

Detering Terrorists: Thoughts on a Framework

Seeking to deter terrorists, especially committed, utopian groups such as Al Qaeda willing to use weapons of mass destruction (WMD), poses significant challenges.¹ Against what would one threaten to retaliate? What do these groups value? Unlike traditional states preoccupied with protecting territory and regime survival, terrorist groups use different scales to weigh costs and benefits, often calculating risks and evaluating rewards in ideological and religious terms.² Evidence suggests, for example, that Al Qaeda might not only use WMD simply to demonstrate the magnitude of its capability but that it might actually welcome the escalation of a strong U.S. response, especially if it included catalytic effects on governments and societies in the Muslim world.³ An adversary that prefers escalation regardless of the consequences cannot be deterred.

Given the inadequacy of traditional state-based deterrence, it is tempting to assert that the only feasible ways to counter a WMD attack is prevention, by denying terrorist groups access to WMD through nonproliferation efforts, safeguards, and interdictions.⁴ Certainly, denying access to technology, safeguarding WMD facilities, and conducting inspections at borders and ports should be considered important tools to lower the likelihood of successful WMD acquisition and attack by terrorists. Yet, such tools will always be somewhat unreliable as long as a dedicated group of trained individuals can construct at least crude WMD; the United States cannot guarantee the se-

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curity culture to protect WMD located in all countries, such as Russia, despite Washington's continued urgings and financial support; and border defenses and inspections can be porous and sometimes impractical. As a result, these tools are necessary but insufficient measures to contain the WMD terrorist threat. Achieving some level of deterrence against such attacks is desirable as a complementary layer of security.

Similarly, although this analysis will focus on how to maximize the effectiveness of deterrence, this tool should be considered part of a broader strategy against terrorism whose pieces improve each other's effectiveness. International norms against terrorism, for example, are not only important, but they can be established and even observed more widely with the enforcement provided by coercion.⁵ Rather than abandoning deterrence, it can be redefined as providing influence against moral, spiritual, educational, recruiting, and financial support of WMD terrorism by one of two sets of actors, either by states or nongovernmental, transnational, societal elements also referred to as the "Al Qaeda system,"⁶ consisting of religious figures and institutions, political leaders and movements, financiers, less ambitious or less global terrorist groups and guerrillas, and other entities that provide either direct or indirect assistance to Al Qaeda's operations.

Detering State Sponsorship

Although no convincing evidence yet exists that Al Qaeda currently possesses WMD or that any state knowingly assisted Al Qaeda in acquiring such weapons, reasons for such cooperation at the very least can be posited. Rogue regimes and terrorist groups have a history of military cooperation, including Al Qaeda's assassination of Northern Alliance leader and Taliban rival Ahmad Shah Masud two days before the September 11 attacks.⁷ States may directly seek out a terrorist group to become a *de facto* extension of a state's military, acting as irregular or special forces for its WMD operations. Another more indirect linkage could be from a state that provides general assistance to a group, perhaps through basing support, general financial or material support, or training, but does not specifically conspire in WMD deployments or attacks.

The United States and its allies should communicate a clear message that states that provide either direct or indirect sponsorship of terrorism will be punished based on reasonable evidence of state linkage. In the aftermath of an attack, the response to a state that supported or even tolerated WMD acquisition on its soil would be powerful and sustained and would violate that state's sovereignty as necessary.⁸

One way that states might traditionally be warned is through the U.S. government's official list of state sponsors of terrorism. Such a tool could be

perceived to convey Washington's clear and present threat to the states on the list. The list, however, is a separate declaratory statement aimed at states sponsoring a variety of terrorist-related activities and is used as a political tool to impel international scrutiny or sanction of the state in question. The state's activities may or may not include actions that contribute to the distribution of WMD materials or related knowledge or to the financing of terrorist groups that want to attack the United States. Being on the list does not necessarily make a state a U.S. target, nor would a state absent from the list be in any way exempt from a U.S. military response if it supported a terrorist attack on the United States, especially an attack involving WMD. With this potential for misperceptions, it is debatable whether the list helps or hinders the coherence of Washington's messages and threats to would-be state sponsors of terrorism and also whether it aids deterrence.

Rather than abandoning deterrence, it can be redefined.

To make the deterrent threat clearer and to maximize its credibility, an adversary must be able to predict soundly what the scope of a state's response to an attack could be, not just what it would be.⁹ The most fearsome, rather than the most likely, military response may hold sufficient credibility to deter an opponent. The requirement is not necessarily for the adversary to be completely certain that the threat will be carried out, but rather that escalation would be a reasonable, plausible military option in response to the defined provocation. During the Cold War, for example, the United States threatened to use tactical nuclear weapons against a conventional Soviet invasion of Western Europe. Many believe that Washington would not have ultimately followed through on the threat. In fact, in the 1960s, Secretary of State Henry Kissinger told NATO representatives "not to count on" a U.S. nuclear response to a conventional Soviet attack.¹⁰ Nevertheless, deterrence in Europe did not fail because the adversary perceived the stakes to be high enough and the dangers of escalation to be catastrophic.

THE BUSH DOCTRINE

Today, the United States has set forth a definitive, overwhelming, and credible policy to deter state sponsorship of WMD terrorism through three declarations. The president's September 20, 2001, speech before a joint session of Congress, just days after the September 11 attacks, announced the so-called Bush Doctrine, which noted that "[the United States] will pursue nations that provide aid or safe haven to terrorism" and that "any nation that continues to harbor or support terrorism will be regarded by the United

States as a hostile regime.”¹¹ The September 2002 *National Security Strategy of the United States of America* authorizes the use of force to preempt WMD acquisition.¹² Finally, the December 2002 *National Strategy to Combat Weapons of Mass Destruction* threatens that “[t]he United States will continue to make clear that it reserves the right to respond with overwhelming force—including through resort to all our options—to the use of WMD against the United States, our forces abroad, and friends and allies.”¹³

Although many despair of the growing global perception of a newly and inappropriately aggressive United States, such concern enhances the cred-

ibility of the Bush Doctrine’s threat. A nation that has launched two major military interventions in the last three years—tied in large measure to supporting terrorism or WMD proliferation—and that has publicly articulated a willingness to preempt WMD acquisition or operations by states increases the credibility that it could be more than willing to respond in the same or greater magnitude after it has been attacked.

An expanded alliance could help make conventional deterrence more credible.

Of course, this is not to say that the United States can or should actually hold every state accountable for the acts of terrorists who have used the state’s territory or have otherwise exploited the state’s resources. Terrorists may choose to encamp within a state whose government is too weak to maintain its sovereignty or that lacks the resources to defend all of its borders. It is possible for a state to have a compartmented government, in which one agency may support terrorist activities independent of oversight by the head of state. Furthermore, WMD or WMD materials may simply be stolen from a state’s weapons cache.

Although the United States can demand that no state knowingly provide a terrorist group with the material or technology required to develop WMD and insist that states be vigilant in controlling the use of their territory, particularly if Washington is willing to provide military or law enforcement assistance when necessary, it cannot expect poor states to install domestic intelligence-gathering capabilities similar to those of the United States or other Western nations. Less-developed African countries have little capability to control their borders. Similarly, in Asia and possibly even South America, some states do not have sufficient resources to detect discrete terrorist cell activities in large cities, let alone in the more remote areas of their territories. Nevertheless, given the seriousness of WMD consequences, the commitments the United States and its allies are willing to devote to help other states’ counterterrorism efforts, and the footprint that terrorist WMD activities would likely leave in a state, it is reasonable to threaten states will-

ing to support terrorism and actually to hold certain states accountable under specific circumstances.

ENHANCING THE BUSH DOCTRINE

Terrorist use of WMD justifies and most likely requires the threat of a major military response. Through the Bush Doctrine, the scope of the U.S. threat certainly includes forcibly expelling regimes that are responsible for or support such attacks, by using conventional forces to invade and temporarily occupy an offending state. Limiting options to a unilateral, conventional response, however, would place great strains on U.S. forces, even more so if dispersed networks and responsible regimes exist in more than one country, potentially straining the credibility of a deterrent threat. The initial length and difficulties of U.S. operations in Iraq may reduce U.S. credibility to effect regime change in countries with large populations, strong nationalist backgrounds, and a large, anti-American extremist core. On the other hand, the demonstration of U.S. and allied commitment and the progress in Afghanistan as well as Iraq reinforce the credibility of U.S. threats to effect regime change in any state supporting terrorist use of WMD against the United States.

Alliances can play a role in stretching and magnifying a conventional military capacity to respond forcefully against a state that had sponsored a WMD terrorist attack. The good news is that, although the United States and its European allies have had serious disagreements about the war in Iraq, allied cohesion in the global war on terrorism has been generally strong, from NATO forces in Afghanistan to the allied presence in the Horn of Africa and the Strait of Gibraltar. International coordination of intelligence has led to arrests around the world by national police forces from North America, Europe, and Asia. In response to a state-sponsored WMD terrorist attack on the United States, NATO would almost certainly mobilize to assist the U.S. counterattack as best it could. NATO forces are not necessarily huge force multipliers for such a war, however, and they are heavily committed to other theaters, similar to U.S. forces. Even with NATO assistance and deep call-ups from the U.S. Reserve Corps and the National Guard, it is still not clear that the actual number of combined forces would be sufficient to remove regimes such as those in Iran, North Korea, or even Syria.

One possible way to increase the power of alliances could be to expand them. The inclusion of more states in U.S.-led alliances that share threat assessments, information and intelligence, and military operational risks provide increased power for counterterrorism operations outside of the traditional alliance strongholds in Europe and Northeast Asia. In principle, an expanded alliance could help make conventional deterrence

more credible by exhibiting both greater political cohesion and increased military options. Several key questions, including the specific capabilities of each potential coalition member, would have to be considered before expanding an alliance such as NATO. Would other states that might also be vulnerable to a WMD terrorist attack, such as Russia, India, or Pakistan, be persuaded to join such a coalition? Conversely, would the United States and NATO agree to join forces with Russia? What if the state sponsor of the attack is a friend or an ally of another state in the coalition? Will new members of the coalition accept the U.S. standard of evidence that a particular state was behind the attack, or will the coalition become more conservative with expansion?

A NUCLEAR DETERRENT?

Another option to fill military gaps in current U.S. and NATO conventional capabilities would be to consider threatening to use nuclear weapons against states that sponsor or conduct WMD attacks. The operational need for nuclear use increases as a target's "hardness"—its ability to limit and defend against the effects of blasts—or the difficulty of destroying what may be buried deep underground increases. Subsequently, the need promptly to destroy these targets grows, and the availability or feasibility of conventional alternatives decreases. Conventional alternatives can require a debilitating and costly process of establishing dominance on the ground or in the air and perhaps both. Yet, do nuclear threats serve as credible deterrents to rogue regimes?

Regardless of U.S. capabilities, any state might question Washington's willingness to use a nuclear weapon, even in retaliation to an attack on the U.S. homeland. Some states might decide that U.S. political considerations would completely rule out the use of nuclear weapons, despite Washington's public declarations to the contrary. The primary political and ethical consideration for the United States and its allies is the fear of causing massive civilian casualties. Even more tailored nuclear capabilities, such as smaller yields combined with more accurate bombs and warheads, cannot eliminate the incidence of casualties unless the targets are extremely remote. Moreover, the fallout pattern from even small-yield weapons is substantial at ground level.¹⁴ These risks could cause rational adversaries to doubt Washington's intent to use nuclear weapons.

Deterrence involves communicating what might happen, rather than what will happen. The loss of civilian life in the United States from a WMD attack, combined with the seriousness of the breach of international rules and evidence of state involvement, would provide a strong justification for any U.S. government to threaten to respond with a nuclear attack. Any

state would have a high degree of uncertainty as to its ability to escape responsibility and avoid the consequences of a U.S. response.

Demonstrating the link between a state and a terrorist group convincingly enough to justify any military action, let alone a nuclear reprisal, is no trivial undertaking. Given the variety of technical and human resources that the United States and its close allies have at their disposal, it is difficult to believe that a rogue state could convince itself that its direct or indirect support of a WMD attack on the United States would have no possibility of being detected.¹⁵ In addition, the state would likely be unable to convince itself that the United States would not act on strong suspicion alone. Nevertheless, the credibility of a nuclear response remains an issue. In reality, a state-terrorist group linkage that contains significant uncertainty would constrain U.S. use of nuclear weapons much more than it would constrain the use of conventional forces. A mistaken linkage that led to a tailored, conventional response would be less damaging to U.S. prestige than one that led to a much more blunt and incendiary nuclear response.

The Bush Doctrine, through its many public and diplomatic statements, ongoing transformation of U.S. strategic forces, and demonstrated willingness to use military force against perceived threats to U.S. vital interests, has reinforced its deterrent posture against states. Without explicitly threatening nuclear retaliation, states that consider sponsoring terrorist actions must take into account that they jeopardize the survival of their regime and the future of their country and that the United States may accomplish these goals with conventional forces alone or with a combination of conventional and nuclear forces.

Stateless WMD terrorist attacks could be more likely than those supported by states.

Deterring the Larger Society from WMD Sponsorship

If acts of WMD terrorism required state support, the problem of deterring WMD terrorism would be much simpler: deter the state and you deter the terrorist. Yet, several options for terrorist groups can make stateless nuclear terrorism a real possibility. Terrorist networks can exploit insufficient security over nuclear weapons and weapons-grade materials, identify and recruit persons experienced in international smuggling, and access people capable of putting together very simple WMD devices with components available in thousands of discrete locations throughout the world. The same options are

available for terrorists to gain access to biological agents, except that smuggling or manufacturing biological weapons would be even easier than nuclear ones. For example, inhalational anthrax can be manufactured by a handful of trained personnel who simply have several dual-use industrial items delivered to a small building.¹⁶ Stateless WMD terrorist attacks could be as likely as or perhaps even more likely than WMD attacks that have state support.

These stateless terrorist networks are embedded in a larger society that may include some elements that may only be vaguely aware of a terrorist

Using weapons of mass destruction is not easy to justify in the eyes of the larger society.

group's specific plans to use WMD. The core of Al Qaeda, for example, may be less than 1,000 people. It typically utilizes other terrorist groups for attack logistics and other purposes but likely does not share the entire plot with these more locally oriented groups. Even these other Islamists and terrorist groups, along with broader societal supporters, that broadly share Al Qaeda's goals are likely to be more moderate and risk averse than Al Qaeda itself, less interested in using

WMD against the United States, and much less willing to risk a U.S. response to a WMD terrorist attack, whether they are targeted directly or just caught in major collateral repercussions.¹⁷

How to define and understand deterrence of these larger societal sponsors (networks of financiers, supporters, scientists, smugglers) of WMD terrorism is much murkier than deterring sovereign states. Deterring elements in the larger society would require developing new policies and techniques to determine the target audience, the appropriate message, and how to convey it. One extreme possibility is to directly threaten the interests of society broadly, such as the state's infrastructure (its power, transportation, water, and information support systems).¹⁸ Such blunt threats, although not very credible, could lead to more active efforts by the societal elements themselves to curtail support for terrorist groups or at least to dissuade them directly from WMD attacks. Other options that might be considered could be to threaten to destroy schools and religious centers that promote terrorist objectives, assassinate religious leaders or teachers who sympathize with terrorists, or even harm terrorists' family members to try to maximize potential deterrence. Realistically, however, even if such extreme options may enhance deterrence, they violate core American values that have been observed even in times of war, regional conflicts, or threats to the U.S. homeland, as well as accepted conceptions of "just war" theories¹⁹ that have evolved over the course of the past centuries in the conduct of war between and among nations, with recognized and condemned notable exceptions.²⁰

One potential uncertainty worth considering is whether those values would continue to hold during the potentially panicked or rabid response to a nuclear or biological attack that inflicted severe casualties on the U.S. homeland.²¹ Precisely because it is impossible to predict how the U.S. government and public would react after such a tragic time, it is important to assess analytically the consequence of such a U.S. response now. Quite simply, attacking civilian targets such as religious educational centers or terrorists' families could lead to events and consequences so catalytic that both short-term and long-term effects could well swamp any benefits that might be derived from such a strike. Options to deter the larger society from supporting terrorist WMD attacks have to be more subtle than these blunt measures. The United States might be left seeking the smaller objective to deter the flow of resources such as money and recruits to Al Qaeda or other terrorist organizations seeking to use WMD.

The Exceptional Case of Weapons of Mass Destruction

For deterrence to work against this larger society, it may be necessary to adopt the concept of a limited war. This concept asserts that stopping terrorism involving WMD is more important than stopping smaller, less devastating acts of terrorism. A state might function reasonably well when it is under assault from traditional forms of terrorism with minimal changes in civil rights, the use of domestic law enforcement, the functioning of courts, and the carrying out of daily government activities, as was the case in Western Europe in the 1970s. It is clearly very difficult to argue the same when it is under an attack from nuclear weapons, for example. Even the threat of catastrophic terrorist attacks involving any WMD or mass-casualty assault can dramatically alter the normal functioning of a state. The United States has changed policies on everything from the routine importation of cargo containers to border controls to judicial procedures and financial record transparency.

In a limited war, coercive diplomacy works best when demands are limited to stopping the most egregious acts, those that are crucial for one side to prevent but are not crucial for the other side to commit. This "limits" war or conflict by drawing lines that both sides believe would lead to unacceptable conflict if crossed. Studies have demonstrated that extending threats to inhibit all undesirable actions drives credibility downward.²² Using WMD is not easy to justify in the eyes of the larger society. Those that lend financial, educational, or other support to terrorist organizations seek to engage the state in hopes of producing political results, such as changes in domestic power structures or alterations in foreign policies, while avoiding an over-

whelming response from the state that could destroy the terrorists and perhaps also their cause.²³ WMD use thwarts their objective by losing any international support or goodwill, hardening military resistance to terrorism, raising the stakes to the survival level, putting the entire larger group in an outlaw status, and making a political solution more unlikely.

Although communicating the message that some types of terrorism are worse than others risks legitimizing the more moderate but still lethal kind of terrorism to some degree, some states might choose to address non-WMD terrorism through law enforcement operations, interdiction, and public diplomacy, among other techniques, justifying such approaches with the rationalization that terrorism can be reduced to an “acceptable” level but cannot be totally defeated. This is not the case for WMD terrorism, thus raising the importance of a clearly conveyed deterrent message. That message seeks to threaten the larger society directly so that it will seek more limited means to achieve more moderate goals than those terrorists that seek to use WMD.

Clearly Communicating Deterrent Threats

Implementing a deterrent strategy, either against states or against elements of the larger society, depends on clearly and successfully communicating coercive threats. Broad, strongly worded political statements about preventing terrorism easily gain consensus internationally, but it is more difficult to achieve international agreement on specific policies and threats. Effective deterrence may not require international agreement. An attack on the United States or its forces would provide sufficient justification for a unilateral response and the likely pretext for at least diplomatic support from most of its allies.

Coercive messages can be communicated in many ways but must be clearly and coherently tailored to the target audience. To deter a state, acceptable options might include initiating or shifting deployments of weapons or troops; publicly providing details of specific military planning related to survivable and credible response capabilities that could be easily understood by a potential adversary; declaring U.S. policy statements publicly or by using private channels of diplomacy, including back channels; and strengthening and forming alliances to demonstrate resolve and broad military capability. All of these steps signal the U.S. commitment to prevent an adversary from escalating a crisis, enhance U.S. credibility with allies and other nations, and broadcast capabilities to make the consequences of any escalation unacceptable to the adversary. When devising deterrent strategies for specific states, it is crucial to remember that what deters one foreign government might not deter another.

Two postulated approaches could deter the larger society. The first would attempt to influence more moderate elements within terrorist networks themselves. Less-ambitious groups may encourage elements of Al Qaeda to refrain from spectacular attacks on the United States that would require using WMD. These more risk-averse groups might seek the more traditional view of terrorism as a valuable tool, but one that is better focused on regional political goals and also moderate in its use of violence. Whether such groups could influence their Al Qaeda colleagues to exercise restraint remains to be seen, but they might at least end their alliance with Al Qaeda to avoid an attack by an aggrieved United States. In the future, such a separation could cause Al Qaeda to lose much of its logistics aid. The United States could consider using restraint against “moderate elements” in exchange for intelligence on any planned WMD or mass-casualty attacks by Al Qaeda against the United States or its allies.

Deterrence could seek to influence moderate elements within terrorist networks.

The difficulty is identifying “moderate elements” and then deciding what combination of threats and incentives are available to separate them from the rest of the terrorist network. Would the United States target individuals on a case-by-case basis and leave others in a terrorist network alive to assume a more responsible position in the future? Such a policy seems highly unlikely, given the current nature and structure of the relevant terrorist groups, the lack of actionable intelligence, and the need to demonstrate U.S. credibility and resolve for a long-term global war on terrorism.

The second potential strategy is a variation of public diplomacy that seeks to influence the Arab and Muslim world more generally. It is doubtful that the general population of the Middle East or other Muslim countries is aware of the marked effects that a WMD attack could have on the U.S. economy and psyche, as well as on the support for an assertive foreign policy against distant threats to U.S. citizens. Making the general population aware that they might pay a large proportion of the “costs” of a terrorist attack against the United States may support the larger deterrent aims. A population educated about the capabilities of U.S. strategic forces might restrain those elements of society that support extremist actions. The members of that society would recognize that, although those horrors might be visited in some measure on a portion of the U.S. population, they would be at even greater risk of a much more devastating response with long-lasting consequences for their society. Although general suspicions of U.S. intentions

might still complicate their perceptions and reactions, this would have to be weighed against the costs of continued support for the terrorists who would start this catastrophic chain of events in motion.

In sum, deterrence is a tool that the United States should not ignore. In the wake of the September 11 attacks, the prevailing thought has been that

The key is to extend deterrence to the societal elements that support terrorism.

terrorists cannot be deterred because of their own nihilistic beliefs, the absence of a capability to target the individuals responsible, and the lack of a credible response to a WMD attack without causing unacceptable levels of collateral damage. To remedy this situation, the United States has used public diplomacy to threaten all those who might be connected to such attacks with a devastating U.S. response, and it has ex-

plored new capabilities for its nuclear forces that would restore the credibility of its deterrent force.

Yet, this is not enough. The United States can hold state sponsors of terrorism responsible as a first step, but it must then go further. Instead of abandoning deterrence or limiting it to state sponsors of terrorism such as Syria or Iran, who cannot be treated equally but have their own motivations and interests to be held at risk, the key is to extend deterrence using conventional and nuclear forces to the societal elements that support terrorism. A new deterrent aimed at those elements must identify the interests and vulnerabilities of the sponsors of terrorism, and it needs the credibility of diplomacy and capabilities to coerce those sponsors into ceasing their support. The new era of WMD terrorism can then be met with all of the critical tools at the U.S. government's command: deterrence, defense, and denial.

Notes

1. For a more detailed examination of deterring terrorists, including while the groups are evolving, see Brad Roberts, *Terrorist Campaigns and Prolonged Wars of Mutual Coercion* (Washington, D.C.: Institute for Defense Analysis, June 2002).
2. *The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States* (Washington, D.C.: Government Printing Office, 2004).
3. Daniel Byman, "Al Qaeda as an Adversary," *World Politics* 56, no. 1 (October 2003): 139–164.
4. For a discussion of the difficulties of traditional deterrence in the modern age, see Keith Payne, *Deterrence in the Second Nuclear Age* (Lexington, Ky.: University of Kentucky Press, 1996), pp. 17–35.
5. For a discussion on the importance of establishing norms against terrorism both at societal and government levels and the role of deterrence or "fear" in reinforcing

- such norms, see Steve Simon and Jeff Martini, "Terrorism: Denying Al Qaeda Its Popular Support," *The Washington Quarterly* 28, no. 1 (Winter 2004–05): 131–145.
6. Paul K. Davis and Brian Michael Jenkins, *Deterrence and Influence in Counterterrorism* (Santa Monica, Calif.: RAND, 2002), pp. 1–19.
7. See Ahmed Rashid, "Afghanistan: Inside the Taliban," *Far Eastern Economic Review*, October 18, 2001.
8. Davis and Jenkins, *Deterrence and Influence in Counterterrorism*.
9. See Thomas C. Schelling, *Arms and Influence* (New Haven, Conn.: Yale University Press, 1966), pp. 2–3.
10. George Rathjens and Marvin Miller, "Nuclear Proliferation After the Cold War," *MIT Technology Review*, August–September 1991, pp. 25–32.
11. Office of the Press Secretary, The White House, "Address to a Joint Session of Congress and the American People," September 20, 2001, <http://www.whitehouse.gov/news/releases/2001/09/20010920-8.html>.
12. *The National Security Strategy of the United States of America*, September 2002, www.whitehouse.gov/nsc/nss.pdf.
13. See *National Strategy to Combat Weapons of Mass Destruction*, December 2002, p. 3.
14. See Michael A. Levi, *Fire in the Hole: Nuclear and Non-Nuclear Options for Counter-Proliferation* (New York: Carnegie Endowment for International Peace, November 2002), p. 31. See also Samuel Glasstone and Philip J. Dolan, *The Effects of Nuclear Weapons* (Washington, D.C.: U.S. Department of Defense, 1977).
15. For a concise discussion of the technical aspects of nuclear attribution after an attack, as well as the technical issues of counterproliferation, see John R. Harvey, *Deterrence and Beyond: Strategic Responses* (presentation, Los Alamos Conference on Nuclear and Conventional Forces: Issues for National Security, Science and Technology, Los Alamos, New Mexico, April 28–May 1, 2003).
16. See Office of Technology Assessment, U.S. Congress, *Technologies Underlying Weapons of Mass Destruction*, OTA-BP-ISC-115 (Washington D.C.: U.S. Government Printing Office, December 1993).
17. Byman, "Al Qaeda as an Adversary." See Simon and Martini, "Terrorism"; Institute for Defense Analysis, "Deterring Terrorism: Exploring Theory and Methods," *IDA Paper P-3717*, Washington, D.C., August 2002.
18. For example, estimates of civilian deaths in Iraq for the first 18 months of the war range from 10,000 to 100,000, with a more methodical study tending toward the higher number. See "More Iraq Civilian Deaths Seen in Study: *Lancet* Report Based on Family Interviews," *Boston Globe*, October 29, 2004.
19. For the best treatment of this subject, see Michael Walzer, *Just and Unjust Wars: A Moral Argument With Historical Illustrations* (New York: Basic Books, 1977).
20. Davis and Jenkins, *Deterrence and Influence in Counterterrorism*.
21. For the scope of casualties and economic effects of a nuclear attack on a U.S. city, see Jonathan Medalia, "Nuclear Terrorism: A Brief Review of Threats and Responses," *CRS Report for Congress*, RL32595, September 22, 2004. See also Ira Helfand, Lachland Forrow, and Jaya Tiwari, "Nuclear Terrorism," *British Medical Journal*, no. 24 (February 9, 2002): 356.
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23. Roberts, *Terrorist Campaigns and Prolonged Wars of Mutual Coercion*.

