp. 153-158. They note also that only 3 groups have initiated more than one such attack.

⁸ Robert Wesley, “Al-Qaeda’s WMD Strategy After the U.S. Intervention in Afghanistan,” *Terrorism Monitor* (Jamestown Foundation), Vol. 3, No. 20 (2005).

⁹ For one of many excellent explorations of this topic, see Jerrold M. Post, “Killing in the Name of God: Osama Bin Laden and Al Qaeda,” in Barry R. Schneider and Jerrold M. Post, eds., *Know Thy Enemy: Profiles of Adversary Leaders and Their Strategic Cultures* (Maxwell Air Force Base, Ala.: USAF Counterproliferation Center, 2002), pp. 17-40.

¹⁰ *National Strategy for Combating Terrorism*, p. 5.

As Paul Pillar has argued, the suppression of the al Qaeda structure as it existed on 9/11 has magnified the challenges of dealing with a diverse and adaptive adversary.¹¹

For purposes of this analysis, this larger movement is disaggregated into the following main components:

- jihadi foot soldiers
- the terrorist professionals who provide training and other logistical guidance and support
- the leaders of al Qaeda
- groups affiliated by ideology and aspiration (so-called franchisees)
- operational enablers (financiers etc.)
- moral legitimizers
- state sponsors
- passive state enablers (generally weak states that are unable or unwilling to prevent terrorists from exploiting their territory or other assets).

Although these are disparate elements of a movement that includes many movements and many networks, they must also operate as a network if acts of WMD terrorism are to be enabled and sustained. Therefore, for purposes of short-hand in the remainder of this paper, the term “movement/network” will be used to refer to the larger whole of which the elements are a part, recognizing that no single term accurately captures the complexity of the phenomenon. This taxonomy also guides the next section of this paper, which explores the potential impact of deterrence on these different components. A key question for this analysis is the extent to which these components have a shared risk-taking propensity. Do their ideological affinities render irrelevant the differences of interest and stake that might otherwise influence their willingness to run risks?

The third question about scope relates to the definition of deterrence. Thomas Schelling has defined deterrence as “persuading a potential enemy that he should in his

¹¹ Paul Pillar, “Counterterrorism after Al Qaeda,” *Washington Quarterly*, Vol. 27, No. 3 (Summer 2004), pp. 101-113. See also Bruce Hoffman, “Al Qaeda and the War on Terrorism: An Update,” *Current History* (December 2004).

own interest avoid certain courses of activity”¹² He adds: “By ‘deterrence’ I mean...inducing an adversary or a victim *not* to do something, to continue not doing something. The word takes the preposition ‘from.’”¹³ And Glenn Snyder provided some useful elaboration with his argument that there are two modes of deterrence.¹⁴ One is “deterrence by the threat of punishment,” which compels the adversary to try to calculate whether the potential benefits of action are outweighed by the potential costs. The credibility of the threat to impose those costs is, of course, key to this mode of deterrence, as a threat that is not seen as credible may be dismissed by the adversary even if the capability or will to enforce it are actually in place. The potential costs of inaction are also a part of this decision calculus and with them the adversary’s understanding of the balance between the known costs of inaction and the unknown costs of action.¹⁵ Effective deterrence by threat of punishment requires also establishing in the targets mind an understanding that in choosing not to act he will not be punished—in other words, that the threatening power will exercise some restraint in exchange for the target’s restraint. The other mode of deterrence is “deterrence by denial.” This mode relies on denying the adversary the perceived benefit of action.¹⁶

It is important to distinguish deterrence from other forms of influence. In prescribing policies for dealing with the militant Islamist extremist threat, Paul Davis, and Brian Jenkins argued:

Even when we stretched definitions of deterrence, the concept was too narrow to use as an organizing principles...the *influence* component of counterterrorism provides a better framework [emphasis in original].¹⁷

¹² Thomas Schelling, *The Strategy of Conflict* (Cambridge, Mass.: Harvard University Press, 1960), p. 9.

¹³ Thomas Schelling, “Thinking about Nuclear Terrorism,” *International Security*, Vol. 6, No. 4 (Spring 1982), p. 72.

¹⁴ Glenn H. Snyder, *Deterrence and Defense: Toward a Theory of National Security* (Princeton, N.J.: Princeton University Press, 1961).

¹⁵ As Gary Schaub has argued, “Many adversaries do not view inaction as a neutral outcome; rather they believe inaction will result in some sort of loss.” Schaub, “Deterrence, Compellence, and Prospect Theory,” *Political Psychology*, Vol. 25, No. 3 (2004), p. 406.

¹⁶ For further elaboration of these concepts, including as they apply to non-state actors, see *Deterrence Operations Joint Operating Concept*, U.S. Department of Defense, 2006.

¹⁷ Paul Davis and Brian Jenkins, *Deterrence and Influence in Counterterrorism: A Component in the War on Al Qaeda* (Santa Monica, Calif.: RAND, 2002), p. 9. See also Davis and Jenkins, “The Influencing Component of Counter-Terrorism,” background paper prepared for a joint RAND-IDA project on deterring terrorism, July 2002.

What else lies along this influence spectrum? Schelling elaborated a key distinction between deterrence and compellence:

By ‘compellence’ I mean inducing a person *to do* something through fear, anxiety, doubt, etc. ‘Compel’ takes the preposition ‘to...’ Deterrence is simpler. The command to do something requires a date and a deadline; to keep on not doing something is timeless.¹⁸

Dissuasion also lies along this continuum. As noted above, the *National Strategy for Combating Terrorism* makes a distinction between deterring terrorists from contemplating a WMD attack and dissuading them from actually doing so.¹⁹ So, too, do persuasion and inducement.²⁰

The focus of this paper is on deterrence by threat of punishment and by denial of success. It attempts to calibrate the relative weight of deterrence in the larger influence spectrum. It also attempts to characterize the sources of self-restraint that may inhibit WMD actors or enablers from developing and employing WMD. These are largely speculative tasks, intended to help calibrate, in an approximate way, the specific functions of deterrence.

A. JIHADI FOOT SOLDIERS

Jihadi foot soldiers have accepted what they understand to be a call to martyrdom.²¹ This simple fact calls into question any potential contribution of deterrence. Someone who has chosen to give his or her life to jihad seems an unlikely target for any deterrence strategy. But this important insight apparently does not exhaust the topic. Let us consider two additional key insights. Not all jihadi foot soldiers are suicide bombers. And suicide bombers have to contend with the possibility that they may not be successful in the intended act of martyrdom.

Consider the possible implications of the fact that not all jihadi foot soldiers are suicide bombers. Of the approximately 11,000 terrorist attacks in 2005, only 360 were suicide bombings—roughly 3 percent.²² As a recent study by the National Academy of

¹⁸ Schelling, “Thinking about Nuclear Terrorism,” p. 72.

¹⁹ *National Strategy for Combating Terrorism*. p. 14.

²⁰ Davis and Jenkins, *Deterrence and Influence in Counterterrorism*, pp. 10-24.

²¹ Robert Pape, *Dying to Win: The Logic of Suicide Terrorism* (New York: Random House, 2005).

²² *Country Reports on Terrorism 2005, Statistical Annex*, National Counterterrorism Center, April 7, 2006, p. v.

Sciences has pointed out, “terrorists value their own lives.”²³ Terrorists not motivated by an immediate desire to commit suicide may be amenable to influence strategies in a way that suicidal terrorists are not. A task force of terrorism experts argued just this point in June of 2002: “deterrence theory should be applicable against individual terrorists most of the time, but it will not be applicable against all individuals all of the time.”²⁴ Indeed, there is evidence to suggest that this is so. Social science research has demonstrated a striking commonality in the risk-taking propensity of individuals involved in illicit and potentially fatal activity: a low level of perceived risk is an enticement but the expectation of both mission failure and significant risk of a significant penalty can influence behavior patterns. These findings are drawn from the drug trade, other transnational criminal activities, terrorism of the 1970s, and even the suicide attacks of 9/11.²⁵ A study from the mid-1970s found that “increasing the certainty of punishment acts as a better deterrent than increasing the severity of punishment.”²⁶ A more recent study concluded in 2007 that “even the most cost and risk acceptant terrorists can be deterred in a predictable fashion from specific actions.”²⁷

It is important to note that studies available in the social sciences sometimes point to contradictory insights and conclusions. One study, drawing on the British experience in trying to deter the Irish Republican Army, illustrates the ways in which deterrence

²³ The study concludes that terrorists “value their own lives, except under the decision, made on their own terms, that suicide is justified by the overriding importance of personal salvation or group.” See *Discouraging Terrorism: Some Implications of 9/11*, Panel on Understanding Terrorists in Order to Deter Terrorism, Neil J. Smelser and Faith Mitchel, eds., Center for Social and Economic Studies, National Research Council, National Academy of Sciences, 2002, p. 5.

²⁴ *Tailored Deterrence: Restructuring Deterrence for the 21st Century*, Final Report prepared by the Special Task Force on Terrorism and Deterrence for the Defense Advanced Research Project Agency, 2002, p. 27.

²⁵ Robert Anthony, “A Calibrated Model of the Psychology of Deterrence,” *Bulletin on Narcotics*, Vol. LVI, Nos. 1 and 2 (2004); Anthony, *Deterrence and the 9/11 Terrorists*, D-2802 (Alexandria, Va.: Institute for Defense Analyses, 2003) and Laura Dugan, Gary LaFree, and Alex R. Piquero, “Testing a Rational Choice Model of Airline Hijackings,” *Criminology*, Vol. 43, No. 4 (2005), pp. 1031-1059.

²⁶ Robert Chauncey, “Deterrence: Certainty, Severity and Skyjacking,” *Criminology*, Vol. 12 (1975), pp. 447-73.

²⁷ Lee E. Dutter and Ofira Seliktar, “To Martyr or Not to Martyr: Jihad is the Question, What Policy is the Answer?” *Studies in Conflict & Terrorism*, Vol. 30 (2007), p. 431. In drawing this conclusion, the authors are explicitly drawing on a large number of studies in the academic world.

policies generated acts of defiance rather than acquiescence.²⁸ In a classic study of deterrence, Alexander George and Richard Smoke have defined this problem as follows:

Reinforcement of deterrence in a crisis may succeed in deterring the opponent, but at the cost of hardening his conviction that the defender is unresponsive to the legitimate interests that lie behind his effort to obtain a change in the situation. As a result, the initiator may resolve to prepare more effectively.²⁹

There is even some limited evidence to suggest that suicide bombers can be influenced by perceptions of operational risk. As Robert Anthony has concluded from a statistical review of terrorist operations, “even suicide terrorists are willing to delay their attack until they are convinced that they have a ‘good’ chance of success.³⁰ Some appear to be influenced by the desire to strike at targets where the prospect of success is good and thus turned from “hard” targets to softer ones. The move to softer targets by militant Islamic extremists has been striking in recent years, as has the shift from logistically complex operations to less demanding ones.³¹ There may also be some prospect of deterring suicidal bombers by increasing the perceived risk that their operation will fail in a way that results not in their martyrdom, but in their incarceration. As a National War College study has concluded, “a terrorist may be willing to die for his cause but be unwilling to spend the rest of his life in the unglamorous, isolated, largely forgotten role of prisoner.”³² Prolonged imprisonment may pose a particular worry for jihadis, who might fear a loss of faith over time. Al Qaeda’s training manual includes prescriptions for life in prison with an emphasis on “upholding religion” and team work to enable

²⁸ Gary LaFree, Raven Korte, and Laura Dugan, “Deterrence and Defiance Models of Terrorist Violence in Northern Ireland, 1969 to 1992,” unpublished research paper, June 2006.

²⁹ Alexander George and Richard Smoke, *Deterrence in American Foreign Policy* (New York: Columbia University Press, 1974), p. 579.

³⁰ Robert W. Anthony, *Deterrence and the 9-11 Terrorists*, Document D-2802 (Alexandria, Va.: Institute for Defense Analyses, 2003), p. 9. Anthony’s work draws on a long-running exploration of the willingness function of criminal actors—defined as their will to act in the face of what they understand about the likelihood and severity of punishment. This work begins with the observation that “with the threat of lethal force, an 8-12 per cent interception rate held down trafficking to less than 15 per cent of former levels, causing a collapse of the Peruvian cocaine trade. Less severe consequences worked at higher interception rates in the transit zone to the United States.” See Robert Anthony, “A Calibrated Model of the Psychology of Deterrence,” *Bulletin on Narcotics*, Vol. 56, No. 1 (2004). Anthony argues in the first work cited above that initial investigations support the hypothesis that terrorist activities are susceptible to similar intervention strategies.

³¹ *National Strategy for Combating Terrorism*, p. 13. See also Todd Sandler and Walter Enders, “September 11 and Its Aftermath,” *International Studies Review*, Vol. 7 (2005), p. 167.

³² *Combating Terrorism in a Globalized World*, Report by the National War College Student Task Force on Combating Terrorism, National War College, 2002, p. 44.

righteousness and piety.³³ The potential deterrence value of enhancing operational risk for suicidal terrorists seems born out in the Israeli experience. One study, drawing on Israeli experience in the second Palestinian intifada between 2000 and 2004, concludes: “Israeli authorities have prevented more than 340 suicide bombings from advancing beyond the planning stages...the right mix of threats in at least some instances challenges the conventional wisdom that suicide bombers are undeterrable.”³⁴

In sum, evidence suggests that jihadi foot soldiers can be influenced by both modes of deterrence. Deterrence by denial seems to play a role vis-à-vis actors who attach importance to success in the operational sense. Deterrence by the threat of punishment seems also to play some role, if the prospect of getting caught is significant enough and the sanction severe enough (for that fraction of the jihadi recruit population willing to commit suicide, the severest sanction may be the denial of martyrdom).

But it is important also not to overstate the significance of these insights vis-à-vis foot soldiers. The possibility to influence them through deterrence strategies seems to exist but is not highly promising. The available social science research suggests that foot soldiers are generally not amenable to influence strategies of any kind. Persuasion, dissuasion, and inducement seem to offer little promise in shaping the behaviors of individuals committed to militant extremism. But among the tools of influence, deterrence should not be written off.

B. TERRORIST PROFESSIONALS

Although some jihadi foot soldiers form cells and plan and conduct operations entirely on their own, many soldiers and cells receive assistance from others who have made terrorism a profession and career. Such individuals run training camps, help plan operations, and facilitate operations by linking cells to needed resources. Their ideological affinity with jihad and their propensity to run risks and even to commit suicide may be no different from that of the jihadi foot soldiers and thus they may be susceptible in only very marginal ways to deterrence strategies. But here, too, some alternative propositions should be considered.

³³ *The Al Qaeda Training Manual* (as published in *Military Studies in the Jihad Against the Tyrants*, Jerrold M. Post, editor, Maxwell Air Force Base, USAF Counterproliferation Center), pp. 169-172.

³⁴ Doron Almog, “Cumulative Deterrence and the War on Terrorism,” *Parameters* (Winter 2004-05), p. 4. See also Daniel Byman, “Do Targeted Killings Work?” *Foreign Affairs* (March/April 2006), pp. 95-112.

First, the infrequency with which terrorist professionals give their own lives in such operations suggests that martyrdom is not highly valued by them in the accomplishment of any single operation. As a general proposition, they seem to be in it for the campaign, the cause, or the money, but not apparently for martyrdom, at least in the short term.

Second, perceptions of operational risk are at least as important for the professional as for the foot soldier, if not more so. Professionals build reputations on delivering results. Success matters. Success for them is defined in terms of operational goals, as opposed to more fundamental ones.³⁵ Planners have shown themselves to be influenced by perceptions of operational risk. Here some British experience is illustrative. Speaking from the perspective of his experience with operatives of the Irish Republican Army, a senior British counter-terror official has observed that “deterrence [of specific operations] is possible with overt activity aimed at reconnaissance, preparation, attack, and escape phases.”³⁶ Davis and Jenkins echo this theme with the observation that “the empirical record shows that even hardened terrorists dislike operational risks and may be deterred by uncertainty and risk.”³⁷

But the available social science suggests that there is an analogue here to the “defiance response” noted in the preceding discussion of foot soldiers. Measures that enhance operational risk in attacks on specific targets may not reduce the threat; they may simply displace it onto another target. As a study from 1993 argues:

substitutions...must be accounted for, along with indirect effects...[T]he unintended consequences of an antiterrorism policy may be far more costly than intended consequences, and must be anticipated. In the case of metal detectors,

³⁵ Dutter and Seliktar have defined the distinction between these two sets of goals as follows: “Fundamental goals are the basic, long-term objectives of the initiators of terrorist acts, as well as supporters and sympathizers in their ‘host’ population. These include objectives such as the radical restructuring or replacement of the economic, political, social, and/or territorial status quo in a state or region. On the other hand, instrumental or operational goals are short-term, transient objectives, the achievement of which can be viewed as logistical successes and which terrorists perceive as relevant to the achievement of one or more fundamental goals.” See Dutter and Seliktar, “To Martyr or Not to Martyr,” p. 431.

³⁶ David Veness, “Low Intensity and High Impact Conflict,” *Terrorism and Political Violence* (Winter 1999), p. 14.

³⁷ Davis and Jenkins, *Deterrence and Influence in Counterterrorism*, p. xii.

kidnappings increased; in the case of embassy fortification, assassinations became more frequent.³⁸

This suggests that the terrorist professional, like the jihadi foot soldier, can be influenced by the two forms of deterrence. Deterrence by denial of operational success influences their target selection and mode of operation. Deterrence by threat of punishment, namely being captured or killed, seems also to play an important role (but here the evidence is not well developed). Persuasion, dissuasion, and compellence seem, again, to have little or nothing to contribute to influencing the behavior of these actors.

C. LEADERS

The leaders of al Qaeda, like the jihadi recruits, are also inspired to martyrdom—but not their own, at least in the short term. Rather, they seek a movement of martyrs. Al Qaeda leaders have “raised Islamic martyrdom to the status of a principle of faith.”³⁹ Moreover, they are obviously committed to killing non-believers in large numbers and especially Americans “wherever they stand.” They have clearly stated an intent to acquire WMD. Many observers of al Qaeda equate that intent with a commitment to employ WMD once acquired—otherwise, why expend the effort and resources? Here, too, some alternative propositions merit consideration.

First, success at the operational level matters to those interested in success vis-à-vis more fundamental goals. That any individual operation be successful may matter less to the leadership of al Qaeda than to the professionals responsible for organizing it. But failures will become important if their cumulative impact is to undermine achievement of fundamental goals. Since leadership is interested in utilizing violence to re-write the grand historical narrative in ways it considers right and necessary; violence that is ineffective toward this end, or worse clumsy and generates unwanted reactions, is unlikely to be long tolerated. For example, some jihadists have criticized al Qaeda’s senior leadership for the 9/11 attacks because they led to the loss of Afghanistan.

³⁸ Walter Enders and Todd Sandler, “The Effectiveness of Antiterrorism Policies: A Vector-Autoregression-Intervention Analysis” *American Political Science Review*, Vol. 87 (1993), pp. 842-843.

³⁹ “The organization adopted suicide as the supreme embodiment of global jihad and raised Islamic martyrdom to the status of a principle of faith.” Yoram Schweitzer and Sari Goldstein Ferber, *Al-Qaeda and the Internationalization of Suicide Terrorism*, Memorandum No. 78 (Tel Aviv: Tel Aviv University, Jaffee Center for Strategic Studies, November 2005), p. 26.

Successful operations also help at the more prosaic level of generating jihadi volunteers and the other resources needed to sustain operations.

Second, al Qaeda's leaders themselves say that the U.S. failure to punish in substantial and meaningful ways fueled the belief that the United States could be bent to al Qaeda's will. One RAND scholar has argued that "September 11 represents first and foremost a failure to deter." Referencing cruise missile attacks on al Qaeda camps in Afghanistan in the late 1990s, Jonathan Schachter argues as follows:

Cruise missiles hold a special mystique in the American perspective. Their combination of destructive power...accuracy and range mean that specific targets can be hit without endangering American personnel. But this virtue in the eyes of American citizens, soldiers, and decision-makers is an indication of weakness of our al-Qa'idah adversaries. Not only were the response attacks largely ineffective...they were seen as another small and cowardly step by a wounded tiger.⁴⁰

Of course it is not possible to go back and seize the opportunities for deterrence that might have been available a decade ago. But a failure to deter suggests the possibility of deterring. Might the threat of retaliation make a difference to the strategic calculations of the al Qaeda leadership? Some analysts believe so. "Al Qaeda has shown a pragmatic side," argues Jerry Mark Long, and "it realizes that indiscriminate use of WMD would likely bring devastating retaliation, and Afghanistan is a case in point."⁴¹ Others observe that the threat of retaliation can be quite meaningless: "in the perceptions of the terrorists and their supporters, they may have little, if anything, to lose from a defender's retaliation."⁴² Some worry that the leaders of al Qaeda even welcome very dramatic forms of retaliations, on the argument that this would help to "clarify the historical narrative" by reinforcing the image of the enemies of Islam as hugely evil. But the publicly available evidence on any of these propositions is scant.

These observations suggest that the two modes of deterrence contribute little to restraining al Qaeda leadership from seeking to develop and employ WMD. Yet their restraint, so far, seems to have been significant: that leadership has not invested in WMD in the way that it has invested in other operational modes. This is not an

⁴⁰ Jonathan Schachter, "Understanding al-Qa'idah: Power, Perception, and the Powell Doctrine," unpublished research paper, RAND, 2002.

⁴¹ Jerry Mark Long, "Strategic Culture, al Qaeda, and Weapons of Mass Destruction," a paper prepared by SAIC for the Advanced Systems and Concepts Office of the Defense Threat Reduction Agency, November 20, 2006, p. 24.

⁴² Dutter and Seliktar, "To Martyr or Not to Martyr," p. 437.

observation about the scale of investment, but rather about scale relative to the challenge. Al Qaeda leadership has invested for success in multiple attacks modes and to create the infrastructures to enable such attacks. But it has not so far scaled its investment in WMD toward this end—or so the record of non-attack suggests. What accounts for this perceived restraint? If the restraint is not imposed through mechanisms of deterrence or other means, then it must be a self-imposed restraint. And this self-restraint seems to have multiple sources. How might we understand these potential sources of self-restraint—and manipulate them?

Because movement leaders concern themselves, above all, with fundamental goals as opposed to operational ones, they must concern themselves with how the acquisition and use of WMD might advance or retard those goals. Their potential value in advancing those goals seems well understood by those who seek to deter WMD terrorism, but this does little to explain the pattern of restraint. How might the leadership of al Qaeda perceive WMD acquisition and use as retarding their fundamental goals? Al Qaeda leadership has been painstaking in its effort to develop an operational code of jihad. That code depicts jihadi tactics as just within their own moral construct—a construct that is self-defined as defensive and discriminate. One thorough review of this operational code comes to the blunt conclusion that “when we turn to al-Qaeda’s doctrine of WMD doctrine, the most salient factor is that there is none....Significantly, manuals like *Military Studies in the Jihad against the Tyrants* fail to mention them at all.”⁴³ The use of WMD has not been “normalized” within this construct. Apparently, it remains controversial.⁴⁴ WMD employment might inflame this controversy in ways that would be unhelpful for the leadership. How?

First, such employment could deepen disaffection within the leadership group among those who opposed it. Historically, concerns about such potential disaffection have constrained terrorist leaders from employing controversial tactics, largely out of a

⁴³ Long, “Strategic Culture, al Qaeda, and Weapons of Mass Destruction,” p. 21. See also Lewis A. Dunn, *Can al Qaeda Be Deterred from Using Nuclear Weapons?* Occasional Paper No. 3 (Washington, D.C.: Center for the Study of Weapons of Mass Destruction, National Defense University, 2005).

⁴⁴ For more on the internal debate, see Sammy Salama and Lydia Hansell, “Does Intent Equal Capability? Al-Qaeda and Weapons of Mass Destruction,” *Nonproliferation Review*, Vol. 12, No.3 (November 2005), pp. 615-653. See also Long, “Strategic Culture, al-Qaida, and Weapons of Mass Destruction,” pp. 22-23, who describes a “vigorous deliberation within the al-Qaida’s shura about the utility of WMD” and cites various internal accounts.

desire to sustain a high level of trust among the inner core. The occasional defector has proven crippling to terrorist organizations.⁴⁵

Second, Muslims drawn to jihad but not al Qaeda's brand may be more willing than before to compromise al Qaeda operations or individuals of whom they are aware out of moral outrage. Winning the "hearts and minds" of Muslims is clearly an objective of the al Qaeda leadership and utilization of tactics that a wide majority of Muslims deem unacceptable would work against this goal. The loss of support occasioned by extremely violent al Qaeda actions in Iraq led to a significant effort by al Qaeda leadership to adopt tactics less offensive to Muslims.⁴⁶

Third, the leadership has a few resources that are particularly scarce when measured against the requirements of a very long campaign and it may wish not to squander them in any particular attack, however spectacular in its short-term effect, or in any prolonged research and development effort, however potent the capability it may produce at some future time. These resources could be understood as including the "vanguard"—the special cadre of "professional revolutionaries" possess[ing] both the intellectual capacity and the fighting spirit to blaze the trail of revolution."⁴⁷ As one study argues, "Marxist-Leninist-Maoist revolutionary doctrine is critical to understanding jihadi strategy;" that doctrine puts strong emphasis on a vanguard that catalyzes the larger revolution and must be preserved even as soldiers in the field are expended.⁴⁸ Another scarce resource is the tolerance and support of those key individuals in a position to use personal or institutional assets to advance al Qaeda's cause. Their will to enable may be reduced and with it key operational assets lost.

The longer term influence of these and potentially other sources of self-restraint on al Qaeda's WMD intentions is a matter of conjecture. Some experts see evidence that

⁴⁵ See Jonathan Tucker, "Lessons From the Case Studies," *Toxic Terror*, pp. 249-270.

⁴⁶ Fawaz Gerges, "Buried in Amman's Rubble: Zaraqawi's Support," *Washington Post*, December 4, 2005. See also David Ignatius, "Are the Terrorists Failing?" *Washington Post*, September 28, 2004 and "Unfamiliar questions in the Arab air, Special Report, Arab world, Iraq, and al-Qaeda," *Economist*, November 26, 2005, pp. 29-31.

⁴⁷ *Harmony and Disharmony: Exploiting al-Qa'ida's Organizational Vulnerabilities*, Combating Terrorism Center, Department of Social Sciences, United States Military Academy, February 14, 2006, p. 49. This is a seemingly unique resource, as the work is based directly on captured al-Qa'ida documents.

⁴⁸ *Ibid.*

they are eroding.⁴⁹ But the leaders of such groups and movements must contend with the fact that “members have different goals and objectives, and preferred strategies for achieving them. Preferences and commitment level vary across specific roles performed within the organization and among sub-group leaders.”⁵⁰ This challenge will endure.

D. AFFILIATE GROUPS

Affiliate groups are groups that have sprung up in response to al Qaeda’s call to militant jihad or that previously existed but have sought association with al Qaeda for reasons of ideology or expedience. Assuming adherents of such groups share the ideological zeal for martyrdom of their counterparts in the core al Qaeda elements, then there ought be nothing unique or distinct about deterring them. But some alternative possibilities should be considered.

The fact that they have shared goals does not mean that their goals are identical. Fundamental goals may overlap but may also diverge in significant ways. Previously existing groups that have employed terrorist tactics in rather traditional ways for traditional purposes, for example, replacing a local government with one more aligned ideologically with their views, may share al Qaeda’s desire to renew Islam’s place in global affairs but may see some of al Qaeda’s objectives vis-à-vis the “far enemy” as unhelpful to their cause. Examples of this phenomenon can be found in Southeast Asia, where some Islamic resistance groups also resist some local al Qaeda initiatives. Operational goals may also overlap but not fully converge. Previously existing groups may want to strike the same targets as the al Qaeda leadership, but they may be concerned about local reactions to attacks deemed excessive in a way that the al Qaeda leadership may not. After all, they are competing for local legitimacy. These factors seem to account for some of the backlash against al Qaeda among militant Islamic groups

⁴⁹ Salama and Hansell, “Does Intent Equal Capability?” See also Michael Scheuer, “Al –Qaeda’s Completed Warning Cycle—Ready to Attack?” Jamestown Foundation News, March 3, 2005. Scheuer argues that “After 9/11 bin Laden received sharp criticisms from Islamist scholars that dealt with the al Qaeda chief’s failure to satisfy several religious requirements pertinent to waging war. The critique focused on three items: (1) insufficient warning, (2) failure to offer Americans a chance to convert to Islam; and (3) inadequate religious authorization to kill so many people.” Scheuer recounts subsequent efforts by bin Laden to address these concerns and concludes that the religious requirements had been fully met by winter of 2005.

⁵⁰ Various studies have explored the ways in which consensus is an important value for the leadership core of terrorist movements. See for example *Harmony and Disharmony*, p. 3.

in Malaysia.⁵¹ A recent academic study observes that “groups that are primarily focused on local concerns can be coerced into denying sanctuary (and other assistance) to members of more dangerous groups.”⁵²

The same report argues that “jihadi-on-jihadi tension has historically run high,” as “seen in the conflict between the ‘Afghan Arabs’ and the Afghan mujahedeen, as well as in other jihadi combat experiences.”⁵³ The study also reports that al Qaeda sub-groups “need to be very careful about who they hit in order to avoid losing...critical support.”⁵⁴ If the available social science literature is an accurate reflection, these tensions remain little studied by Western experts. How and why coalitions with al Qaeda weaken and collapse seem to be as little studied as the more general question of why terrorist groups and movements collapse; the available literature focuses almost entirely on what causes movements, groups, and coalitions to coalesce. But there ought to be valuable lessons in what causes them to disintegrate.⁵⁵

These arguments suggest that affiliate groups may have sources of self-restraint above and beyond the restraints of movement components more closely aligned with al Qaeda’s fundamental and operational goals. But what does this line of argument imply about deterrence? It indicates that sources of disharmony may be a vulnerability that can be exploited. The local vulnerabilities of such groups, including their needs to sustain some popular support and room to maneuver in the targeted state, may be targetable in the sense that public and governmental responses can intensify in the wake of actions deemed particularly egregious—such as the employment of WMD. This may have a deterrent effect within the movement by increasing pressure from the affiliate groups on al Qaeda leadership to moderate behaviors globally that are detrimental locally.

⁵¹ Azhar Ghani, “JI Changes Goals,” *Straits Times*, November 17, 2006, p. 6. See also Derwin Pereira, “Sharp drop in support for terrorism in Indonesia,” *Straits Times*, November 18, 2006, p. 4.

⁵² Robert Trager and Dessislava P. Zagorcheva, “Deterring Terrorism: It Can Be Done,” *International Security*, Vol. 30, No. 3 (Winter 2005/06), p. 120.

⁵³ *Ibid.*, p. 50.

⁵⁴ *Ibid.*, p. 46.

⁵⁵ A valuable exception to this general proposition is Audrey Kurth Cronin, “How Al Qaeda Ends: The Decline and Demise of Terrorist Groups,” *International Security*, Vol. 31, No.1 (Summer 2006), pp. 7-48. See also David Cook, *Paradigmatic Jihadi Movements*, Combating Terrorism Center, United States Military Academy, West Point (undated) and Gary Ackerman, “WMD Terrorism Research: Whereto from Here?” *International Studies Review*, Vol. 7 (2005), pp. 140-143.

E. OPERATIONAL ENABLERS

Operational enablers are individuals who provide money, documents, safe houses, weapons, communications, and other operational assets. They are also accomplices and even dupes—individuals willing to turn a blind eye to an attack in preparation or execution. These individuals may conceive themselves as called to jihad but they have not made the commitment to self sacrifice. Many extend support to extremists under the cover of legitimate on-going economic, social, or political activity. In this case, they have not even chosen to sacrifice their public face in the name of jihad.

As Davis and Jenkins have rightly argued, “Bin Laden may feel he has nothing to lose, but at least some of his financiers live comfortably with wealth, family, and prestige. Obviously, they do have something to lose.”⁵⁶ This proposition seems more broadly applicable to the full group of enablers. Accordingly, many studies have concluded that deterrence by threat of punishment ought to be effective against enablers seeking to act covertly in their own societies.⁵⁷ The evidence to support or contradict this conclusion is not generally available. It is difficult to conceive that deterrence by defeat would play any role in shaping the incentives of these actors. So long as they are committed to jihad, but not self sacrifice, it seems unlikely that other tools of influence, such as persuasion or compellence, would have much leverage.

One particular type of operational enabler deserves separate scrutiny: transnational criminal organizations. They deserve such scrutiny because contradictory expectations have formed within the expert community about their susceptibility to deterrence strategies. On the one hand, it seems plausible that criminal organizations would conduct business with terrorists just as they would any other entity where there is money to be made—especially in the realm of nuclear terrorism where the money to be made could be substantial. The concern about criminal trafficking in Russian nuclear weapons and materials is particularly acute.⁵⁸ According to the first line of argument, because such groups already operate effectively despite whatever sanctions the state

⁵⁶ Davis and Jenkins, *Deterrence and Influence*, p. 15.

⁵⁷ See for example *Combating Terrorism in a Globalized World*, pp. 47-49 and Gordon Drake, Warrick Paddon, and Daniel Ciechanowski, *Can We Deter Terrorists from Employing WMD in the US Homeland?* National Security Program Discussion Paper Series, Kennedy School of Government, Harvard University, 2003.

⁵⁸ See for example Jessica Stern, *The Ultimate Terrorists* (Cambridge, Mass.: Harvard University Press, 1999), chapter 6, “The Threat of Loose Nukes,” pp. 87-106.

places on them, they are unlikely to be deterred from seeking such profits by the threat of punishment. On the other hand, criminal organizations are essentially parasites. They depend on the health of the organism from which they extract wealth. Cooperating with terrorists can be bad for business. Indeed, there is some evidence that such organizations are willing to cooperate with law enforcement officials to eliminate people who are bad for business. This line of argument suggests that the threat of additional punishment may be a significant barrier to criminal organizations enabling WMD terrorism.⁵⁹ Here, as well, the available evidence is too sparse to prove definitively one or the other hypothesis.

F. MORAL LEGITIMIZERS

Moral legitimizers are enablers of a particular kind. The assets they provide to militant extremists are theological, not operational. They define a moral context within which jihadi terror is deemed legitimate, indeed sacred. They operate within a religious tradition that recognizes that even the moral use of force is not without limits⁶⁰ and participate in an on-going exploration of and debate about how specific actions correspond with the dictates of Islamic jurisprudence.⁶¹ Sometimes their work is deeply rooted within this jurisprudential context; at others, their work draws on that context in convenient ways to make an argument of expedience in the cloak of morality. These are individuals in the mosques, schools, and media who have made the commitment to jihad but operate quite overtly and thus are not potentially subject to the penalties that offer some leverage over those operating covertly.

The permissions given by such authorities to employ terrorist tactics, including the use of WMD, are critical enablers. But it is important also to recognize the reverse effect: jurisprudential concerns are also an important source of self-restraint within the militant community. Historically, many terrorists groups have had to concern themselves with finding the right dividing line between killing “enough” and killing “too many,”

⁵⁹ See Phil Williams, “Terrorism and Organized Crime,” in Brad Roberts, ed., *Hype or Reality? The ‘New Terrorism’ and Mass Casualty Attacks* (Alexandria, Va.: Chemical and Biological Arms Control Institute, 2000), pp. 117-146 and Williams, “Transnational Criminal Networks,” *Networks and Netwar*, RAND MR-1382-OSD (Santa Monica, Calif.: RAND, 2002).

⁶⁰ James Turner Johnson, “Jihad and Just War,” *First Things*, No. 124 (June/July 2002). See also Johnson and John Kelsay, eds., *Just War and Jihad* (New York: Greenwood Press, 1991).

⁶¹ See for example Muhammad Khalid Masud, et al., eds., *Islamic Legal Interpretations: Muftis and their Fatwas* (Cambridge, Mass: Harvard University Press, 1996).

which is to say with finding the threshold at which they could motivate desired change without generating a crippling backlash from the state or the people on whose behalf they perceive themselves as fighting. The fact that the moral legitimizers of terrorism have concerned themselves with this threshold may yet prove to be a significant barrier to the full exploitation of the lethal potential of WMD. In other contexts, religious leaders have ended up playing an important role in shifting the moral debate in a way that has constrained terrorist violence.⁶²

But the means for influencing the moral legitimizers seem to be few. They are not open to persuasion, except perhaps by members of their own religious tradition, who are likely to be the only ones to have the credibility to challenge the moral standing of the legitimizers within their own community. They do need to concern themselves with their own legitimacy and the possibility of a backlash against their moral vision generated by acts of violence widely deemed egregious violations of Islamic norms. Therefore, those who are in it not for religious conviction but expedience of one kind or another, may be amenable to influence strategies.

G. STATE SPONSORS

State sponsors of terrorism provide various goods and services to those whom they sponsor, including sanctuary, political support, weapons, intelligence, and logistics. The Department of State designates the following states as sponsors of terrorism: Cuba, Iran, North Korea, Sudan, and Syria.⁶³ Conspicuously, four of the five are suspected also of seeking nuclear, biological, and/or chemical weapons (Sudan is the exception).⁶⁴

This facet of the terrorist threat seems readily amenable to deterrence by threat of punishment. As a National Academy of Sciences study concluded, “the facts that the Taliban lost control of Afghanistan and al Qaeda was wounded no doubt constitute a

⁶² Writing about “the troubles” in Northern Ireland in the late 20th century, Michael Quinlan has argued that “The Roman Catholic clergy there were not all as immediate, as outspoken, as unequivocal and as unanimous in their condemnation of Republican terrorism as Christian ethics truly required and as they themselves mostly later became; but significant change did take place, and progressively played a part in making community attitudes less tolerant of terrorism.” See Sir Michael Quinlan, “Deterrence and Deterrability,” *Contemporary Security Policy*, Vol. 25, No. 1 (April 2004), p. 16.

⁶³ In addition, it has deemed Venezuela as “not fully cooperating with US counterterrorism efforts.” See *Country Reports on Terrorism, 2007*, Office of the Coordinator for Counterterrorism, Department of State, April 30, 2007.

⁶⁴ George Tenet, “Worldwide Threat 2004—Challenges in a Changing Global Context,” Statement of the Director of Central Intelligence to the Senate Armed Services Committee, March 9, 2004.

credible warning to other states harboring terrorists...that the United States is willing to act and that it has a destructive capacity.”⁶⁵ The prospective deterrent effect of such U.S. actions was evidently valued by President Bush who reportedly argued shortly after 9/11: “Let’s hit them [the Taliban] hard. We want to cause other countries like Syria to change their views.”⁶⁶ The prospect of such punishment is credited by many experts with inducing the leaders of terrorism sponsoring states not to open their WMD arsenals (or developmental processes) to those whom they sponsor.

But there are some potential problems with this line of argument. One is that a case study widely used as a reference point in this discussion is interpreted by analysts in contradictory ways. The case study is Libya and its response to the bombing of Tripoli authorized by President Ronald Reagan in 1984. Some analysts conclude that the bombing induced Muammar Qaddafi to curtail his support for terrorism, including specifically attacks on American targets. In the words of one study, “the findings support the conclusion that the application of the principle of deterrence to international terrorism was at least partially successful in this instance.”⁶⁷ On the other hand, others surveying the historical record concluded that “the retaliatory raid on Libya appeared to increase terrorism in the near term, but did not have a significant long-run impact, good or bad.”⁶⁸ There is a similar debate about what factors actually induced Qaddafi to abandon his WMD programs and capabilities two decades later.⁶⁹

A second problem is that the WMD restraint observed by state sponsors so far may have explanations other than deterrence. One plausible explanation is that the leaders of these states typically maintain tight control over internal and external enemies and are averse to losing control of powerful means that might be turned back against the regime or its interests. Another plausible explanation is that weapons development programs have not reached a point where the arsenal of available weapons or materials is

⁶⁵ *Discouraging Terrorism*, p. 32.

⁶⁶ As cited in Bob Woodward, *Bush at War* (New York: Pocket Books, 2003), p. 98.

⁶⁷ Henry W. Prunckun, Jr., and Philip B. Mohr, “Military Deterrence of International Terrorism: An Evaluation of Operation El Dorado Canyon,” *Studies in Conflict and Terrorism*, Vol. 20 (1997), p. 278.

⁶⁸ Enders and Sandler, “The Effectiveness of Antiterrorism Policies,” p. 843.

⁶⁹ Bruce W. Jentleson and Christopher A. Whytock, “Who ‘Won’ Libya?” The Force-Diplomacy Debate and Its implications for Theory and Policy,” *International Security*, Vol. 30, No. 3 (Winter 2005/2006), pp. 47-86.

sufficiently robust to allow diversions to anything other than the central military purposes of the regime.

A third problem is that the credibility of the threat to punish a state sponsor of WMD terrorism seems to require that the sponsor believe that such sponsorship can be attributed to him. A growing appreciation of the gaps in these attribution capabilities has spurred high-level efforts to strengthen capabilities with the hope that this will enhance deterrence.⁷⁰ The degree to which capability gaps undermine the functioning of deterrence is a matter of conjecture. As Michael Quinlan has argued, “a state may not be sure of being found out; but equally it cannot be sure of not being found out.”⁷¹ That uncertainty may be a sufficient deterrent if the expected penalty associated with discovery is very high.

A final problem with the view that states can be deterred from sponsoring WMD terrorism is that it depends on a threat that puts the survival of the regime at risk which may motivate the regime to extreme measures to escape an intolerable risk. Deterrence might well fail in such instances, if the regime in power genuinely feels itself to be in jeopardy and if it has developed strong relations with terrorist organizations.⁷²

These problems imply that deterrence may not be as reliable in inducing restraint by the leaders of terrorism sponsoring states as we might believe or hope. The historical record is, nonetheless, quite striking in that for decades now the state sponsors of terror have not opened their WMD toolkits to those whom they sponsor.

An interesting additional question arises about the possibility of exerting deterrence influence over terrorist organizations through their state sponsors. Can state sponsors be induced to do more than exercise self-restraint? Can they also be induced to impose their will on terrorists to prevent them from seeking, acquiring and using WMD? Some analysts are hopeful that this might be so. Michael Quinlan argues:

⁷⁰ See Linton F. Brooks, “Countering Nuclear Terrorism,” administrator, National Nuclear Security Administration, remarks to Chatham House, London, U.K., September 21, 2006. See also John R. Harvey, “Countering Nuclear Terrorism,” remarks to the Center for International Security and Arms Control, Stanford University, Stanford, Calif., February 20, 2007. Harvey is a senior advisory at the National Nuclear Security Administration. See also Caitlin Talmadge, “Deterring a Nuclear 9/11,” *Washington Quarterly*, Vol. 30, No. 2 (Spring 2007), pp. 21-34. The national biodefense strategy also highlights the importance of attribution in deterring sponsorship. See *Biodefense for the 21st Century*.

⁷¹ Quinlan, “Deterrence and Deterrability,” p. 15.

⁷² Jasen J. Castillo, “Nuclear Terrorism: Why Deterrence Still Matters,” *Current History*, No. 102 (December 2003), p. 431.

There is naturally now...a further strand of concern about the willingness of individuals to give their lives...in order to carry out terrorist attacks. What can deterrence, in the strict sense, do about these? In immediate terms, nothing. But they scarcely ever, if indeed ever, exist and operate in isolation from organizations, and these organizations rarely in isolation from states; and deterrence can be brought to bear by that route.⁷³

Other analysts are skeptical. Alexander George, for example, has argued that “Efforts to coerce a non-state actor indirectly by persuading states friendly to the non-state actor to exert pressure against it may work sometimes, but such efforts of indirect coercion are often difficult and may be counterproductive.”⁷⁴

H. PASSIVE STATE ENABLERS

Passive state enablers are a component of the terrorism threat network distinct from state sponsors in a dimension critical to deterrence: intent. Sponsors are states that support terrorist groups as a matter of policy. Enablers reject such support and, indeed, have policies supporting counter-terrorism, but tolerate terrorist activities within their borders because they cannot prevent it. By one count, there are nearly four times as many enablers as sponsors, most of them weak and collapsing states.⁷⁵ As Daniel Byman has noted, “the greatest contribution a state can make to a terrorist cause is by not acting. A border not policed, a blind eye turned to fundraising, or even toleration of recruitment all help terrorists build their organizations, conduct operations and survive.”⁷⁶ Weak or failing states may be especially lucrative as venues to acquire unconventional capabilities.⁷⁷

What is the role of deterrence in motivating passive state enablers? If individuals throughout the state structure are indeed committed to counterterrorism, they need no such motivation—they already have it. In that case, they may simply need help. But the commitment to counterterrorism may not be broad or deep enough to motivate the necessary cooperation to curtail enabling actions. In this case, “outside governments should try to raise the costs to regimes of tolerating passive support,” argues Daniel

⁷³ Quinlan, “Deterrence and Deterrability,” p. 15.

⁷⁴ Alexander George, “The Need for Influence Theory and Actor-Specific Models of Adversaries,” unpublished research paper, 2001.

⁷⁵ John Parachini, “Putting WMD Terrorism into Perspective,” *Washington Quarterly*, Vol. 26, No. 4 (Autumn 2003), pp. 37-50.

⁷⁶ Daniel Byman, “Passive Sponsors of Terrorism,” *Survival*, Vol. 47, No. 4 (Winter 2005-06), p. 117.

⁷⁷ Parachini, “Putting WMD Terrorism into Perspective.”

Byman; “simple embarrassment proved highly effective.”⁷⁸ Additional motivation may be found in the form of enhanced international efforts to define clearly and precisely the obligations of sovereign states vis-à-vis activities within their jurisdiction deemed in violation of international laws and norms. As the *National Strategy for Combating Terrorism* argues, “States that have sovereign rights also have sovereign responsibilities, including the responsibility to combat terrorism.”⁷⁹ The USG commitment made there to “update and tailor international obligations to meet the evolving nature of the terrorist enemies and threats we face” should be helpful in enhancing this mode of influence over states where the commitment to the cessation of enabling actions is less than complete.⁸⁰

⁷⁸ Byman, “Passive Sponsors of Terrorism,” p. 138.

⁷⁹ *National Strategy for Combating Terrorism, September 2006*, p. 19.

⁸⁰ *Ibid.*

ASSESSING THE CONTRIBUTIONS OF DETERRENCE TO RISK REDUCTION

First, deterrence is not irrelevant to the effort to combat terrorism and to reduce the risks of WMD terrorism. The shift in national guidance from 2001 to 2005 makes good sense because the record suggests that deterrence has played a more important role in reducing the risks of terrorism than was understood in the immediate aftermath of 9/11. But nor is the role of deterrence foundational to national security strategy in the way that it was in the Cold War. Deterrence is but one of many tools of influence and sometimes not the most promising one.⁸¹

Second, deterrence, like other tools of influence, is a strategy for creating disincentives in an adversary's mind to courses of action he might otherwise adopt. But sometimes those disincentives already exist. As this review has shown, there are many sources of self-restraint within the network/movement of militant Islamic extremists. Sometimes the primary goal of an influence strategy might be simply to reinforce those existing restraints.

Third, both modes of deterrence—deterrence by the threat of punishment and deterrence by denial—are relevant. But they operate differently across elements of the network/movement, sometimes in combination, sometimes only one or the other. Deterrence by threat of punishment seems especially promising vis-à-vis state sponsors and operational enablers. Deterrence by denial seems especially promising vis-à-vis foot soldiers, professionals, and leaders.

⁸¹ The basic finding that deterrence is relevant but not foundational in combating terrorism is echoed repeatedly in studies done by varied institutions and individuals in recent years. See for example *Discouraging Terrorism: Some Implications of 9/11*; Quinlan, "Deterrence and Deterrability;" Davis and Jenkins, *Deterrence and Influence in Counterterrorism; Combating Terrorism in a Globalized World*; Trager and Zagorcheva, "Deterring Terrorism: It Can Be Done;" Dunn, *Can al Qaeda be Deterred from Using Nuclear Weapons?*; Kurt M. Campbell and Richard Weitz, *Non-Military Strategies for Countering Islamist Terrorism: Lessons Learned from Past Counterinsurgencies* (Princeton, N.J.: Princeton Project Papers, 2006); James M. Smith and William C. Thomas, "Deterring WMD Terrorism," unpublished research paper, United States Air Force Institute for National Security Studies, 2006; Daniel Whiteneck, "Deterring Terrorists: Thoughts on a Framework," *Washington Quarterly*, Vol. 28, No. 3 (Summer 2005); and Sina Lehmkuhler, *Combating WMD Terrorism: Is Deterrence Relevant?* Master's Thesis, George Washington University, May 2002.

Fourth, the cumulative effect of deterrence on the WMD terrorism threat is nearly impossible to predict. It seems highly unlikely that deterrence and other influence strategies could be employed so successfully as to ensure that all of the operational and leadership elements of the militant Islamic extremist movement see WMD as too risky to acquire and use. And it seems equally implausible that these strategies could be employed so poorly that all leaders and sponsors would develop WMD, that the senior most planners would prepare, and that foot soldiers would execute spectacular campaigns with WMD that would reap the full lethal potential of those weapons. Such a result would require also a complete collapse of all of the sources of self-restraint within the movement, which is also implausible.

If these extreme results are unlikely, is there a more plausible set of contingencies in the middle? Three are suggested here.

1. Deterrence may succeed in lowering the lethality of individual attacks with WMD, by inhibiting the cooperation of those most capable of developing and employing WMD in ways that reap their full lethal potential. Especially if state sponsors and critical operational enablers can be deterred from facilitating such attacks, small cells and others operating with limited training and skills seem unlikely to be able to master all of the technical and operational requirements of successful WMD attacks.
2. Deterrence may succeed in curtailing campaigns of attacks. Such campaigns are the most certain way to reap the full lethal potential of WMD and seem particularly plausible with biological weapons.⁸² Deterrence by denial may show such campaigns to be ineffective in achieving their intended results.⁸³ Deterrence by punishment may inhibit the continued cooperation of the enablers and others who were willing to accept the risks of a spectacular blow but not the costs of

⁸² Thomas Schelling argued nearly three decades ago that “a campaign is what they [terrorists with nuclear weapons] will plan, not an episode.” See Schelling, “Thinking about Nuclear Terrorism,” p. 65. See also Richard Danzig, “From MAD to SAD: An Axiom and Six Hypotheses About Instrumental Terrorists Non-Use and Use of Pathogens as Weapons of Mass Killing,” unpublished research paper, September 2006, and Brad Roberts, “Terrorist Campaigns: Defining the Challenges of Campaign-level Responses to Campaign-style CBW Terrorism,” unpublished research paper, Institute for Defense Analyses, 2005.

⁸³ For a discussion of the particular benefits of passive defenses in de-motivating continuing attacks with pathogenic materials, see Danzig, “From MAD to SAD” and Michael J. Powers, *Deterring Terrorism with CBRN Weapons: Developing a Conceptual Framework* (Alexandria, Va.: Chemical and Biological Arms Control Institute, 2001).

sustained retaliation by those being attacked. Both modes of deterrence may drive the residual networks attempting campaign-style attacks to attempt untried developmental and delivery methods with the associated increased risks to operational security.

3. Deterrence may induce the leadership of al Qaeda to utilize nuclear weapons, when and if they acquire them, only for purposes of deterrence and defense as they conceive them rather than for purposes of aggression and terrorism. It may induce caution of the kind that has been induced in other new acquirers of these capabilities.

A final closing observation is necessary. Since scholarship on deterring terrorism remains underdeveloped, these conclusions are, of course, speculative. To be sure, there is a steadily-growing base of sound analytical work by a diverse group of social scientists and others generating useful policy-relevant insights. And the relative paucity of materials in the 1980s and 1990s has given way to a growing wealth of materials. But the work is not comprehensive. And there are few signs that it is cumulative. Some of it is deeply rooted in a solid evidentiary base; but much of it is little more than theory-building and even, occasionally, wishful thinking.

RECOMMENDATIONS FOR ENHANCING DETERRENCE

To enhance the future performance of deterrence by denial, a great deal of capability and capacity development is already underway.. The protection of high-value targets inside the United States and out is already much enhanced after 9/11 and more is being done to protect critical civilian and military infrastructures, political symbols, and power projection capabilities. The lesson from the British experience cited above has been taken, and protection also extends to overt policing activities in each of the realms where militant Islamic extremists might prepare attacks on high-value targets: reconnaissance, preparation, attack, and escape.

But, of course, it is impossible to protect all of the hard and soft targets in the United States and elsewhere that might be attacked by terrorists. Studies typically recommend better intelligence on terrorist cells—a platitude surely not lost on any counter-terror policymaker. What would be useful for targeting U.S. protection investments, and also potentially knowable, is how leaders in al Qaeda and other jihadists understand—or debate—centers of gravity in the United States. The fact that Marx, Lenin, and Mao have been influential in the development of al Qaeda leadership thinking may provide a focal point for such investigation. Very little work has been done along these lines but much is possible, especially if the U.S. government were to make enemy captured and open-source documents available to scholars.

To enhance the future performance of deterrence by threat of punishment, capability and capacity development is already welllaunched. The stand-up of the National Counterterrorism Center under the auspices of the Director of National Intelligence has catalyzed a higher-level effort to bring together the analytical and operational planning elements to develop options for collapsing terror cells and operations. Their linkage to the National Counter Proliferation Center should prove helpful in enabling successful interdiction of the linkages between state sponsors with WMD and terrorist seeking WMD. The on-going process of strengthening forensic capabilities to attribute nuclear and biological attacks in the United States should also prove helpful to the future performance of deterrence by threat of punishment.

Essential to the effective functioning of deterrence by threat of punishment is the credibility associated with the threat. The desire to enhance the credibility of U.S. threats is a major driver of the effort to strengthen capacities for strategic communication in the Department of Defense and elsewhere in the U.S. government—capacities of both an overt and more covert means. It also motivates continued pursuit of clearer and more precise declaratory policies as elaborated at the most senior levels of government. Both sets of initiatives have been widely embraced in the studies done post-9/11. Alas, the work surveyed for this study suggests that policymakers should have only very modest expectations about the likely result of such efforts in enhancing the credibility of U.S. threats. Why?

First, the targets of U.S. threats already have well formed views of the United States and of how and why it behaves as it does on the global scene. As argued above the targets in the terrorist network/movement potentially susceptible to deterrence by threat of punishment are state sponsors, operational enablers, affiliated groups, and, perhaps also to a very limited degree, leaders and foot soldiers. These individuals have been thinking about the United States as an enemy for at least a decade or longer. Many see the United States as a paper tiger, or at least heavily constrained not to use violence in ways that causes collateral damage, especially when the media eye can be brought to bear. And as Robert Jervis has observed, “One of the basic findings of cognitive psychology is that images change only slowly and are maintained in the face of discrepant information. This implies that trying to change a reputation of low resolve will be especially costly.”⁸⁴ This suggests that public policy statements aimed at enhancing a U.S. reputation that it makes good on its threats will have little or no impact on this problem at this time. More likely to be influential in shaping the U.S. reputation will be what it does over the course of the long war. The deterrence value of U.S. threats may also be enhanced over time if the United States can better understand how its signals are received by the target audiences (and others). This, too, can be facilitated by a greater openness with enemy documents.

Second, whatever is said now to these actors in the way of clarified U.S. threats will be sifted through their views of the lessons of the intervention in Iraq. A result there that they interpret as defeat of and retreat by the United States will likely erode U.S.

⁸⁴ Robert Jervis, “Deterrence and Perception,” *International Security*, Vol. 7, No. 3 (Winter 1982/83), p. 9.

threats to intervene to remove a regime that has provided egregious assistance to a terrorist WMD capability. As this is the result many of those actors desire, they are likely to find confirmatory evidence of their views no matter what the actual results on the ground in Iraq might be. The continuation of Robert Jervis' argument above adds an important dimension to this discussion, however. In meeting the challenges of changing a reputation for low resolve, he argues, "only the running of what is obviously a high risk or engaging in a costly conflict will suffice."⁸⁵ The war in Iraq may yet persuade the specific targets of deterrence by threat of punishment strategies that U.S. threats are credible because it is willing to run high risks and pay high costs.

Third, the credibility of the deterrence threat must attach also to a promise of restraint. Recall the theory of deterrence as synopsised at the beginning of this paper: to have a restraining influence, a threat to punish must include not just an expectation of successful punishment (because the means and will exist) but also a promise that if restraint is exercised by the target, restraint will be exercised by the threatener. This promise of restraint may well be plausible to state sponsors and operational enablers, but it seems likely to be less plausible to leaders and foot soldiers. They may believe that the United States is already doing all that it can to locate and punish them, especially after 9/11, and would be deeply skeptical of any promise to do less. It is conceivable, however, that they may take a different view of reluctant partners of the United States in the global counter-terror effort. A campaign of WMD attacks on the United States (and others) could catalyze a much higher degree of cooperation among the major powers to defeat militant Islamic extremism. Perhaps more significantly, it could catalyze greater cooperation from "front-line" states that have been reluctant, so far, to engage fully with the United States. Indeed, if they become the targets of such attacks, they could demand a much higher level of punitive action—and even attempt to catalyze it.

It is useful to note that strategic communication also has a role to play in enhancing the performance of deterrence by denial. Its function is not to lend credibility but to lend doubt. Those targets potentially amenable to deterrence by denial include foot soldiers, professionals, and leaders. If their WMD assets are few, they are unlikely to risk them in unviable operations. Since they will want to be able to calibrate the likely effectiveness of U.S. protection capabilities, deterrence is well served by confounding their ability to gain confidence in such assessments. They should be persuaded that they

⁸⁵ Ibid.

cannot adequately calibrate specific risks and that U.S. protection capabilities are good enough to put their potential operations at risk.

Here again, many studies offer platitudes about the value of better intelligence, this time for effective strategic communication. But what would be useful to know and might actually be knowable? Leadership assessments of the endgame in Iraq potentially meet these two criteria. Do they find confirmatory evidence of prior beliefs that the United States is a paper tiger and that it will soon go the way of the Soviet Union when it was driven from Afghanistan, or are they drawing different conclusions?

Also useful and potentially knowable is how to influence the so-called willingness function of terrorists. As previously noted, this term relates to the willingness of individuals to run risks as informed by the prospect and severity of punishment.⁸⁶ This function has been well explored in various criminal fields (e.g., drug running) and explored on only a preliminary basis in the terrorism realm. More work could fruitfully be done here that would be useful to calibrate threat communication strategies and observable performances of protection capabilities.

Three further recommendations for enhancing the future performance of deterrence flow from this analysis. First, accelerate the development and integration of deterrence capacities across the U.S. government. The *National Strategy for Combating Terrorism* argues in its second paragraph that “the paradigm for combating terrorism now involves the application of all elements of our national power and influence.”⁸⁷ The application of those elements of power seems further advanced in the realm of defeating terrorism than in deterring it. The U.S. military has done some pathbreaking thinking in the Joint Operating Concept (JOC) on Deterrence about how to employ military tools for the deterrence of non-state actors and the concept is being utilized to inform development of operational plans for combating terrorism by the Combatant Commanders. Pathbreaking conceptual work and operational integration are not evident across the U.S. government more generally. As a starting point, there ought to be some exploration of how the concepts in the JOC can be supported by “all elements of our national power and influence.”

⁸⁶ Anthony, “A Calibrated Model of the Psychology of Deterrence.”

⁸⁷ *National Strategy for Combating Terrorism*, p. 1.

Second, refresh national guidance on deterrence. The ideas on deterrence set out in the 2006 combating terrorism strategy were broad and brief. Greater specificity is possible a year later. In revising guidance, it would be useful to align the distinctions between deterrence and dissuasion, as elaborated in the strategy, with the distinctions used elsewhere in the government and consistent with the usages developed in this paper. The 2006 strategy argues as follows: “a new deterrence calculus combines the need to deter terrorists and supporters from contemplating a WMD attack and, failing that, to dissuade them from actually conducting an attack.”⁸⁸ Logically, dissuasion relates to the formation of the intent and deterrence to inhibiting action in fulfillment of the intent. In the Department of Defense, dissuasion is a “shaping function” employed in “Phase Zero” to prevent the emergence of challenges of deterrence (Phase Two) and crisis and war operations in later phases. Being clearer about the different functions of deterrence and dissuasion can help to motivate actions tailored for each.

Third, explore alternative future deterrence contingencies. How might the character of the long war change over time? What new deterrence challenges might emerge that have not captured our attention thus far? We can hope that the *National Strategy for Combating Terrorism* is successful in containing, shrinking, and ultimately extinguishing the terrorist threat from militant Islamic extremists. But what if it is not, at least in the short or medium term? What if their strategy proves more successful, to the degree that the extremists are successful in restoring fundamentalist control over the holy sites in Arabia, reconstituting a caliphate, and then, under a nuclear umbrella, pursuing revolutionary war to cast out apostate governments, re-making borders in and around the *umma*, and potentially conducting further aggressions against the Far Enemy? This would present a deterrence challenge of a quality and character not yet considered in this analytical review.

In summary, these are the key recommendations for enhancing the performance of deterrence in reducing the risks of WMD terrorism:

1. Continue capability and capacity development to protect key assets but inform investment strategies with a better understanding of how the leadership of al Qaeda understands U.S. centers of gravity.

⁸⁸ Ibid., p. 14.

2. Continue capability and capacity development to punish each of the components of the terrorist network/movement in ways that are meaningful to them, including especially forensics capabilities.
3. Do not expect that a restatement of declaratory policy can lend much weight to U.S. threats against those audiences most susceptible to deterrence by threat of punishment. They already know what they think and their views are likely to change in the ways that the United States would prefer only in response to U.S. behavior over time and not in response to policy restatements.
4. Investigate terrorist leadership perceptions of the endgame in Iraq for what they suggest about their expectations of future U.S. behaviors.
5. Investigate the applicability of the willingness function to terrorist networks.
6. Accelerate the development and integration of broad U. S. government (USG) capacities for deterring non-state actors.
7. Refresh national guidance.
8. Explore alternative future deterrence contingencies.⁸⁹

⁸⁹ In preparing this written report, the author has benefited significantly from a critique of earlier drafts by Alexis Blanc and Mark Stout of the Institute for Defense Analyses and Sina Lehmkuhler of the Department of Defense (commenting in her private capacity). The author alone is responsible for the final contents of this essay. The views expressed here are his personal views and should not be attributed to the Institute for Defense Analyses or any of its sponsors.

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