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Risk and Rivalry *Iran, Israel and the Bomb*

By Colin H. Kahl, Melissa G. Dalton and Matthew Irvine



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About the Report

“Risk and Rivalry” is a part of a yearlong project at the Center for a New American Security (CNAS) on the consequences of Iranian nuclearization. The project examines how the United States and its allies should better prevent Iran from acquiring nuclear weapons and, should these efforts fail, mitigate the consequences of a nuclear-armed Iran. CNAS gratefully acknowledges financial support from the Ploughshares Fund for this report and thanks both the Ploughshares Fund and the United States Institute of Peace for their financial support of the broader project.

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Melissa Dalton is a Visiting Fellow at the Center for a New American Security, on leave from the U.S. Department of Defense. The views in this report are the authors’ own and not necessarily those of the Department of Defense or the U.S. government.

Cover Image

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RISK AND RIVALRY: IRAN, ISRAEL AND THE BOMB

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J U N E 2 0 1 2

Risk and Rivalry
Iran, Israel and the Bomb



I. EXECUTIVE SUMMARY

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A nuclear-armed Iran would pose a significant challenge to U.S. and Israeli interests and would increase the prospects for regional conflict. Nevertheless, a preventive military strike against Iran's nuclear program by either the United States or Israel at this time is not the best option, and rushing to war would risk making the threat worse.

Although Iran could probably be deterred from deliberately using or transferring nuclear weapons, a nuclear-armed Iran would be a more dangerous adversary in several respects. Believing that its nuclear deterrent would make it immune from retaliation, the Iranian regime would likely increase its lethal support to proxies such as Hezbollah and Hamas and commit more brazen acts of terrorism abroad, thus creating more frequent crises in the Levant. The Israeli-Iranian rivalry would be more prone to crises, and these crises would entail some inherent risk of inadvertent escalation to nuclear war. Preventing Iran from acquiring nuclear weapons should therefore remain an urgent priority for both the United States and Israel.

Until Iran appears poised to weaponize its nuclear capability, however, the preferable option is to continue the current combination of pressure and diplomacy. All options, including preventive military action, should remain on the table, but policymakers should recognize that the potential risks and costs associated with using force are high. Military action should remain a last resort, which should be contemplated only by the United States and only under stringent conditions.

This report is the first in a series on the consequences of Iranian nuclearization.¹ It examines the direct threat that a nuclear-armed Iran might pose to Israel and the associated risks of Israeli-Iranian nuclear confrontation.

Our analysis of these potential dangers concludes:

- **The threat from Iran's nuclear program is growing but not yet imminent.** Credible evidence suggests

that Iran is pursuing a “nuclear hedging” strategy that aims to develop the indigenous technical capability to rapidly produce nuclear weapons at some point, should Iran’s supreme leader decide to do so. However, Iran is at least a year – and likely further – away from developing nuclear weapons.

- **Multiple Iranian nuclear futures are possible.** If Iran’s nuclear progress continues, the supreme leader could conceivably be satisfied with stopping at a “threshold” capability just short of full-fledged weaponization. If the Iranian regime chooses instead to cross the nuclear threshold, the ultimate size and character of Iran’s nuclear arsenal could follow a number of different pathways, each of which would produce different risks.
 - **Iran is unlikely to deliberately use a nuclear weapon or transfer a nuclear device to terrorists for use against Israel.** The Iranian regime is not suicidal and is sufficiently rational for the basic logic of nuclear deterrence to hold.
 - **A nuclear-armed Iran would nevertheless be more aggressive and dangerous than an Iran without nuclear weapons.** If Tehran thought that its nuclear deterrent would protect it against retaliation, Iran would be emboldened to increase its support for proxies in the Levant and terrorism abroad.
 - **A more crisis-prone Israeli-Iranian rivalry would create some inherent risk of inadvertent nuclear war.** The possibility of Israeli-Iranian nuclear escalation has been somewhat exaggerated, but it is not trivial and would have potentially devastating consequences.
- As policymakers attempt to head off those challenges, we make several recommendations:
- **Preventing a nuclear-armed Iran should remain the priority.** Given the threat posed by a nuclear-armed Iran, current policy rightly emphasizes prevention rather than containment with regard to the possibility of Iran developing nuclear weapons.
 - **The United States and Israel should avoid taking steps that limit diplomatic options.** The best diplomatic outcome would be to roll back Iran’s current nuclear progress. Yet even as policymakers aggressively pursue preventive efforts, they should avoid drawing diplomatic red lines – most notably, insisting that Iran end all domestic uranium enrichment – that box in negotiators and make creative solutions to the Iranian nuclear threat more difficult.
 - **The use of force should be a last resort.** As the United States and its partners pursue a diplomatic solution that pressures Iran to meet its international obligations, all options, including possible military action, should remain on the table. However, because of the enormous risks and uncertain benefits involved, a preventive strike on Iran’s nuclear program should remain a last resort. Such a strike should only be considered if four conditions are met: 1. all nonmilitary options have been exhausted, 2. Iran has made a clear move toward weaponization, 3. there is a reasonable expectation that the strike would set back Iran’s program significantly and 4. a sufficiently large international coalition is available to help manage the destabilizing consequences of the strike and to work collectively in the aftermath to contain Iran and hinder it from rebuilding its nuclear program.
 - **Israel should not attack Iran.** A near-term Israeli attack on Iran fails to meet any of the previous criteria and would likely backfire, increasing the risks to Israeli security and regional stability. Only the United States – if it had exhausted all other options and faced compelling evidence that Iran was determined to produce a bomb – would have any hope of producing a significant delay in Iran’s nuclear program while holding together the type of coalition required for effective post-strike containment.

II. INTRODUCTION

On March 5, 2012, Israeli Prime Minister Benjamin Netanyahu addressed the American Israel Public Affairs Committee annual policy conference in Washington and described the grave threat posed by Iran's nuclear ambitions. "Iran calls for Israel's destruction, and they work for its destruction – each day, every day," Netanyahu said. "This is how Iran behaves today, without nuclear weapons. Think of how they will behave tomorrow, with nuclear weapons. Iran will be even more reckless and a lot more dangerous." Arguing that a nuclear-armed Iran would be undeterable, Netanyahu stated that "responsible leaders should not bet the security of their countries on the belief that the world's most dangerous regimes won't use the world's most dangerous weapons." Those weapons could be used directly or "Iran could threaten all of us with nuclear terrorism." Netanyahu further predicted that Tehran would extend its nuclear umbrella over Hezbollah, Hamas and other Iranian-backed militants, emboldening them to increase their attacks against Israel and the United States. Finally, warning of the emergence of a Middle East with multiple nuclear-armed rivals, Netanyahu concluded that "the world's most volatile region would become a nuclear tinderbox waiting to go off."²

This report is the first in a series examining the possible consequences of Iranian nuclearization. It assesses:

- The risk that Iran would deliberately use nuclear weapons against Israel or transfer a weapon to terrorists for use against Israel;
- The prospect that nuclear weapons would empower Iranian adventurism, embolden Iran's proxies to threaten Israel and constrain Israeli responses to these threats; and
- The danger that future Israeli-Iranian crises could escalate to nuclear war.³

A nuclear-armed Iran could also produce other negative implications for Israeli and U.S. interests and regional stability. For instance, Iran's development of nuclear weapons might encourage further regional proliferation, undermine the global non-proliferation regime, enable Iran to practice coercive diplomacy in the Persian Gulf and elsewhere, and create significant challenges for U.S. freedom of action in the Middle East.⁴ This report, however, focuses on the most direct threats to Israeli security and the prospects for Israeli-Iranian conflict. Understanding these dynamics is crucial to the formulation of U.S. policy, both because of America's long-standing commitment to Israel's security and because Israeli-Iranian rivalry – already a source of regional tension – would likely become even more dangerous if Iran acquired nuclear weapons.

We contend that a nuclear-armed Iran would become a more dangerous adversary for Israel and the United States, even though Israel and the United States would likely prove capable of deterring the deliberate use or transfer of those weapons. Believing that its nuclear deterrent would immunize it from retaliation, the Iranian regime would probably increase its lethal support to proxies such as Hezbollah and Hamas and commit more brazen acts of terrorism abroad, which would produce more frequent crises in the Levant. A more crisis-prone Israeli-Iranian rivalry, in turn, would produce some inherent risk of inadvertent nuclear war. Although the risks of crisis escalation in these circumstances have been somewhat exaggerated, they are nontrivial, and the potential consequences of even such a low probability event would be devastating. All told, even if the dangers emanating from a nuclear-armed Iran might not be as grave as some fear, Iran's acquisition of nuclear weapons would still represent a significant challenge to Israeli and American interests and further destabilize a vital region.

Our findings reinforce the importance of preventing Tehran from developing nuclear weapons.

Deterrence and containment of a nuclear-armed Iran is theoretically possible, but it would be practically difficult, and prevention is preferable. Yet, even as policymakers aggressively pursue prevention efforts, they should avoid steps that make creative diplomatic solutions to the Iranian nuclear challenge more difficult to achieve. In particular, insisting that Iran permanently halt all domestic enrichment in the hopes of producing an optimal deal would most likely result in no deal at all. Policymakers should also consider the use of force against Iran's nuclear program a last resort. All options, including preventive military action, should remain on the table, but the potential risks and costs associated with using force are high. Military action should be employed only under very stringent conditions – and only the United States is capable of meeting these conditions.

III. IRAN'S NUCLEAR PATHWAYS

Iran appears to be pursuing a strategy of “nuclear hedging” that aims to develop a technical capability to produce nuclear weapons rapidly, should Iran’s Supreme Leader Ayatollah Ali Khamenei decide at some point to do so.⁵ This strategy includes Iran’s well-known efforts to master the science and technology of producing nuclear fuel, clandestine and dual-use weapons-related research and development of advanced ballistic missiles.

Tehran’s nuclear activities aim to advance several interests, the first and foremost of which is regime survival. In addition, Iran’s nuclear program also serves a number of the regime’s revisionist ambitions, including making Iran the pre-eminent regional power in the Middle East; championing resistance to the “injustices” imposed by “arrogant powers” (the West and Israel); promoting Tehran’s particular brand of revolutionary Islamist ideology; asserting leadership in the wider Islamic world; and reclaiming Iran’s “rightful place” among the world’s most important political, economic and scientific states. Thus, in the view of the Iranian regime, possessing a nuclear weapons capability would not only deter foreign meddling and attack but also enhance Iran’s stature and give the Islamic Republic a freer hand to expand its regional influence and export its ideology.⁶

Nearing the Threshold

Credible estimates, based on data from the U.N. International Atomic Energy Agency (IAEA), suggest that Iran has already developed a “near-threshold” nuclear weapons capability – that is, the technical capability to develop nuclear weapons within a few years. The Institute for Science and International Security concludes that Iran’s current stockpile of 3.5 percent low-enriched uranium (LEU), if further enriched to weapons-grade uranium (WGU, typically defined as enrichment above the 90 percent level), would produce enough fissile material for five nuclear weapons. Given the

Iran probably has the capability to produce a crude testable nuclear device within about a year of deciding to do so. Fashioning a device that could be used effectively against Iran’s adversaries would likely take longer.

number of current-generation IR-1 centrifuges at Iran’s Natanz and Fordow enrichment facilities, it would presently take Iran at least four months between deciding to “dash” for a bomb and producing sufficient WGU for a single weapon. (Iran would still require additional time to simultaneously fashion other components for a device). Iran also continues to produce 19.75 percent LEU at the Natanz pilot plant and at Fordow, ostensibly to fuel the Tehran Research Reactor and produce medical isotopes to treat cancer patients. Enriching uranium to 19.75 percent accomplishes about 90 percent of the effort required to reach weapons-grade level, so Iran could substantially reduce the time required to produce WGU for a single weapon if it accumulated a sufficient stockpile of 19.75 LEU over the next year. The installation of additional IR-1 centrifuges at Natanz and Fordow, or the large-scale installation of much more efficient next generation (IR-2m or IR-4) centrifuges still under development at the Natanz pilot plant, could compress the timeline even further.⁷ All told, given the four months that it would take to produce fissile material and the additional time required to simultaneously overcome remaining technical hurdles associated with weaponization, Iran probably has the capability to produce a crude testable nuclear

device within about a year of deciding to do so.⁸ Fashioning a device that could be used effectively against Iran's adversaries would likely take longer.

The unclassified key judgments of the 2007 National Intelligence Estimate (NIE) on Iran's nuclear program indicated that the Islamic Republic halted its organized weaponization work in late 2003.⁹ Those findings are not infallible, but according to press reports, the 2010 NIE confirmed that assessment, and the IAEA has reached similar conclusions.¹⁰ Nevertheless, the IAEA has also documented that Iran carried out procurement and research "relevant to the development of a nuclear explosive device" before 2003¹¹ and probably possesses enough information to design and build a crude nuclear explosive device that it could potentially detonate underground or deliver by aircraft or ship.¹² Moreover, despite the 2003 halt order, Iran likely continued some weapons-related research under the guise of dual-use activities, some of which may be ongoing.¹³

The most likely eventual delivery system for Iranian nuclear weapons is ballistic missiles, given Tehran's current reliance on conventional missiles as its primary deterrent, as well as the poor condition of the country's air force and its lack of deep-strike capabilities. Iran already has the largest and most diverse inventory of ballistic missiles in the Middle East.¹⁴ It continues to field increasing numbers of short-range and medium-range ballistic missiles (MRBMs) – including several MRBMs, such as the modified Shahab-3/Ghadr-1 and the solid-fuel Sejil-2, that are theoretically capable of delivering a nuclear payload. However, developing and miniaturizing a nuclear warhead for a ballistic missile would represent a significant technical challenge for Iran.¹⁵ Current and former U.S. and Israeli officials have suggested that it would take several years after Iran decided to produce nuclear weapons for the country to start fielding nuclear-capable missiles.¹⁶ Iran also has an ambitious space program that could contribute to the eventual development of an intercontinental

ballistic missile (ICBM) able to hit the United States. But, given remaining technical hurdles, Iran is unlikely to field an ICBM before 2020, regardless of other progress associated with its nuclear program.¹⁷

Beyond such technical considerations, Iranian weaponization would not begin until the supreme leader made the political decision to dash for a bomb, and U.S. intelligence officials have testified that Khamenei has not yet done so.¹⁸ Similarly, Lt. Gen. Benny Gantz, Chief of Staff of the Israeli Defense Forces (IDF), recently told *Haaretz* that Iran "is going step by step to the place where it will be able to decide whether to manufacture a nuclear bomb. It hasn't yet decided to go the extra mile."¹⁹

Moreover, Khamenei is unlikely to make such a rash decision anytime soon. Western intelligence services have successfully uncovered previous efforts by Iran to construct covert enrichment sites, and current and former U.S. officials express confidence that Iran does not currently have additional covert facilities.²⁰ If that information is correct, a nuclear "breakout" would require diversion of Iran's LEU stockpile and further enrichment to WGU at Natanz or Fordow.²¹ Because Natanz and Fordow are both declared facilities, IAEA inspectors would detect such activities or the Iranian regime would have to tip its hand by kicking out those inspectors first. Such brazen moves, however, would be likely to trigger a draconian international reaction, including possible military action. Thus, Khamenei is unlikely to act until Iran has the capability either to build several devices so quickly that the international community cannot respond or to build them in secret – which could be years from now.²²

Across the Threshold?

The nature of the nuclear weapons capability desired by the supreme leader remains highly uncertain. Conceivably, Khamenei could be satisfied with stopping at a "threshold" (or "virtual") capability just short of full-fledged weaponization. A threshold capability "is commonly understood

Khamenei is unlikely to act until Iran has the capability either to build several devices so quickly that the international community cannot respond or to build them in secret – which could be years from now.

to mean possession of the indigenous ability to acquire nuclear weapons within a relatively short time frame, ranging from a few weeks to several months.”²³ If Iran manages to make steady progress in accumulating LEU, installing more advanced centrifuges, and conducting additional clandestine research and development relevant to weaponization, it could conceivably reach a threshold capability in the next few years.²⁴

A threshold capability might be enough for Iran. Khamenei might conclude that acquiring the ability to rapidly produce nuclear weapons would provide Iran with a sufficient deterrent and enhance Iran’s regional influence, without incurring the costs of going further. After all, the possibility that Tehran might rapidly assemble weapons during a crisis or in the aftermath of a strike would present potential foes with a nontrivial risk of nuclear retaliation. At the same time, Khamenei might calculate that maintaining a threshold capability would lower the costs imposed on Iran, including the risk of deeper international isolation, an expensive regional arms race and a potential U.S. or Israeli military strike that might otherwise result from a decision to irrefutably violate the Nuclear Non-Proliferation Treaty (NPT). For at least the past seven years, Khamenei has also stated repeatedly that the acquisition,

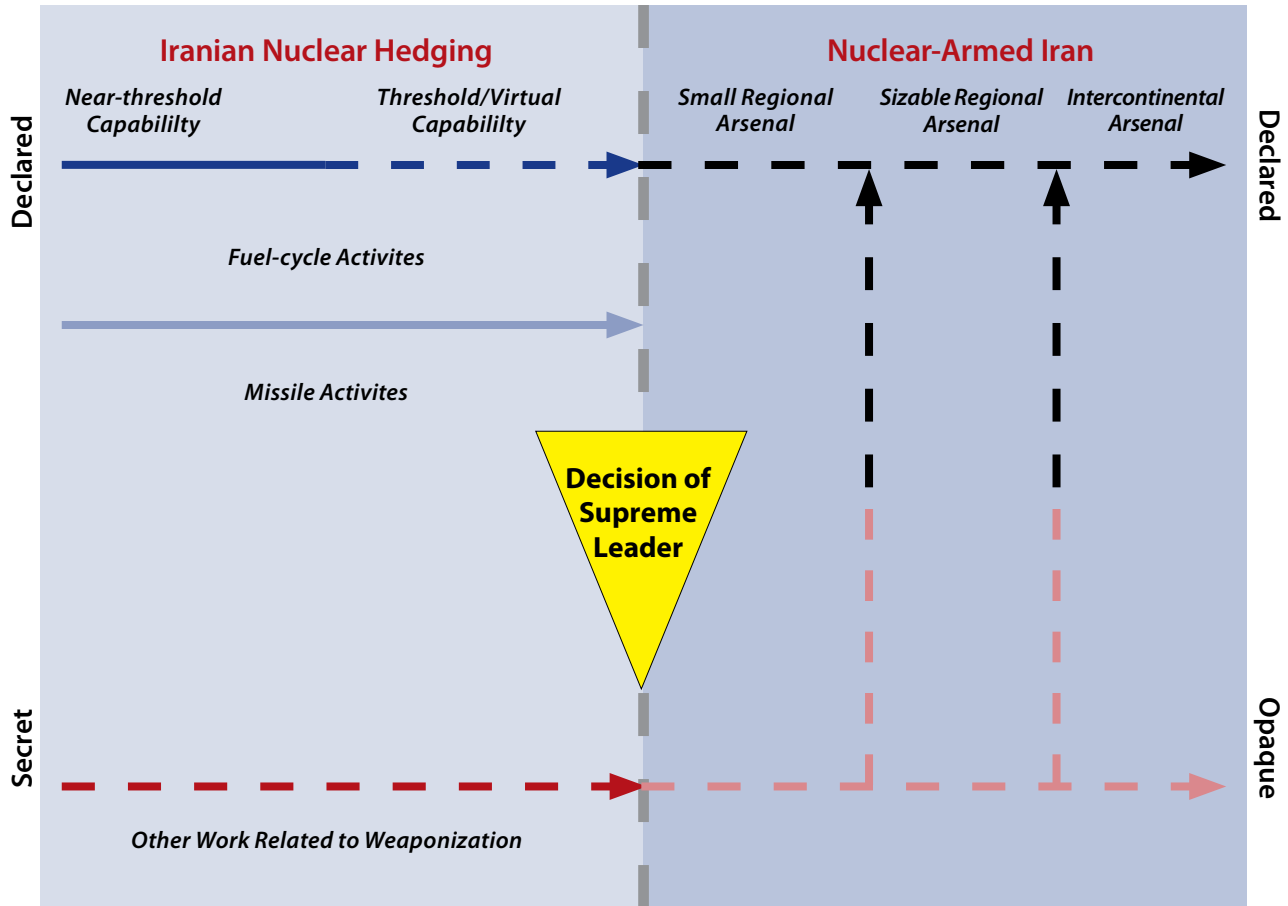
stockpiling or use of nuclear weapons would be a “grave sin” against Islam,²⁵ issuing a religious edict (*fatwa*) on the matter that senior Iranian officials describe as “a binding commitment.”²⁶ *Fatwas* are reversible in cases of extreme political expediency.²⁷ However, in the absence of a clear external provocation that would justify reversing long-standing religious declarations on the grounds of self-defense, the international and domestic costs associated with a threshold capability would be lower than those of a fully weaponized nuclear arsenal.

For all of those reasons, the supreme leader might be satisfied with a threshold capability and freeze the program at that stage. Nevertheless, Khamenei has argued that the decision by Libya’s Moammar Gadhafi to abandon his nuclear program made him vulnerable to being overthrown by Western powers,²⁸ and Iran seems unlikely to stop short of a threshold capability without being compelled or persuaded to do so.

If Iran chooses instead to cross the threshold, the ultimate size and nature of its arsenal is difficult to predict. Even if Khamenei concludes that a threshold capability is insufficient, he may still determine that a relatively small number of assembled weapons (on the order of six to 12 nuclear weapons, the size often used to describe North Korea’s potential inventory)²⁹ would be adequate to deter external attack. Such a limited stockpile would be considerably cheaper to build and maintain than a large arsenal. If, in contrast, Iran ultimately builds a more sizable stockpile of weapons, it is unclear whether that arsenal would remain a purely “regional” capability, oriented around MRBMs, or evolve into an intercontinental capability.

Iran would also have to choose between openly declaring (and potentially testing) its nuclear weapons – as India, Pakistan and North Korea eventually did – or keeping its nuclear status opaque (that is, veiled and undeclared as a matter of policy), as Israel has. If Iran pursued a path of keeping its

FIGURE 1: IRANIAN NUCLEAR TRAJECTORIES



Source: Center for a New American Security

states opaque, it would most likely deny possession of nuclear weapons publicly, avoid explicit public nuclear threats or references to its nuclear doctrine, limit open debate about nuclear policy, bureaucratically compartmentalize the program, and attempt to avoid obvious and easily detectible deployments of forces.³⁰ Which pathway the regime might ultimately follow is uncertain, but Iran’s leaders might calculate that opacity would mitigate some of the negative international reaction associated with fully weaponizing their program.

Figure 1 summarizes those different trajectories, with the solid lines representing current

progress and the dotted lines representing potential future pathways. The figure is, of course, an oversimplification; certain important elements of nuclear doctrine and posture, including command-and-control arrangements, are absent (although they will be mentioned below). Nonetheless, recognizing these alternative trajectories is important because they have very different implications for the threats posed to Israeli security and regional stability.

IV. DELIBERATE NUCLEAR USE AND NUCLEAR TERRORISM

Netanyahu regularly describes Iran as a fanatical state, motivated by a virulently anti-Western and anti-Semitic ideology, and apocalyptic Shiite religious beliefs that celebrate the suffering and martyrdom of the faithful. The Iranian regime, in Netanyahu's view, is "driven by a militant ideology that is based on an entirely different set of values, a value system that may seem entirely irrational to us but is pervasive, very powerful, among those competing for leadership among the Islamic militants."³¹ According to Middle East scholar Bernard Lewis, "in this context, mutual assured destruction, the deterrent that worked so well during the Cold War, would have no meaning."³²

The concern that Iran would use nuclear weapons, or transfer them to terrorists, in a premeditated attempt to destroy the Jewish state is a major reason that many Israelis view a nuclear-armed Iran as an existential threat.³³ "The objectives of Iran are clear," Netanyahu recently argued. "It wants to destroy Israel and is developing nuclear weapons to realize that goal."³⁴

Inflammatory statements by Iranian leaders seem to support this judgment. For example, shortly after coming to power in 2005, Iranian President Mahmoud Ahmadinejad threatened to "wipe Israel off the map."³⁵ Although some people have questioned the translation of Ahmadinejad's exact words (and whether his statement was a threat or a prediction),³⁶ Ahmadinejad himself has never refuted the interpretation.³⁷ That general sentiment has also been echoed by other Iranian officials,³⁸ and Iranians regularly drape Shahab-3 missiles with English and Farsi banners reading "Israel Should Be Wiped Off the Map" during Iranian military parades (a habit dating back to 1998).³⁹ Other Iranian statements suggest that the country's leaders might believe that even a limited nuclear blow would destroy Israel, raising the

concern that a nuclear-armed Iran might consider a premeditated first strike. On December 14, 2001, former Iranian President Akbar Hashemi Rafsanjani, a noted Iranian pragmatist, said, "If one day, the Islamic world is also equipped with weapons like those that Israel possesses now, then the imperialists' strategy will reach a standstill because the use of even one nuclear bomb inside Israel will destroy everything."⁴⁰ Rafsanjani reiterated the warning in a 2012 interview, which he characterized as "advice" aimed at demonstrating "that having nuclear weapons is not even in Israel's interest."⁴¹

Iran Can Be Deterred From Using Nuclear Weapons

Despite the abhorrent and inexcusable rhetoric of Iranian leaders, the actual behavior of the Islamic Republic over the past three decades suggests that the regime is rational. Consequently, there is a high probability that nuclear deterrence between Israel and Iran would operate much as it did for the superpowers during the Cold War.⁴²

As the Washington Institute for Near East Policy's Michael Eisenstadt notes, the perception of Iran as irrational and undeterrable is "both anachronistic and wrong."⁴³ While Iran's revolutionary leadership has repeatedly supported Islamic militancy and used violence abroad to promote its ideological agenda, Iran has also demonstrated a degree of caution, sensitivity to costs and the ability to make strategic calculations when the regime's survival is at risk.⁴⁴ There is no evidence for the claim that Iran is a suicidal state that would be willing to incur the massive retaliation that would inevitably result from the use of nuclear weapons. This is unsurprising since the continued survival of the Islamic Republic is necessary to achieve every one of the regime's material and ideological objectives, including the success of the revolution at home and the spread of Iran's Islamist model abroad. In this sense, in the words of former Israeli Mossad Chief Meir Dagan, "the regime in Iran is a very rational one."⁴⁵

Although the founder of Iran's revolution, Ayatollah Ruhollah Khomeini, often called Iran "a nation of martyrs," he also established the principle of the "expediency" of the regime (*maslahat*) in the late 1980s. This pragmatic move had the effect of formalizing "the supremacy of *raison d'état* over the tenets of Islam as the precept guiding Iranian decisionmaking."⁴⁶ As a result, the Islamic Republic's foreign policy has blended revolutionary agitation with prudent adjustments, especially when confronting severe threats.⁴⁷ For instance, in 1988, facing the risk that an undeclared naval war with the United States would escalate and the possibility of a devastating defeat by Iraqi President Saddam Hussein's forces, Khomeini chose the "poison chalice" of a ceasefire with Iraq instead of embracing national martyrdom. Similarly, in 2003, the lightning-fast U.S. invasion of Iraq created fear in Tehran that the Iranian regime would be next on Washington's hit list, which encouraged Iran to suspend uranium enrichment and allow intrusive inspections.⁴⁸

Iran has a long history of sponsoring brazen terrorist attacks abroad, including the bombings of the U.S. Embassy and Marine barracks in Lebanon in 1983, the Israeli Embassy and a Jewish community center in Argentina in the early 1990s and the U.S. Air Force barracks at Khobar Towers in Saudi Arabia in 1996, as well as the alleged plot against the Saudi ambassador to the United States last year.⁴⁹ This leads some observers to conclude that the regime is willing to run excessive risks and thus might contemplate using nuclear weapons should Iran acquire them.⁵⁰ However, the nature of the attacks mentioned above reveals a degree of caution. Tehran has historically employed covert action and terrorism abroad – instead of overt strikes and conventional aggression – precisely to maintain a degree of plausible deniability designed to shield the regime from massive retaliation and direct confrontation with Israel and the United States.⁵¹ Given the absence of overt U.S. or Israeli

military retaliation against Iran in response to these indirect attacks, it is difficult to argue that Iranian leaders have miscalculated.

More generally, Iran appears to have calibrated its support for proxies in order to limit prospects for retaliation. For example, as Bruce Riedel notes, Iran has been careful to limit its support to insurgents fighting U.S. forces in Iraq and Afghanistan over the past decade to preclude a major military response from Washington.⁵² Additionally, when the United States has sent clear warnings that Iranian activities risked direct retaliation, Tehran seemed to have gotten the message. After the 1996 Khobar Towers bombing, for example, Washington warned that further attacks risked direct reprisals against Iran, and there were no further bombings of U.S. facilities in the Gulf.⁵³ Furthermore, in summer 2011, after a series of powerful improvised rocket attacks by Iranian-backed Shiite militants in Iraq created a significant spike in U.S. military casualties, public warnings by the Obama administration and private messages communicated through the Iraqis led the Iranian regime to throttle back.⁵⁴

If the Iranian regime is indeed rational, it will realize that a nuclear attack on Israel would trigger massive retaliation, and deterrence should hold. Although Israel has long adopted a strict nuclear policy of *amimut* (or "opacity"), it is widely assumed to have a robust nuclear arsenal.⁵⁵ The extent and nature of Israel's alleged nuclear program is unclear, but public estimates of the arsenal's size range from 60 to 400 warheads, with the most credible estimates putting the number at between 100 and 200 fission weapons (it is unclear whether Israel also has thermonuclear weapons).⁵⁶ The nature and quantity of potential Israeli nuclear delivery systems is equally murky, but Israel possesses dozens of road-mobile, solid-fuel Jericho II MRBMs and is reportedly developing a Jericho III missile (potentially with intercontinental range), both of which are theoretically capable of delivering nuclear weapons.⁵⁷ Israeli

air force F-15 and F-16 fighter-bombers are also believed to be nuclear-capable for small-yield warheads.⁵⁸ Finally, the Israeli navy currently possesses three Dolphin-class diesel-electric submarines, recently received a fourth from Germany (which will go into operation in 2013) and has two more on order. Some sources suggest these submarines may be capable of launching Popeye Turbo nuclear-capable cruise missiles.⁵⁹

If the Iranian regime is indeed rational, it will realize that a nuclear attack on Israel would trigger massive retaliation, and deterrence should hold.

Israel's presumed mix of nuclear forces provides a viable second-strike capability, giving it the ability to massively retaliate against Iran's major cities, military facilities and economic infrastructure should Iran ever attack the Jewish state with nuclear weapons.⁶⁰ Moreover, if Iran acquires nuclear weapons, Israel would likely move quickly to bolster its second-strike capabilities and the survivability of its command-and-control systems. If Iran declares its arsenal or tests a device, it also seems likely that Israel would overturn its current policy of *amimut* in order to clarify its nuclear doctrine and clearly spell out red lines to Tehran.⁶¹

Even in the absence of any Israeli countermoves, Iran would likely require a few dozen nuclear weapons and advanced delivery systems to realistically threaten a viable "counterforce" strike that could eliminate Israel's retaliatory capability (and if Israel indeed has submarine-launched capabilities, even this would be insufficient). Given Iran's limited capabilities for the foreseeable future, and

the strength of Israel's ballistic missile and air defenses, Tehran's ability to successfully destroy or decapitate Israel's command-and-control systems seems limited, even if Iranian decision-makers perceive Israel to be a "one bomb" (or a "few bombs") country. This profound asymmetry between Iranian and Israeli capabilities would give even reckless Iranian leaders pause. After all, if an Iranian attack failed to completely destroy Israel's retaliatory capabilities, Tehran would face a devastating response from the Jewish state.⁶²

Iran would be further deterred from attacking Israel by the prospect of a massive conventional or nuclear retaliation from the United States.⁶³ With or without a formal extension of the U.S. nuclear umbrella, the long-standing U.S.-Israel alliance and the likelihood of extraordinary political pressure inside the United States to respond in the aftermath of a premeditated Iranian strike on Israel would likely be sufficient to deter Iran. Indeed, the Iranian conspiratorial tendency to see the American "Great Satan" and the Israeli "Little Satan" as inextricably linked would only deepen Tehran's perception that an attack would produce an overwhelming U.S. response. In addition, until Iran develops sufficient ICBMs to overwhelm U.S. national missile defenses, the credibility of any U.S.-extended deterrence relationship with Israel is further enhanced by the fact that Iran cannot effectively threaten the American homeland with retaliation.⁶⁴ Finally, a bolt-from-the-blue nuclear attack on Israel would likely produce global condemnation and the prospect of a draconian international response, which could isolate and punish Iran to an extent that would make it difficult for Iranian leaders to achieve any other national objective. Faced with these stark realities, Iran's leaders would quickly realize that any potential nuclear strike against Israel would gain little and risk everything, dissuading it from launching such an attack.

To the extent that religious motivations and the regime's commitment to "resistance" figure into

Iranian calculations, they too will weigh against using nuclear weapons against Israel. Not only has Khamenei declared the use of nuclear weapons forbidden by Islam, but any Iranian nuclear attack on Israel would risk killing many tens of thousands (perhaps millions) of Palestinians. A strike aimed at decapitating the Israeli political leadership would likely destroy Jerusalem – the home of the Al-Aqsa mosque and the third-holiest city in Islam. Given the centrality of the Palestinian cause to Iran’s revolutionary self-identity, as well as Tehran’s broader ambitions to be the leader of the Islamic world, a nuclear strike on Israel would be self-defeating.⁶⁵ In this context, it is worth remembering that the infamous 2001 Rafsanjani “one bomb” threat against Israel referenced above concluded with the following statement: “However, it will only harm the Islamic world.”⁶⁶

In short, although the Iranian regime’s hostility toward Israel runs deep and Iran’s leaders deploy reprehensible rhetoric and capitalize on the slow-boil rivalry with the Jewish state to bolster the regime’s domestic legitimacy and standing in the Islamic world, it is unlikely that the regime would seek a war that would risk the end of the Islamic Republic. That is the case today, and it would remain the case if Iran acquired nuclear weapons.⁶⁷ Given the regime’s anti-Semitic rhetoric and animosity toward the Jewish state, Israeli anxieties about Iran’s nuclear ambitions are understandable, and both Israel and the United States should continue their efforts to prevent Iran from acquiring nuclear weapons. However, as it relates to the possibility of the deliberate use of nuclear weapons by Iran, the basic logic of deterrence would likely hold. Indeed, in 2009, Israeli Defense Minister Ehud Barak observed that an Iranian bomb “would not make [Iran] a threat to Israel’s existence. Israel can lay waste to Iran.”⁶⁸ If this fact is clear to Israel’s leaders, it is likely to be equally clear to Iran’s.

Rogue Guards?

The discussion thus far has treated the Iranian regime as a unitary actor, but of course it is not. If Iran acquires nuclear weapons, maintaining basic deterrence would depend not only on the rationality of the supreme leader but also on his ability to maintain control over the use of those weapons. It is not yet possible to know what the precise national command authority arrangements would be if Iran were to develop a nuclear arsenal. Nevertheless, because nuclear weapons would be so intrinsically linked to the survival of the regime, we would expect the supreme leader to have sole decisionmaking authority over nuclear use in noncrisis situations.⁶⁹ The small size of Iran’s initial arsenal would further encourage and facilitate tight control.⁷⁰ Yet because the Islamic Revolutionary Guard Corps (IRGC) controls Iran’s missile forces and is heavily involved in the current nuclear program, there is reason to believe that an elite element within or associated with the guards would be given physical control of Iran’s nuclear arsenal.⁷¹ Thus, even if formal launch authority resided with the supreme leader, there would be some risk of unauthorized use by a rogue IRGC commander.⁷²

Moreover, since 2005, the power of ultraconservative “principlists,” including the IRGC, in Iranian politics has grown, and it is conceivable that the guards could eventually take power.⁷³ The potential role of the IRGC in future Iranian nuclear decisionmaking could make a future nuclear-armed Iran more difficult to deter.⁷⁴ After all, the IRGC’s ideological identity is defined in part by its role as the vanguard of resistance against Israel and the West, and it has displayed a penchant for risk-taking in the past.⁷⁵

Nevertheless, the prospect of a deterrence breakdown resulting from rogue IRGC actions or the guards’ growing influence is probably low for two reasons. First, the IRGC has demonstrated fierce loyalty to both the supreme leader and the

survival of the Islamic Republic,⁷⁶ and one can safely assume that only the most loyal, trusted and well-trained units would be given custody of Iran's nuclear arsenal.⁷⁷ Thus, even if Iran lacked technical safeguards against unauthorized use, the likelihood of rogue action is probably slight.

Second, the chief goal of the IRGC is the preservation of the revolution, the state and its own parochial political and economic prerogatives – all of which would be destroyed by massive Israeli retaliation.⁷⁸ If anything, the continued ascendance of the IRGC invests the guards more deeply in ensuring the survival of the state, providing a compelling incentive to avoid risking a nuclear exchange.⁷⁹

Apocalyptic Cults and a Collapsing Regime

Even if Iran's current regime is rational, the regime could change in ways that make deterrence less viable.⁸⁰ Some fear that leaders embracing an apocalyptic variant of Shiism (sometimes referred to as the "cult of the Mahdi") might eventually seize control of the regime. On the surface, this seems plausible because President Mahmoud Ahmadinejad and some individuals within the IRGC appear to subscribe to these beliefs.⁸¹ Such messianic leaders might nihilistically welcome destruction to usher the return of the Twelfth Imam and the "day of judgment."⁸²

Although it is impossible to predict the precise course of future events in Iran, this scenario seems unlikely. Adherents to the cult of the Mahdi are a distinct and increasingly marginalized minority in Iran, largely composed of ultraconservative lay people who are reviled by the traditional clerical establishment (including Khamenei).⁸³ The entire notion that nonclerics could have contact with the Mahdi is so inherently threatening to the clerical establishment and the institution of the supreme leader that it is hard to see how they could come to dominate the Islamic Republic. Indeed, the 2011 power struggle between Khamenei and

Ahmadinejad, in which Khamenei emerged the victor and the IRGC leadership overwhelmingly sided with the supreme leader, included a prominent crackdown against Ahmadinejad's allies for their supposedly "deviant" views.⁸⁴

Still other observers contend that a future Iranian regime, in the death throes of internal revolt and besieged by perceived foreign threats, might be tempted to employ a nuclear "Sampson option," lashing out against Israel.⁸⁵ This scenario also seems improbable. After its brutal crackdown of the Green Path Movement in 2009, the regime appears to be relatively stable for now.⁸⁶ The grievances underlying the Green Path Movement have not gone away, and the Arab Spring demonstrates how quickly events can change. But even if internal unrest reemerges, Israel is not likely to be, or be held, responsible for the threat to the regime beyond the inevitable rhetoric of "Western and Zionist conspiracies." Moreover, if the regime were to face a significant internal challenge in the future and somehow believe that Israel (or the United States) was to blame, there would be little incentive for a sinking regime (including elements that may hope to survive to fight another day) to lash out against even highly unpopular external foes in a manner that would invite overwhelming retaliation and therefore only accelerate the regime's demise.⁸⁷

Nuclear Terrorism

The U.S. government regularly cites Iran as the world's leading state sponsor of terrorism, and the IRGC-Qods Force (the guards' covert action wing), Lebanese Hezbollah and other Iranian-backed groups have carried out numerous terrorist attacks against Israeli and American targets abroad. Furthermore, according to Director of National Intelligence James Clapper, the alleged Qods Force plot to assassinate the Saudi ambassador to the United States in Washington suggests that Tehran may be willing to carry out terrorist attacks against its enemies' homelands

The nature of Iranian interests and the regime's past behavior suggest that it is unlikely that Tehran would pass a nuclear device to terrorists to use against Israel or any other nuclear state.

in response to real or perceived threats to the regime.⁸⁸ Thus, it is not surprising that Israeli and U.S. officials would express concern that a nuclear-armed Iran might transfer a nuclear device to terrorists.⁸⁹

Nevertheless, the nature of Iranian interests and the regime's past behavior suggest that it is unlikely that Tehran would pass a nuclear device to terrorists to use against Israel or any other nuclear state. As noted above, the Iran regime calibrates its support of terrorist activities to minimize the risks of direct retaliation and confrontation. Whatever risks it might have been willing to run in the past by sponsoring attacks against Israeli and U.S. targets would pale in comparison to the gamble that Tehran would be taking by using a terrorist organization to deliver a nuclear attack. In the aftermath of an "anonymous" terrorist nuclear attack sponsored by Iran, a nuclear forensics investigation, in combination with other intelligence and law enforcement information, would likely identify Iran as the source of the device, putting the regime at risk of massive retaliation and placing its very survival at stake.⁹⁰ Regardless of the evidentiary findings, Iranian leaders would confront the prospect that Israel and the United States would hold Iran responsible for the use of any nuclear device by a group known to be associated with Tehran.⁹¹ Nothing in the regime's past behavior

suggests that it would run such risks of annihilation. Indeed, the Islamic Republic already possesses weapons of mass destruction (WMD), maintaining the capability to produce and weaponize chemical and probably biological weapons,⁹² yet there is no documented case of the IRGC or other Iranian entities transferring these weapons to proxies or terrorist organizations.⁹³

Moreover, although we describe groups such as Hamas, Palestinian Islamic Jihad and Hezbollah as Iran-backed "proxies," Iran has varying degrees of actual influence over them and controls none of them completely.⁹⁴ It is hard to believe that any state would provide its ultimate weapon to sub-state groups without certainty about how it would be deployed – especially because the fate of Iranian civilization could hang in the balance.⁹⁵ For some period of time, this reluctance would be compounded by the small nature of the Iranian nuclear arsenal, which would require Iran to maintain possession and tight control to maximize deterrence.

Finally, the same concerns about horrific Palestinian "collateral damage" and the destruction of Jerusalem that weigh against a premeditated Iranian first strike would also likely discourage an Iranian decision to transfer – or any Islamist terrorist decision to use – a nuclear device for use against Israel. It is impossible to reclaim the land of Israel for the Muslim faith by destroying it.

V. IRANIAN ADVENTURISM AND ISRAELI-IRANIAN RIVALRY

It is unlikely that a nuclear-armed Iran would deliberately use or transfer a nuclear device, but Tehran's emergence as a nuclear power would nevertheless result in a more dangerous Iran and an even more tense and violence-prone rivalry with Israel. Israeli-Iranian nuclear competition is likely to follow the historical pattern known as the "stability-instability paradox," in which the very stability created by mutually assured destruction generates greater instability by making provocations, disputes and conflict below the nuclear threshold seem "safe."⁹⁶ During the Cold War, for example, nuclear deterrence prevented large-scale conventional or nuclear war between the United States and the Soviet Union, but the superpowers engaged in several direct crises, as well as proxy wars in Korea, Vietnam, Afghanistan, Angola, Nicaragua, El Salvador and elsewhere.⁹⁷ More recently, nuclear weapons have made the Indian-Pakistani rivalry more crisis-prone even as they have discouraged large-scale war or a nuclear exchange.⁹⁸ Similarly, even if deterrence between Israel and Iran holds, Tehran's development of nuclear weapons is likely to encourage Iranian adventurism, reduce Israeli freedom of action and increase aggressive actions by Iranian proxies, resulting in more frequent and intense crises involving Israel and Iran.

An Emboldened Iran

If survival was the only goal driving Iran's foreign policy, it is conceivable – though unlikely – that Iranian adventurism would decrease in the aftermath of acquiring nuclear weapons. Iran provides material support to proxies throughout the Middle East and sponsors terrorism in part to demonstrate a capability to retaliate against Israel, the United States and other states if they attack Iran or undermine Tehran's interests. Therefore, if the regime believed that nuclear weapons alone provided an adequate deterrent, it might not need

such retaliatory capabilities. According to this view, a nuclear-armed Iran might be more cautious and curtail its support to proxies to avoid being embroiled in disputes that could now take on existential implications.⁹⁹

However, while regime survival remains paramount, the Islamic Republic's motivations also include revisionist goals. Iran does not seek territorial expansion in the Levant,¹⁰⁰ but it does seek to play a dominant regional role and to promote its revolutionary ideology. Consequently, Iran's covert operations and support to Syria, Hezbollah and Palestinian factions are meant to do more than simply advance defensive and retaliatory aims; they are also tools to pressure and intimidate other states and indirectly expand Iran's influence and its revolutionary agenda.¹⁰¹ The Iranian regime prefers such indirect methods because they minimize the risk of direct confrontation, and Tehran calibrates its support to militants and sponsorship of terrorism for the same reason.

Iran provides substantial support and encouragement to proxies and sponsors terrorist activity, and preventing Iran from acquiring nuclear weapons would not make the problem go away.¹⁰² However, if Iranian leaders perceived that a nuclear arsenal provided a substantially more robust deterrent against retaliation, the regime would likely pursue its objectives more assertively.¹⁰³ This would be consistent with the historical pattern of more aggressive behavior by new nuclear states (see text box on next page).

The growing role of principlist hardliners within the Iranian regime – most notably, elements of the IRGC – makes such behavior even more likely. Iranian principlists see the competition with Israel and the United States as a zero-sum game and are inclined to take more risk in promoting a revolutionary agenda abroad. They are further encouraged to pursue revisionist aims by a strong ideologically-informed belief in the inevitable

A Historical Perspective: Provocative Actions by Emerging Nuclear Powers

There is a long history of emerging nuclear powers taking provocative actions. In 1950, for example, Soviet leader Joseph Stalin gave North Korea the green light to invade South Korea – thereby starting the Korean War – apparently believing that the United States was unlikely to respond in the aftermath of the Soviet nuclear test in 1949. Similarly, Mao Zedong authorized Chinese troops to attack Soviet border forces in 1969, five years after China became a nuclear power. The attack was an attempt to warn Moscow against further border provocations and mobilize domestic Chinese support for revolution, and Mao may have been emboldened by the belief that China's recently acquired nuclear capabilities would keep the conflict limited. In the end, the border clashes produced a larger crisis than Mao expected, raising the possibility of a Soviet nuclear strike. Mao was forced to back down.¹⁰⁴

In South Asia, Pakistan's development of nuclear weapons facilitated its strategy of engaging in low-intensity conflict against India, making the subcontinent more crisis-prone. Although Pakistan's intense and long-standing rivalry with neighboring India is not a perfect parallel to the Israeli-Iranian relationship,¹⁰⁵ there are numerous similarities. Like Iran's position relative to Israel, Pakistan has a much weaker conventional military than India. Like Iran, Pakistan also has ambitions beyond mere survival (in this case, regarding territorial control of Kashmir). As Islamabad's nuclear capabilities have increased, so has the volatil-

ity of the Indian-Pakistani rivalry. Compared with the nonnuclear period (1972-1989), the number of militarized disputes between India and Pakistan grew considerably during the ensuing *de facto* nuclear period (1990-May 1998), with Pakistan initiating the majority of these crises. Moreover, since June 1998, when both India and Pakistan openly tested nuclear devices, Islamabad has appeared willing to more assertively back militant groups fighting in disputed Kashmir and to support groups that have conducted terrorist attacks elsewhere in India. In 1999, Pakistan sent conventional forces (disguised as insurgents) across the Line of Control in the Kargil district of Kashmir, triggering a limited war with India – a move encouraged by the Pakistani belief that their nuclear deterrent would limit conventional retaliation by New Delhi. Additionally, over the past decade, Pakistani-backed militants have engaged in high-profile terrorist attacks inside India itself, including the 2001 attack on the New Delhi parliament complex and the 2008 Mumbai attacks (which the Indians often refer to as their "9/11").¹⁰⁶

Iraq's nuclear ambitions under Saddam Hussein provide another example. Archival evidence suggests that Iraq's quest for nuclear weapons was driven in part by Hussein's desire to use them as a cover for conventional aggression against Israel. Despite Hussein's incendiary rhetoric toward the Jewish state, he seemed to understand the basic principles of deterrence and did not seriously contemplate using nuclear

weapons against Israel. At the same time, Hussein seemed to believe that Iraq's development of nuclear weapons would shield the country from Israeli nuclear retaliation in response to an all-out conventional invasion by Iraq and other Arab states, enabling a future nuclear-armed Iraq and its allies to defeat Israel through a war of attrition.¹⁰⁷

More broadly, recent quantitative analyses of the relationship between nuclear proliferation and militarized disputes show that, on average, states with nuclear weapons are no more (or less) likely to become involved in international militarized disputes,¹⁰⁸ or to initiate these disputes.¹⁰⁹ However, in the initial period of time after developing nuclear weapons, inexperienced nuclear powers do appear more prone to involvement in militarized disputes.¹¹⁰ Historically, leaders in new nuclear states not only appear to believe that a nuclear deterrent provides greater room for provocation without retaliation but also seem to go through an initial period of probing the limits of their new power. Moreover, new entrants into the nuclear club may feel entitled to more influence and respect and therefore be more inclined to aggressively challenge the status quo.¹¹¹ The same analyses suggest that the longer a state possesses nuclear weapons, the less likely it is to become involved in disputes. But it seems to take nuclear powers time to learn that nuclear weapons are good for deterrence but not much else.¹¹²

A nuclear-emboldened Iran is likely to enhance substantially its lethal aid to proxies, support for terrorism and other forms of dangerous behavior.

ascendency of Iran, the inevitable decline of the United States and the inevitable erasure of Israel as a political entity in the Middle East.¹¹³

For all those reasons, a nuclear-emboldened Iran is likely to enhance substantially its lethal aid to proxies, support for terrorism and other forms of dangerous behavior. Specifically, Tehran would likely be willing to provide Hezbollah and Palestinian groups with even more deadly, sophisticated, long-range and accurate conventional weaponry for use against Israel. In an effort to bolster allies' deterrent capabilities, Iran might even consider transferring "dual-capable" weapons, leaving Israel uncertain as to whether these systems are conventional or armed with chemical, biological or nuclear warheads. Iran might also feel freer to give its proxies a green light to actually employ advanced systems – such as Hezbollah's reported stockpile of Zelzal rockets and Fateh 110 and SCUD missiles capable of reaching Tel Aviv¹¹⁴ – instead of encouraging them to keep these weapons in reserve (as Tehran may have done with the Zelzals during the 2006 Lebanon war).¹¹⁵ Believing that a nuclear deterrent raises the level of violence it could commit abroad with impunity, Iran might also increase the frequency and scale of terrorist attacks carried out directly by the IRGC-Qods Force or indirectly through Hezbollah and other militant groups against Israeli and U.S. targets abroad. A bolder Iran might be willing to increase the forward deployment of IRGC forces in the Levant¹¹⁶ or

have its navy engage in more frequent shows of force in the Mediterranean in support of its allies.¹¹⁷ In an effort to further burnish its resistance credentials, playing to both domestic and regional audiences, a nuclear-armed Iran might also be willing to issue explicit or implied warnings during crises involving its allies and Israel, threatening to use "all means" at its disposal to preserve the survival of Syria, Hezbollah or Palestinian groups. And, diplomatically, Iran may be more willing to play a spoiler role in the Israeli-Palestinian peace process.

Israeli Freedom of Action

In addition to increasing direct threats to Israel in the Levant and elsewhere, Iranian nuclear weapons might also limit Israel's freedom of action to respond to these challenges. In South Asia, for example, the fear of possible nuclear escalation has not prevented India from assertively defending its territory, but it has constrained New Delhi's ability to use its significant conventional superiority to conduct strikes against terrorists or their sponsors inside Pakistani territory.¹¹⁸

Certainly, the shadow of an Iranian nuclear bomb will not make Israel militarily impotent. During the Cold War, for instance, the upper limits on escalation imposed by mutually assured destruction did not prevent the superpowers from fighting extraordinarily hard against each other's allies in the developing world. Also, compared with South Asia, where the extent of Indian military actions is constrained by the fact that Pakistan's proxies operate from Pakistani territory, Israel will have a freer hand to respond to Hezbollah and Palestinian groups that operate far away from the Iranian homeland. As we discuss in more detail in the next section, the nature of the stakes, as well as the balance of military capabilities, will also strongly favor the Israelis in crisis bargaining situations with a nuclear-armed Iran. Consequently, the Israelis will not be powerless to respond to Iranian provocations in future crises in the Levant.¹¹⁹

Still, in the hypothetical future of a nuclear-armed Iran, there is little doubt that even a small potential for nuclear escalation would produce heightened Israeli anxiety in future crises with Iranian-backed groups. Indeed, even if the aggregate level of Iranian adventurism and proxy activity remained relatively constant instead of increasing, we would still expect an erosion of Israeli freedom of action to respond to advanced weapons transfers, provocations, proxy attacks (e.g., rocket strikes, kidnappings, etc.) or terrorism abroad if Iran became a nuclear-armed state.¹²⁰ Direct military action against Iran itself would be riskier than it is today, and Israel's political and military leadership would be likely to pursue the use of conventional force in Gaza or Lebanon (or potentially Syria) with more caution if it were uncertain about what level of force might inadvertently cross Iranian red lines.¹²¹ As Barak recently argued:

From Israel's point of view, a nuclear state offers an entirely different kind of protection to its proxies. Imagine if we enter another military confrontation with Hezbollah, which has over 50,000 rockets that threaten the whole area of Israel, including several thousand that can reach Tel Aviv. A nuclear Iran announces that an attack on Hezbollah is tantamount to an attack on Iran. We would not necessarily give up on it, but it would definitely restrict our range of operations.¹²²

Similarly, Maj. Gen. Amir Eshel, then head of the IDF planning branch and now the Israeli air force chief, acknowledged in January, "When the other side has a nuclear capability and [is] willing to use it, you think twice. You are more restrained because you don't want to get into that ball game."¹²³

More Aggressive Proxies?

In the event of a nuclear-armed Iran, Hezbollah and Palestinian groups could grow bolder and more aggressive in their confrontation with Israel. Israeli officials believe that Iranian-backed groups

currently limit the frequency and scale of their attacks out of concern that, across a certain line, Israel would respond with large-scale conventional force, as it did in 2006 in Lebanon and 2008 in Gaza. Therefore, if Iranian-backed militants felt confident that an explicit or implicit Iranian nuclear guarantee limited Israel's willingness to engage in large-scale operations, those groups might be willing to accept more risk in conducting attacks against Israel. Thus, as the IDF's Eshel notes, Iran's allies and proxies "will dare to do things that right now they would not dare to do."¹²⁴

Nevertheless, three caveats should be kept in mind. First, Iranian proxies have their own interests that may or may not be advanced by ratcheting up the conflict with Israel at any given point in time.¹²⁵ Hamas and other Palestinian militants gladly accept assistance from Iran, but they ultimately make decisions about attacks on Israel on the basis of their own parochial calculations.¹²⁶ Even Hezbollah, the militant group most closely associated with the Iranian regime, regularly shows its independent and prioritizes its domestic survival and satisfying its constituents over those of its patron in Tehran.¹²⁷ Hezbollah is also increasingly anxious about the implications of unrest in Syria, and if President Bashar al-Asad's regime falls, it would increase Hezbollah's fears about its own domestic power in Lebanon, potentially placing further constraints on its political will and ability to act on behalf of Tehran.¹²⁸

Second, the notion that proxies would take more risk in their conflicts with Israel typically presumes that Iran would extend its nuclear umbrella over them – and that may or may not happen. Even if a nuclear-armed Iran provides more aid to its proxies, Tehran may resist providing an explicit security guarantee because of concerns about moral hazard and entrapment (i.e., concerns that proxies would be encouraged to engage in activities that Tehran did not support and the prospect that every dispute between its allies and Israel would

embroil the Islamic Republic in a potential nuclear showdown). Tehran may opt instead for vague threats that give it plenty of flexibility to back away from crises. As James Lindsay and Ray Takeyh write, “Iran will rattle its sabers and pledge solidarity with Hamas and Hezbollah, but it will not risk a nuclear confrontation with Israel to assist these groups’ activities. Hamas and Hezbollah learned from their recent confrontations with Israel that waging war against the Jewish state is a lonely struggle.”¹²⁹

Third, even if the Islamic Republic did provide a nuclear security guarantee to its proxies, it is unlikely that Iranian-backed groups would see it as sufficiently credible to decisively shape their calculations.¹³⁰ During the Cold War, American allies in Western Europe fretted that the United States might not be willing to risk Boston for Berlin to repel a Soviet attack. Likewise, there is no reason to believe Hezbollah, Hamas or Syria would have sufficient confidence in the Iranian regime’s willingness to risk Tehran in order to save Beirut, Gaza or Damascus.¹³¹

Ultimately, groups aligned with Iran will likely become more assertive if the country goes nuclear. However, they will have to balance any support from Iran and the desire to combat Israel against their own political calculations and their lingering doubts that the Islamic Republic would be willing to risk everything on their behalf.

VI. PROSPECTS FOR CRISIS ESCALATION

For at least some period of time, the already-tense Israeli-Iranian rivalry is likely to become even more crisis-prone if Iran develops nuclear weapons.¹³² During the early Cold War period the superpowers were involved in several crises, and on at least one occasion, the 1962 Cuban missile crisis, they came perilously close to nuclear war. Israeli-Iranian crises could be even more prone to the types of misperceptions and miscalculations that could lead to a nuclear exchange.¹³³

In the context of an Israeli-Iranian nuclear rivalry, two interrelated dangers could emerge. The first is crisis instability. Although mutual deterrence should be sufficient to prevent premeditated attacks during “peacetime,” reciprocal fears of surprise attack could produce incentives for either side to launch a deliberate pre-emptive attack.¹³⁴ Despite Israel’s overwhelming nuclear superiority, its lack of strategic depth and its perceived vulnerability might drive Israeli leaders to pre-emptively launch a nuclear strike if they saw an Iranian attack as imminent. Moreover, *because* of Israel’s overwhelming nuclear superiority, in addition to its long tradition of favoring offensive action, Israeli leaders may believe that such a strike would be effective. For the same reasons, the small size of Iran’s initial arsenal may create an intense fear on the regime’s part of a disarming Israeli attack during a crisis, creating “use them or lose them” incentives for Tehran to go first.¹³⁵

A second danger is inadvertent escalation. A sense of acute vulnerability to a disarming first strike – especially rapid decapitation of command-and-control – could lead Israel and Iran to adopt hair-trigger launch postures or to predelegate launch authority for their nuclear arsenals to subordinate commanders. This in turn would raise the specter of accidental or unauthorized use of nuclear weapons during a crisis as a result of false warnings, bad intelligence, miscommunications or rogue actions.¹³⁶

Israeli-Iranian Crises Are Unlikely to Approach the Brink of Nuclear War

In a scenario in which both Israel and Iran possess nuclear weapons, the risks of nuclear escalation must be taken seriously. Importantly, however, the deterrent value of nuclear weapons means that Israeli-Iranian crises are unlikely to become nuclear crises in the first place, and if crises progress, the most likely outcome is for Iran to back down far short of nuclear war.

The prospects of crisis instability or inadvertent escalation only transpire if one or both parties are willing to run the risk of nuclear war in order to achieve their objectives. Yet given the most probable scenarios for future Israeli-Iranian crises, they are very unlikely to evolve in this direction. During the Cold War, for example, the United States and the Soviet Union were not squeamish about engaging in proxy conflicts across the globe, but they were extraordinarily careful to avoid allowing third parties in peripheral conflicts to embroil them directly in ways that might risk a nuclear war.¹³⁷ Similarly, the nature of the stakes involved in future Israeli-Iranian crises in the Levant suggests that Iran will be strongly inclined not to turn proxy conflicts into nuclear showdowns. In contests between nuclear powers, “states are not likely to run major risks for minor gains,”¹³⁸ and Iran has an interest in not letting conflicts that are peripheral to the survival of the regime be defined as crises that are central to the fate of the Islamic Republic. Recklessly brandishing nuclear threats in an attempt to gain influence in the Israeli-Palestinian peace process or defend Hezbollah, Hamas or other allies from Israeli attacks would transform an event that has inherently limited stakes into one that could produce infinite damage to the Iranian regime.¹³⁹ Tehran would therefore face powerful incentives not to go down this road. Meanwhile, so long as Iran does not initiate nuclear threats, Israel has no need or incentive to issue its own nuclear warnings to prevail in such disputes.

Furthermore, because Israel's conventional superiority gives it many military options below the nuclear threshold, Iran would likely be the first in any crisis to reach a decision point regarding the use of nuclear weapons. A consideration of the stakes involved, the military balance and past behavior all suggest that the most likely outcome of any future Israeli-Iranian crisis in the Levant would be for Tehran to "blink" well before it risked a nuclear exchange.

The stakes involved for each party and their relative willingness to take risk are central to the outcome of crises involving nuclear states.¹⁴⁰ Although it is difficult for nuclear states to credibly threaten to initiate a nuclear attack under conditions of mutually assured destruction, they can seek to prevail in crises with other nuclear states by taking steps that raise the risk of a crisis getting out of control, with the goal of making the other side back down.¹⁴¹ Traditionally, deterrence theorists have argued that the state with the most at stake in the outcome of the crisis typically has a greater willingness to run risks and is perceived to have greater credibility in making threats. In a crisis between two nuclear powers, therefore, the state enjoying the greater resolve is likely to prevail short of all-out nuclear war, forcing the other side to retract its demands and back down.¹⁴² In this view, nuclear advantage does not translate into a clear bargaining advantage in a crisis.¹⁴³ Nevertheless, recent research suggests that in past nuclear crises, both nuclear superiority and the balance of resolve have mattered, and the former contributes to the latter by enabling states to run higher risks.¹⁴⁴

Regardless of whether the balance of resolve or nuclear superiority is more important, both factors would weigh heavily in Israel's favor in any conceivable crisis with Iran in the Levant. Because such crises would occur on Israel's borders or involve proxy attacks that threaten the Israeli homeland, Israel's stakes in the outcome of these crises would be greater than those of Iran. While uncertainty about the balance of resolve can lead

to miscalculation, it is difficult to believe that the Iranian regime would doubt Israel's willingness to defend itself in these circumstances. Furthermore, as Israel took steps to defend its vital interests in a crisis that was ultimately peripheral to the Iranian regime's survival, Israeli leaders could credibly run higher risks (even if Israel found itself somewhat more constrained than it is today). Therefore, in future Israeli-Iranian crises, we would expect Iran to back down far below the threshold of initiating a nuclear war.¹⁴⁵

Tehran's long history of deserting allies when they get into trouble provides support for the expectation that Iran would back down in future crises with Israel in the Levant.

Additionally, Tehran's long history of deserting allies when they get into trouble provides support for the expectation that Iran would back down in future crises with Israel in the Levant. In numerous cases, Iran has chosen not to intervene to support its Shiite allies in order to avoid a direct confrontation or deeper involvement in peripheral conflicts. Examples include the 1991 Shiite uprisings in Iraq, the 1998 capture of the city of Mazar-e-Sharif by the Taliban (leading to the death of Iranian diplomats and thousands of Shiite Hazaras), the 2006 Israel-Hezbollah war, the 2008 Iraqi-U.S. "Charge of the Knights" operation against Iranian-backed Shiite militants in Basra, and the 2011 Saudi intervention and Bahraini government crackdown against the Shiite opposition.¹⁴⁶ Iran also reneged on its 2010 decision to send a naval flotilla to Gaza

in the face of Israeli threats¹⁴⁷ and blinked again after making threats against the U.S. Navy in the Strait of Hormuz in January 2012.¹⁴⁸ A nuclear-armed Iran might be somewhat bolder, but it will not alter its fundamental interest in avoiding major confrontation to bail out proxies.

Some analysts contend that the nature of the Iranian political system makes it uniquely difficult for the regime to make concessions under external pressure. The high degree of factionalism contributes to decision paralysis and hardliners tend to resist compromise with “arrogant powers” outside of Iran.¹⁴⁹ Historically, however, the regime has overcome paralysis during times of crisis, and the more central the issue to the regime’s survival, the more the decision rests with the supreme leader.¹⁵⁰ If the stakes were nuclear war, the supreme leader would have every incentive to assert his authority to head off annihilation. The hardliners that surround him, no matter how stubborn, are unlikely to prove suicidal.

Thus, even if the Israeli-Iranian relationship becomes more crisis-prone, there are compelling reasons to expect these disputes to be resolved short of all-out war.¹⁵¹

Incentives for Pre-emption

In the unlikely event that Israel and Iran did find themselves deep in a crisis in which one or both sides brandished nuclear threats, reciprocal fears of surprise attack could drive either to launch a pre-emptive nuclear strike. It is difficult to judge the precise risks associated with this scenario, however, because much depends on the nature of Israeli and Iranian nuclear doctrine, the posture of their forces and the nature of the particular crisis – all unknowns.

Despite an apparent logic encouraging each side to strike first in such situations, several factors mitigate the risk. Israeli fears of surprise attack might be significant, but Israel will also face compelling

reasons not to pre-emptively use nuclear weapons in a crisis. Because of its official policy of nuclear opacity, Israel has never articulated its nuclear doctrine. Nevertheless, on the basis of observed behavior and deductive analysis, specialists on Israel’s alleged nuclear capabilities speculate that the primary purpose of these capabilities is to deter an all-out conventional attack or the use of WMD by regional adversaries that would threaten Israel’s existence or – should deterrence and defense fail – to provide a weapon of last resort in the face of imminent defeat.¹⁵² In a nuclear crisis with Iran, it is unclear what threshold of “imminent threat” would lead Israeli leaders to contemplate the first use of nuclear weapons, but the basic logic of the strategic situation suggests that the threshold would have to be very high.

Somewhat paradoxically, Israel’s lack of strategic depth and its sense of extreme vulnerability – the factors that supposedly drive pre-emption incentives – also drive the threshold for a successful Israeli first strike so high that it may rule out nuclear pre-emption. If a hypothetical Iranian nuclear arsenal paralleled the country’s current “civilian” nuclear program, Iran would be likely to use a combination of dispersal and concealment (including hardened underground sites) to protect its embryonic nuclear weapons stockpile. Thus, even during the initial period when Iran’s arsenal would be small and theoretically vulnerable, there is reason to believe that Israel would lack perfect information about the whereabouts and readiness of these weapons – and, consequently, Israel would lack confidence that it could destroy all of them. Moreover, when and if Iran developed missile-deliverable nuclear weapons, it would likely focus on solid-fuel missiles (such as the Sejil-2) that could be fired on very short notice from fixed hardened silos and road-mobile launchers.¹⁵³ The latter would probably be very difficult for the Israelis to detect and pre-emptively destroy with confidence during a crisis (see text box).¹⁵⁴ Israel’s apparent

Lessons from the 2006 Lebanon War: Israel's Ability to Strike Mobile Missiles

The 2006 Lebanon war offers cautionary lessons regarding Israel's ability to neutralize threats from mobile missiles. The Israeli air force had great success pre-emptively destroying Hezbollah's fixed long-range rocket sites in the first few days of the conflict. The air force was also successful at time-sensitive precision targeting of mobile launchers for medium-range rockets operating in southern Lebanon, destroying some prior to launch and the vast majority almost immediately after they got off their first weapon.¹⁵⁵ This was a terrific achievement in a conventional conflict, limiting the number of rockets that fell on northern Israel, but the ability to kill future Iranian mobile ballistic missile launchers after a shot would offer little solace in a nuclear context. Moreover, unlike in Lebanon, there is no guarantee that the Israelis would have sufficient persistent, real-time intelligence, surveillance and reconnaissance capabilities to locate Iran's mobile launchers (and distinguish nuclear-armed systems from conventional ones and decoys) in a timely and targetable way. That said, in other respects, Israel might have more success in destroying mobile nuclear launchers. Because of their destructive radius, potential Israeli nuclear strikes would not require the degree of accuracy that conventional ones do, and if necessary, a barrage of strikes could conceivably be used against possible launch areas, increasing the prospects of killing mobile missiles before launch.

nuclear superiority notwithstanding, even a small Iranian arsenal might therefore be able to survive.

There are so many variables and unknowns that it is difficult to predict the success of future pre-emptive Israeli strikes on Iranian nuclear missiles. Yet the uncertainty surrounding those variables is precisely why the probability of achieving 100 percent success seems remote and why a pre-emptive strike during a crisis may be highly unattractive. There is a

nontrivial probability that some Iranian weapons would survive an Israeli first strike, and the strike itself would significantly increase the prospects that Iran would retaliate using its residual arsenal. Perhaps Israel's increasingly robust ballistic missile defenses would prove sufficient to detect incoming decoys, defeat countermeasures and destroy Iran's remaining nuclear missiles, but the margin for error would be terrifying for Israeli political and military leaders contemplating initiating a nuclear exchange. Ultimately, if the motivation for pre-emption stems from the notion that Israeli leaders could not tolerate any risk of an Iranian nuclear attack, they dare not pre-empt. Moreover, as the Iranian arsenal grows over time, Israel's ability to pull off a successful first strike – and thus its incentive to launch one in a crisis – will decline even further.

Meanwhile, Iran also faces fewer incentives to use nuclear weapons pre-emptively during a crisis than is commonly assumed. Because the factors that would discourage Israeli pre-emption – Iranian dispersal, concealment and mobility – reduce the vulnerability of Iran's arsenal to an Israeli first strike, they simultaneously lower Tehran's incentives to go first.¹⁵⁶ Even if the Iranian regime feels that its initially small nuclear weapons stockpile is vulnerable, the arsenal will not be large or accurate enough to carry out a successful counterforce strike against Israeli nuclear targets. In addition, the Iranians would most likely lack sufficient intelligence regarding critical Israeli targets, including those associated with its command-and-control network, to risk going first in a nuclear war. Because it cannot carry out effective counterforce strikes, Iran would likely have no choice but to adopt a "countervalue" approach aimed at Israeli cities. However, because using nuclear forces to strike an adversary's cities before losing one's own weapons does nothing to prevent or limit the damage from the other side's retaliatory capabilities, there would be little incentive to pre-empt in a crisis.¹⁵⁷ Indeed, leaders in Tehran would likely realize

that even moving the country's limited arsenal out of hiding and taking steps to make Iranian missiles launch-ready might actually make at least some of its weapons systems more vulnerable to an Israeli attack, providing disincentives against taking these provocative steps. Lastly, for Iran, nuclear pre-emption would only make sense if being struck first by Israel is much worse than the Israeli retaliation that would ensue if Iran chose to go first.¹⁵⁸ In this context, absorbing the damage from a successful Israeli counterforce strike against Iranian military targets would likely be "less destructive, more easily recovered from, and therefore preferable" to all-out Israeli retaliation to an Iranian first strike.¹⁵⁹

It is impossible to know what Iran's future nuclear doctrine might be,¹⁶⁰ but its current military doctrine suggests that the Islamic Republic is more likely to adopt a reactive "ride-it-out-and-retaliate" approach than one emphasizing the first use of nuclear weapons. Iran's military doctrine seeks to deter attack by threatening to unleash a mix of proxy and terrorist violence, ballistic missile strikes and various anti-access/area-denial capabilities (e.g., small attack naval craft, mini-submarines, mines, anti-ship cruise missiles, etc.) aimed at holding adversaries' high-value targets, such as civilian areas and economic chokepoints, at risk. When and if deterrence fails, Iranian doctrine calls for absorbing the first blow and then retaliating in a way that raises the costs for opponents through attrition and exhausting their forces.¹⁶¹ Moreover, the Islamic Republic has no history of pre-emption in the conventional arena, and – with the exception of the regime's disastrous decision to eschew a ceasefire and instead launch an ill-fated 1982 offensive into Iraq¹⁶² – Iran has no real history of offensive conventional action at all. Iran's unconventional forces and proxies have committed terrorist acts overseas, but Iran's overall military tendency is reactive and retaliatory. In this context, a July 1998 statement by Iranian

Although there may be incentives for both sides to adopt hair-trigger nuclear postures, there also are several compelling incentives cutting in the opposite direction.

Defense Minister Ali Shamkhani following the first test launch of the Shahab-3 missile is telling: "We have prepared ourselves to absorb the first strike so that it inflicts the least damage on us. We have, however, prepared a second strike which can decisively avenge the first one, while preventing a third strike against us."¹⁶³ Thus, if historical patterns hold, a nuclear-armed Iran is likely to favor a classic deterrence approach rather than embrace a pre-emptive doctrine.

Accidental Armageddon?

While the risk of a deliberate pre-emptive attack during a nuclear crisis is probably low, the possibility of inadvertent escalation is a greater concern. Reciprocal fears of a decapitating first strike, coupled with extraordinarily short flight times for incoming nuclear missiles, could lead Israel and Iran to adopt "launch-on-warning" or other rapid-reaction procedures for their nuclear arsenals. With both sides' weapons on a hair trigger, it is possible that an error could lead to catastrophic escalation. During a future Israeli-Iranian crisis, the lack of direct lines of communication and decades of distrust and hostility could lead each side to assume the worst. This may incline leaders on both sides to interpret uncertain or conflicting intelligence in the most threatening light. The possibility of technical problems associated with early-warning systems could pose additional challenges. Consequently, deep into a crisis, with

nuclear forces at a high state of alert, false warnings of an impending attack by one side could lead to an accidental nuclear war.¹⁶⁴

The precise risk of inadvertent escalation in a hypothetical Israeli-Iranian nuclear crisis depends heavily on the nature of Israeli and Iranian nuclear postures, including their deployment patterns and command-and-control arrangements.¹⁶⁵ Because we know nothing definitive about Israel's posture, and Iran has yet to develop one, the best we can do is speculate about the risks given the posited nature of each side's arsenal and interests.

Although there may be incentives for both sides to adopt hair-trigger nuclear postures, there are also several compelling incentives cutting in the opposite direction. An Israeli fear that Iran was capable of a successful first strike would ostensibly be the major factor encouraging the adoption of launch-on-warning or other rapid-reaction procedures. Yet for quite some time, Iran's nuclear arsenal and targetable intelligence would likely be insufficient to destroy Israel's nuclear forces or command-and-control systems. When combined with Israel's robust retaliatory capabilities and Israeli and U.S. ballistic missile defense systems, this could conceivably give Israeli leaders sufficient confidence against the possibility of a disarming Iranian first strike, allowing them to avoid adopting a risky, accident-prone nuclear posture that could inadvertently trigger the very nuclear war they sought to avoid. Moreover, we would expect the same factors militating against Israeli pre-emption to make Israel less inclined to adopt a posture that could lead to pre-emption by mistake.

Tehran is even less likely than Israel to adopt a hair-trigger nuclear posture. If the regime believes that dispersal, concealment and mobility provide a degree of invulnerability for its nuclear arsenal, it too has no incentive to employ launch-on-warning or other rapid-reaction procedures in order to protect those forces. Furthermore, in

the absence of Iranian counterforce capabilities to seriously degrade Israeli nuclear forces and thus limit potential retaliatory damage, it would be difficult to rationalize a rapid-reaction posture that would risk inadvertent nuclear war while providing few rewards. Last but not least, for the foreseeable future, Iran's lack of adequate early-warning systems (e.g., long-range radars, reliable reconnaissance satellites, etc.) would make launch-on-warning technically infeasible because there would be no capability to detect an incoming attack.¹⁶⁶

The greater danger of inadvertent war is the risk of Iranian predelegation of launch authority to subordinate commanders, leading to an accidental or unauthorized launch during a crisis. The degree of risk will be determined largely by the nature of Iran's eventual command-and-control procedures, and it is impossible to know for sure what those will be. As we noted above, the supreme leader is likely to maintain sole decision authority over nuclear use in noncrisis situations, but the physical custody of the weapons may reside with an elite unit within the IRGC. Nevertheless, if the supreme leader fears that Israel might have the capability to decapitate Iran's command-and-control system during a war, he will face incentives to delegate launch authority to lower-echelon IRGC commanders during a crisis. Most likely, this would not mean total abdication of centralized launch authority, but it would instead produce a narrow set of circumstances in which that authority would pass to subordinates. Delegation, in turn, would create fewer physical constraints against accidental or unauthorized use.¹⁶⁷

The risk of rogue use would probably remain relatively low for the reasons discussed above, but predelegation would raise the possibility of an accidental launch stemming from a disruption of communications, which local commanders might misperceive as the result of an Israeli attack. Moreover, if Iran relies heavily on mobile missiles

for its nuclear arsenal, this could create additional challenges to maintaining connections with central leadership during a crisis.¹⁶⁸

At the same time, the relatively small number of communications nodes required for Iran's initial arsenal could theoretically make redundant communications somewhat easier to establish, reducing the prospect that direct contact with central authorities would be disrupted or garbled by intermediaries.¹⁶⁹ Furthermore, so long as Iran does not adopt a pre-emptive nuclear doctrine, we would expect the political leadership to maintain some procedures for central confirmation before launch. Accidental launches would still be conceivable in situations where actual communications were severed. However, a ride-it-out-and-retaliate doctrine would lessen time pressures for lower-echelon IRGC commanders to immediately respond, providing some time to ensure that communications with central leadership had actually been cut off by an Israeli attack and lowering the odds of an accidental launch.¹⁷⁰

Different Trajectories, Different Risks

Finally, because the danger of crisis escalation depends in part on the precise nature of Iran's nuclear arsenal, these risks are likely to change over time. As Iran's arsenal grows in size and sophistication, confidence in the survivability of its weapons (and its command-and-control systems) is likely to increase, reducing the temptation for crisis pre-emption on both sides of the Israeli-Iranian rivalry. Once the superpowers had reached rough nuclear parity in the Cold War, for example, the number of direct crises, and the associated risks of escalation, declined.¹⁷¹ In South Asia, it also appears that the India-Pakistan nuclear rivalry has stabilized somewhat in recent years.¹⁷² Nevertheless, even as the risk of crisis instability might be expected to decline, the risk of accidental or unauthorized use might actually go up as Iran's arsenal becomes larger and more organizationally complex.¹⁷³

The degree of Iranian opacity will also affect the associated risks. If Iran follows Israel's policy of nuclear ambiguity, its inability to openly discuss red lines and to debate and declare its nuclear doctrine could complicate certain elements of deterrence. However, that inability would also make Iran less likely to brandish nuclear threats and thus less likely to become entrapped in crisis escalation to nuclear war. On balance, the added uncertainty about the precise nature of Iran's arsenal and command-and-control arrangements could actually help bolster deterrence by enhancing the perceived survivability of its retaliatory capabilities.¹⁷⁴ If Iran declared its arsenal, Israel would probably follow suit. If not, reciprocal opacity could make the nuclear rivalry somewhat less intense.¹⁷⁵

VII. POLICY RECOMMENDATIONS

Tehran's nuclear ambitions threaten to further destabilize an already volatile region. While a nuclear-armed Iran would be unlikely to deliberately use or transfer nuclear weapons, it would probably become more aggressive in supporting militancy and terrorism in the Levant and elsewhere. Such actions would threaten Israel's security and exacerbate an already dangerous Israeli-Iranian rivalry, raising the small but potentially devastating risk of nuclear escalation.

As policymakers seek to head off those challenges, we offer four recommendations.

1. Preventing a Nuclear-Armed Iran Should Remain the Priority

Some of the worst-case fears associated with Iran's nuclear ambitions are unlikely to materialize, but a nuclear-armed Iran would nevertheless pose a significant challenge to Israel's security and increase the prospects for regional conflict. Therefore, preventing Iran from developing nuclear weapons, rather than adopting a policy of nuclear deterrence and containment, should remain the priority.

If preventive efforts fail, the United States could potentially work alongside Israel and other regional states to manage and mitigate many of the risks associated with a nuclear-armed Iran.¹⁷⁶ In seeking options for deterring and containing a nuclear-armed Iran, the United States could:

- Adjust its nuclear declaratory policy to communicate clear red lines to Iran regarding nuclear use or transfer that, if crossed, would trigger massive retaliation;
- Provide extended deterrence guarantees and additional security assistance, and adjust the posture of forward-deployed forces to dissuade Iranian aggression and reassure anxious allies;
- Bolster the early-warning systems and integrated air and ballistic missile defenses of the United

States and its regional partners, as well as their capabilities to detect and defend against terrorist attacks;

- Enhance diplomatic, intelligence, military and economic efforts to disrupt covert operations by Iran and activities by its proxies;
- Help to establish mechanisms for direct dialogue, crisis communications and arms control among Israel, Iran and the United States; and
- Encourage Israel and Iran to adopt mutual "no first use" pledges and technical safety measures to reduce the risk of accidental escalation.¹⁷⁷

A viable deterrence and containment strategy is conceivable in theory, but it would be a very complex undertaking in practice. Containing Iranian-backed terrorism and militancy is already difficult and would likely become more so if Iran acquired nuclear weapons. In addition, during the initial period after Iran developed nuclear weapons, its growing assertiveness would likely collide with acute Israeli anxieties and a mutual sense of vulnerability, making the stability of any deterrence and containment arrangement very fragile. The potential cost of failure would also be very high. Thus, adopting a policy of nuclear deterrence and containment is not preferable and should only be considered as a fallback position if all other preventive efforts fail.

Current U.S. policy reflects the emphasis on prevention over containment. The Obama administration's "dual track" policy of sanctions and diplomacy aims to prevent Iran from developing nuclear weapons. President Obama has consistently said an Iranian nuclear weapon is "unacceptable" and underscored that all options – including military force – remain on the table to prevent Iran from developing nuclear weapons. Recently, he has underscored the unacceptability of Iran developing nuclear weapons by making clear that the administration does not endorse a policy of nuclear containment.¹⁷⁸ Secretary of Defense Leon

Panetta has described Iranian development of nuclear weapons as a “red line,” and Chairman of the Joint Chiefs of Staff General Martin Dempsey has stated that the U.S. military has a viable plan in the event of a contingency with Iran.¹⁷⁹ The administration has also positioned some 40,000 troops in the Persian Gulf, accompanied by strike aircraft, two aircraft carrier strike groups, two Aegis ballistic missile ships and multiple Patriot antimissile systems.¹⁸⁰ At the same time, Obama has repeatedly stated that he prefers a peaceful solution and that there remains a window of opportunity to use unprecedented pressure, exerted through stringent multilateral and unilateral sanctions on Iran, to reach a lasting diplomatic settlement.¹⁸¹

Achieving a diplomatic settlement remains the most attractive policy because, short of invading and occupying Iran to dismantle its nuclear program, the only sustainable preventive solution is one in which the Iranians choose, or are compelled, to step back from the nuclear brink.

Achieving a diplomatic settlement remains the most attractive policy because, short of invading and occupying Iran to dismantle its nuclear program, the only sustainable preventive solution is one in which the Iranians choose, or are compelled, to step back from the nuclear

brink.¹⁸² From 2006 to 2008, the Bush administration helped orchestrate a series of U.N. Security Council resolutions aimed at using multilateral economic sanctions to pressure Tehran to live up to its international obligations under the NPT.¹⁸³ The Obama administration then leveraged Iran’s refusal to respond positively to the administration’s 2009 engagement efforts to forge international consensus to implement even tougher pressure measures. Unprecedented financial and energy sanctions – the latter of which are only beginning to kick in – appear to be affecting Iranian calculations, as evidenced by the regime’s increasing willingness to negotiate over its nuclear program.¹⁸⁴ After more than a year without talks, serious negotiations between the P5+1 (the permanent members of the U.N. Security Council plus Germany) and Iran have finally resumed. In the wake of recent meetings in Istanbul and Baghdad, it remains uncertain whether the P5+1 and Iran will make meaningful progress in the months ahead.¹⁸⁵ Nevertheless, there is still time on the clock and a process is in place to build toward a possible diplomatic agreement.

Reaching a final diplomatic settlement that provides assurances against Iranian weaponization efforts and sufficient transparency to verify those assurances, while allowing Iran to pursue the peaceful use of nuclear energy, will be difficult to achieve. However, the Iranians have left the rhetorical door open for such a final settlement. The Iranian regime appears committed to a nuclear hedging strategy, but the costs – including both economic costs and the threat of military action – may be reaching the point where the leadership will be forced to compromise. Khamenei’s repeated insistence that Iran’s program is solely for peaceful civilian purposes, as well as his statements that the acquisition or use of nuclear weapons would be a grave sin against Islam, may or may not reflect the supreme leader’s true beliefs. Nevertheless, they provide a public justification that could potentially

allow the regime to resolve the current crisis without losing face, so long as any final agreement included sufficient benefits for Iran – such as a lessening of sanctions, assurances that the regime would not be changed by force and expanded international cooperation – and so long as Iran’s rights under the NPT were respected.¹⁸⁶

2. The United States and Israel Should Avoid Taking Steps That Limit Diplomatic Options

Diplomacy should aim to roll back Iran’s nuclear progress and to minimize the risks that Iran could “break out” of any future agreement and rapidly develop nuclear weapons. The further away Iran gets from the nuclear threshold, the better. Policymakers should acknowledge, however, that not all scenarios involving a nuclear Iran carry the same risks. Although far from optimal, Iran’s current near-threshold status is preferable to a threshold capability, which in turn is far preferable to a fully weaponized nuclear arsenal.¹⁸⁷ Consequently, in diplomatically pursuing the most desirable outcome, nuclear rollback, policymakers in Washington, Jerusalem and elsewhere need to avoid taking steps that inadvertently increase the prospects of less desirable outcomes.

Many members of Congress, as well as Israeli leaders, insist that Iran must be prevented from attaining a nuclear weapons capability¹⁸⁸ – an undefined technological status that, according to U.S. intelligence officials, Iran may already have achieved.¹⁸⁹ By drawing the diplomatic red line at “capability,” proponents (intentionally or unintentionally) narrow the prospects for a peaceful solution. For years, Israeli leaders identified the “point of no return” for Tehran’s nuclear weapons capability as the mastery of centrifuge technology – a Rubicon that the Iranians crossed long ago.¹⁹⁰ Now, to preclude or roll back Iran’s capability, some Israeli officials, members of Congress and outside experts insist that the Obama administration reject any deal with Iran that would permit future domestic enrichment, however limited and

regardless of the associated safeguards.¹⁹¹ This position is at odds with statements last year by Secretary of State Hillary Rodham Clinton, recent comments by other Obama administration officials and the implied position of the P5+1 in their previous negotiations with Iran, which leave the door open for a deal that would eventually permit some amount of domestic enrichment (capped at the 5 percent level required to fuel civilian light-water reactors).¹⁹²

Insisting that Iran end all domestic Iranian enrichment is understandable given Iran’s past behavior, and the permanent end to enrichment activities would make a final settlement easier to verify. But it would also reduce almost to zero the chances of a final agreement acceptable to Iranian leaders. The Iranian regime has banked its domestic legitimacy on asserting Iran’s inalienable nuclear “rights” in the face of international pressure.¹⁹³ As such, insisting on an optimal deal would likely result in no deal, making either a nuclear-armed Iran or a military confrontation with that country more likely. The most important goal should be to prevent Iran from developing actual nuclear weapons, not to stop it from obtaining a vague “capability” that could include many activities technically permitted under the NPT. If Iran verifiably ends its weaponization work, operates strictly and transparently within the confines of the NPT and agrees to sufficient technical safeguards and intrusive inspections to detect and deter cheating, those actions should be viewed as sufficient to address the greatest dangers emanating from Iran’s program, even if some limited domestic enrichment is permitted.¹⁹⁴

3. Using Force Should Be a Last Resort

If diplomacy fails, military force should remain an option, given the threat posed by a nuclear-armed Iran. However, because of the likely costs and uncertain benefits associated with this option, policymakers should consider employing it only as a last resort and only under very stringent conditions.

An Israeli or U.S. military strike on Iran could destabilize the Middle East profoundly. In its aftermath, Iran would likely retaliate, using ballistic missile strikes and proxy and terrorist attacks against Israeli and U.S. targets, potentially causing substantial casualties and further destabilizing a region already roiling because of the Arab Spring. Retaliatory attacks by Hezbollah or Palestinian groups against Israel could lead to a wider war in the Levant. Attacks by Iranian-backed Shiite militants against U.S. diplomats in Iraq or a surge in lethal assistance to insurgents fighting NATO troops in Afghanistan could also escalate the U.S.-Iranian conflict further. And despite efforts to dissuade Iran from threatening oil shipping, miscalculation in the crowded waters of the Persian Gulf and the Strait of Hormuz could produce a major confrontation with the U.S. Navy. A widening conflict in the Gulf could in turn send oil prices skyrocketing. Even in the absence of such escalation, a preventive Israeli or U.S. strike could rattle markets and push oil prices higher at a fragile time for the global economy.¹⁹⁵

While the potential costs of attacking Iran are fairly clear, the potential benefits are uncertain. Iran's nuclear program is advanced, dispersed, redundant and hardened. A military strike could damage key facilities, but it would not reverse Iran's accumulated nuclear knowledge or its ability to eventually build new centrifuges. An attack might therefore only delay the program for a short period. Moreover, it would risk rallying Iranian opinion around weaponization. Domestically, Iranians overwhelmingly support the country's right to maintain a civilian nuclear program, but they are deeply divided about whether the country should convert that capability into nuclear weapons.¹⁹⁶ In the aftermath of a strike, however, hard-line voices inside and outside the regime would have a powerful argument in favor of acquiring a nuclear deterrent to prevent future attacks. Iran would likely kick out IAEA inspectors

and move rapidly to reconstitute its nuclear program. And, in the absence of inspectors on the ground, Iran's rebuilding efforts would be more difficult to detect.

Therefore, although the option of using force to prevent Iran from acquiring nuclear weapons should remain on the table, the high risks and costs associated with military action mean it should be considered only if:

- All nonmilitary options have been exhausted;
- Iran has made a clear move toward weaponization;¹⁹⁷
- There is a reasonable expectation that a strike would significantly set back Iran's nuclear program; and
- A sufficiently large international coalition is available to help manage the destabilizing consequences of the strike and to work collectively in the aftermath to contain Iran and hinder it from rebuilding its nuclear program.¹⁹⁸

4. Israel Should Not Attack Iran

Given the widely held Israeli view that Tehran's nuclear ambitions represent an existential threat, Israeli leaders may decide to launch a preventive strike to degrade the program.¹⁹⁹ Yet the ratio of risks to rewards argues powerfully against an Israeli attack. The strike itself could unleash a wider Middle East war while only delaying the program one to three years and potentially making the Iranian nuclear threat to Israel worse.

A near-term Israeli attack on Iran's nuclear program would not meet any of the criteria listed above. Because nonmilitary options have not been exhausted, and Iran is at least a year (and probably further) away from obtaining a bomb, an Israeli strike on Iran would not satisfy the first two criteria. Barak frequently warns that Iran's program might soon be so hardened and redundant that it will enter a "zone of immunity" from

Israeli attack, creating a now-or-never impetus to strike.²⁰⁰ However, despite its formidable military capabilities, Israel probably already lacks the capability to significantly set back the Iranian program (the third criterion).²⁰¹ Indeed, senior U.S. defense officials have repeatedly stated that an Israeli attack would only delay Iran's nuclear program by one to three years – with the lower end of that range seeming more probable.²⁰² For example, on February 17, 2012, General Dempsey told CNN that an Israeli attack would set Iran's program back “a couple of years” and “wouldn't achieve their long-term objectives” of preventing a nuclear-armed Iran.²⁰³ Echoing this view, Israeli President Shimon Peres recently said: “Some people say it [an Israeli strike] will make Iran powerless for two to three years. That's not good enough.”²⁰⁴ (In contrast, because the United States possesses much larger bunker-busting munitions and the ability to prosecute a sustained campaign instead of a one-time strike, U.S. military action would potentially be considerably more effective.)²⁰⁵

Moreover, an Israeli strike would likely prompt the Iranian regime to rapidly rebuild its nuclear program, just as Hussein redoubled his efforts after Israel's 1981 preventive strike on Iraq's Osirak nuclear reactor (see text box on next page). Indeed, in the aftermath of an Israeli strike, Iran would have incentives to reconstitute its program in the very facilities that Barak and other Israeli leaders worry are invulnerable from attack, and probably in new clandestine facilities as well. For that reason, a growing number of former Israeli intelligence officials have criticized the prospect of an Israeli preventive strike, partly on the grounds that it might actually accelerate Iran's nuclear activities.²⁰⁶

Barak has acknowledged that an Israeli military strike “would be complicated with certain associated risks.” However, he has argued, “a radical Islamic Republic of Iran with nuclear weapons would be far more dangerous both for the region

and, indeed, the world.”²⁰⁷ Given the Israeli perception of the Iranian nuclear threat, even a minor delay in Iran's program might seem like an improvement over the status quo. However, there are reasons to believe that an Israeli strike would actually make the Iranian nuclear threat worse. Following such a strike, Iran would face incentives to rebuild its program in a manner that would be, on balance, more dangerous for Israeli security and regional stability. It currently remains conceivable that the Iranian regime will settle for a threshold nuclear capability instead of a fully weaponized arsenal. After an attack, however, any prospect of Iran's stopping short of a fully weaponized arsenal would probably vanish. By the time the dust had settled from a strike, the internal debate in Iran would favor those urging Iran to pursue an unambiguous nuclear deterrent. Furthermore, having experienced an actual bolt-from-the-blue attack, Iran would probably be more inclined to build a larger arsenal to avoid a future disarming first strike and would face greater incentives to pre-delegate launch authority as a protection against decapitation, thereby increasing the future risks of inadvertent nuclear escalation.²⁰⁸

Unless there is some prospect of maintaining sufficient international agreement in the aftermath of an attack to thwart Tehran's rebuilding efforts (the fourth criterion), and ultimately compel the regime to abandon its nuclear weapons ambitions altogether, an Israeli strike would, at best, have limited effects and, at worst, increase the threat.²⁰⁹ Yet it is hard to imagine that a unilateral Israeli strike would contribute to greater international cooperation – indeed, it would likely have the opposite effect. For the foreseeable future, Israel is not capable of marshaling an international mandate or a sizable coalition in support of a strike. On the contrary, a unilateral Israeli strike would probably be widely portrayed as a violation of international law, allowing Iran to play the victim and shattering the international consensus

The New Lessons of Osirak

Israel's bombing of the Iraqi nuclear reactor at Osirak in 1981 is often cited as a justification for a preventive Israeli strike on Iran's nuclear program. New evidence, however, suggests that the strike did not delay significantly Iraqi president Saddam Hussein's nuclear ambitions and may even have accelerated certain aspects of his country's nuclear program. It is vital, therefore, to understand the true lessons of Osirak as they pertain to a possible strike on Iran's nuclear program.

On June 7, 1981, eight Israeli F-16 fighter-bombers, protected by six F-15 escorts, destroyed the nearly complete nuclear reactor at the French-supplied Osirak complex in Tuwaitha, Iraq. Supporters of the attack within the Israeli government saw the reactor as central to Hussein's plans to build nuclear weapons. Israeli Prime Minister Menachem Begin viewed the threat as existential, arguing that Hussein was a fanatical ruler who persistently denied Israel's right to exist and would not hesitate to drop nuclear bombs on the Jewish state.²¹⁰ The timing of the strike was justified on the grounds that intelligence suggested Osirak would soon receive its first shipment of fuel and begin operations.²¹¹ Two days after the strike, in a historic press conference, Begin said, "We chose this moment: now, not later, because later may be too late, perhaps forever. And if we stood by idly, two, three years, at the most four years, and Hussein would have produced his

three, four, five bombs ... Another Holocaust would have happened in the history of the Jewish people."²¹²

Barely a week after the strike, Begin told CBS News that "this attack will be a precedent for every future government in Israel."²¹³ In the years since, Israeli leaders have regularly invoked the "Begin doctrine" and pointed to the Osirak example as a model for other preventive strikes. For example, in a September 2002 op-ed in *The New York Times* calling for the Bush administration to invade Iraq, Israel's then-Prime Minister (now Defense Minister), Ehud Barak, wrote: "We in Israel have already been through this. ... [The 1981 Osirak raid] delayed an Iraqi bomb by at least 15 years. The whole world condemned Israel – only to realize later how farsighted it had been."²¹⁴ More recently, in a speech to the Herzliya security forum in Israel on February 2, 2012, Barak directly channeled Begin's Osirak rationale in making the case for potential military action against Iran, saying "those who say 'later' may find that later is too late."²¹⁵ Additionally, in the wake of reports suggesting that Israeli President Shimon Peres opposed a possible strike on Iran, Barak sought to discredit Peres by pointing to his similar opposition to the 1981 attack.²¹⁶

Yet recent academic research, based on new information and the memoirs of individuals involved in Iraq's nuclear program, which were made available only in the past

decade, casts significant doubt on the standard portrayal of Osirak.

First, by the late 1970s, Hussein (initially as vice president and then as president) thought that Iraq should develop a nuclear weapons capability at some point, but he apparently had not yet made the final decision to launch a full-fledged nuclear weapons program prior to the Israeli strike. According to Norwegian scholar Målfrid Braut-Hegghammer, a leading authority on the Iraqi program, "on the eve of the attack on Osirak, Iraq was in the process of establishing a technological base that could facilitate developing the building blocks for a nuclear weapons program ... [but] Iraq's pursuit of a nuclear weapons capability was both directionless and disorganized."²¹⁷

Second, as Emory University's Dan Reiter detailed in a 2005 study, the Osirak reactor was actually not well designed to efficiently produce weapons-grade plutonium.²¹⁸ Indeed, technical analyses since the Israeli raid suggest that, if Hussein had decided to use Osirak to develop nuclear weapons and had successfully evaded detection, it would have taken several years – perhaps well into the 1990s – to produce enough plutonium for a single bomb.²¹⁹ Even with sufficient fissile material, Iraq would have had to design and construct the weapon itself, a process that had not even started when Israel attacked.²²⁰

Third, the French technicians who were constantly present at Osirak

and the IAEA inspectors who made bimonthly visits likely would have detected any diversion of highly enriched uranium fuel, attempts to produce fissionable plutonium or other structural changes to the facility for weapons-related use. Detection in turn would probably have triggered a cutoff of Iraq's supply of nuclear fuel. Contrary to Israeli assessments at the time, the near-term risk of an Iraqi nuclear "break-out" was actually quite low.²²¹

Fourth, by demonstrating Iraq's vulnerability, the attack increased Hussein's determination to develop a nuclear deterrent and, as Braut-Heggheimer persuasively documents, provided Iraq's nuclear scientists with an opportunity to better organize the program.²²² Even if one believes that Hussein was motivated to pursue nuclear weapons before the attack, it is clear that he devoted significantly more resources to that effort in the aftermath of the Israeli assault. A month after the strike, he declared that it would be "an additional strong stimulus to develop this course ... with even greater resources and with more effective protection."²²³ As Reiter noted, "after the attack, the Iraqi nuclear program increased from a program of 400 scientists and \$400 million to one of 7,000 scientists and \$10 billion."²²⁴

Israel's strike changed the nature of the program but did not halt it, and in some ways the Israeli action worsened overall proliferation risks. Iraq was not in a position to replace

Ultimately, it took the devastation of the 1991 Gulf War, followed by more than a decade of Washington-led postwar containment – including sanctions, intrusive inspections, no-fly zones and periodic bombing, not to mention the 2003 U.S. invasion – to fully eliminate Iraq's nuclear program.

its reactor because it depended on a foreign supplier to provide components. So instead, Hussein allowed the IAEA to verify Osirak's destruction and then shifted from a plutonium strategy to a much more dispersed and ambitious covert uranium-enrichment strategy. This approach relied on undeclared sites away from the prying eyes of inspectors and capitalized on the widespread misperception within the international community that the Osirak strike had resolved Iraq's nuclear challenge. Hussein's strategy also aimed to develop indigenous technology and expertise to reduce the reliance on foreign suppliers – an approach that Iran has pursued as well. The post-Osirak reconstitution process was slow and at times clumsy, but

Iraq's challenges were more a by-product of lingering organizational problems than anything related to Israel's preventive strike. Furthermore, when inspectors were finally given access to the program after the 1991 Gulf War, as part of the U.N.-imposed disarmament regime, they were shocked by the extent of Iraq's nuclear infrastructure and by how close Hussein had gotten to a bomb.²²⁵

At the very least, the Osirak strike did not end Iraq's drive to develop nuclear weapons. Ultimately, it took the devastation of the 1991 Gulf War, followed by more than a decade of Washington-led postwar containment – including sanctions, intrusive inspections, no-fly zones and periodic bombing, not to mention the 2003 U.S. invasion – to fully eliminate Iraq's nuclear program. In a sense, the international community got lucky in its adversary. Had Hussein not invaded Kuwait in 1990, Iraq probably would have developed nuclear weapons sometime in the early- to mid-1990s – in other words, around the same time that it might have developed them in the absence of an Israeli strike.

needed to support sanctions, diplomatic isolation, potential re-strikes on nuclear facilities and other enforcement measures designed to block Iran's reconstitution efforts.

An Israeli strike would thus risk producing the worst possible outcome for Israel's security: an implacable and vengeful Iranian foe, locked into a nuclear rivalry with the Jewish state and determined to produce the type of arsenal that would most threaten Israel and the wider region. To make matters worse, an Israeli strike would destabilize the region and create a requirement for post-war containment at the same time it reduced the likelihood of marshaling the sort of international cooperation required to mitigate these dangers and keep Iran isolated. Thus, while many Israelis believe "nothing could be worse than a future with a nuclear-armed Iran," RAND Corporation scholar Dalia Dassa Kaye astutely notes that "a future with a nuclear-armed Iran that has been attacked by Israel could actually be a lot worse."²²⁶

For those reasons, even though the option of using military force should remain on the table, Israel should not employ this option.²²⁷ Only the United States, having exhausted all other options and acting in the face of compelling evidence that Iran was determined to acquire a bomb, would have any hope of simultaneously producing a meaningful military delay in Iran's program and holding together the type of coalition required to prevent Iran from reemerging more dangerous than ever. Discouraging an Israeli attack while remaining open to the possible future use of U.S. force is therefore the right approach.

VIII. CONCLUSION

Policymakers should work aggressively to prevent Iran from developing nuclear weapons. The threat posed by a nuclear-armed Iran is neither imminent nor as dire as some observers suggest, but a nuclear-armed Iran would nevertheless threaten Israel's security and increase the prospects for regional confrontation. Even if the deliberate use or transfer of a nuclear device by Iran is unlikely, Iran's emergence as a nuclear power could create a much more dangerous rivalry with Israel than exists today. In addition, a more crisis-prone Israeli-Iranian relationship would carry an inherent risk of inadvertent nuclear escalation.

Yet as policymakers confront the threat of a nuclear-armed Iran, they should avoid taking steps that make a diplomatic solution more difficult to achieve. Force should remain an option, but military action should only be a last resort, if all nonmilitary alternatives have been exhausted and Iran has made a clear move toward weaponization. Even then, force should be used only if it can significantly impair Iran's nuclear program and if the international community is sufficiently united to manage the consequences and aftermath of a military attack. Only the United States, acting under the right circumstances and with a large coalition, would be able to employ the use of force and manage the associated risks effectively.

A nuclear-armed Iran is an outcome that the United States and Israel should work together to avoid. However, they should do so in ways that will make them more secure, not less.

ENDNOTES

1. Additional research will focus on the effect of Iran's nuclear program on the nonproliferation regime and security in the Persian Gulf region.
2. See "Full Text of Netanyahu Speech to AIPAC, 2012," *The Algemeiner*, March 5, 2012, <http://www.algemeiner.com/2012/03/05/full-text-of-netanyahu-speech-to-aipac-2012/>.
3. For a discussion of these potential dangers, see Ehsaneh I. Sadr, "The Impact of Iran's Nuclearization on Israel," *Middle East Policy*, 12 no. 2 (Summer 2005), 58-72; Avner Cohen, "Israel Ponders a Nuclear Iran," *Bulletin of the Atomic Scientists*, August 17, 2010, <http://thebulletin.org/web-edition/features/israel-ponders-nuclear-iran/>; Dalia Dassa Kaye, Alireza Nader and Parisa Roshan, *Israel and Iran: A Dangerous Rivalry* (Santa Monica, CA: RAND Corporation, 2011); Shai Feldman, Shlomo Brom and Shomon Stein, "What to Do About Nuclearizing Iran? The Israeli Debate," Middle East Brief No. 59 (Crown Center for Middle East Studies, Brandeis University, February 2012); and Dmitry Adamsky, "Why Israel Should Learn to Stop Worrying and Love the Bomb," *ForeignAffairs.com*, March 31, 2012, <http://www.foreignaffairs.com/articles/137374/dmitry-adamsky/why-israel-should-learn-to-stop-worrying-and-love-the-bomb>.
4. These consequences will be discussed at length in a series of follow-on reports to be published by the Center for a New American Security.
5. John Carlson, "Iran Nuclear Issue – Considerations for a Negotiated Outcome" (Institute for Science and International Security, November 4, 2011). For a general discussion of nuclear hedging, see Ariel E. Levite, "Never Say Never Again: Nuclear Reversal Revisited," *International Security*, 27 no. 3 (Winter 2002/2003), 59-88.
6. LTG Ronald L. Burgess, Jr., "Iran's Military Power: Statement before the Committee on Armed Services, United States Senate," April 14, 2010, 2; Lynn E. Davis, Jeffrey Martini, Alireza Nader, Dalia Dassa Kaye, James T. Quinlivan and Paul Steinberg, *Iran's Nuclear Futures: Critical U.S. Policy Choices* (Santa Monica, CA: RAND Corporation, 2011), 7-10; Michael Eisenstadt, "The Strategic Culture of the Islamic Republic of Iran: Operational and Policy Implications," Middle East Studies Monographs No. 1 (Marine Corps University, August 2011), 3-6; Ray Takeyh, *Guardians of the Revolution: Iran and the World in the Age of the Ayatollahs* (New York: Oxford University Press, 2009); Ray Takeyh, "Why Iran Remains Defiant on the Nuclear Bomb," *The Washington Post*, December 9, 2011, http://www.washingtonpost.com/opinions/why-iran-remains-defiant-on-the-nuclear-bomb/2011/12/08/gIQAQQ2agO_story.html; Ray Takeyh, "Why Iran Thinks it Needs the Bomb," *The Washington Post*, February 17, 2012, http://www.washingtonpost.com/opinions/why-iran-thinks-it-needs-the-bomb/2012/02/16/gIQAauVHKR_story.html; and David E. Thaler, Alireza Nader, Shahram Chubin, Jerrold D. Green, Charlotte Lynch and Frederic Wehrey, *Mullahs, Guards, and Bonyads: An Exploration of Iranian Leadership Dynamics* (Santa Monica, CA: RAND Corporation, 2010), 13-19.
7. David Albright, Andrea Stricker and Christina Walrond, "ISIS Analysis of IAEA Iran Safeguards Report" (Institute for Science and International Security, May 25, 2012); and David Albright, Paul Brannan, Andrea Stricker, Christina Walrond and Houston Wood, "Preventing Iran from Getting Nuclear Weapons: Constraining Its Future Nuclear Options" (Institute for Science and International Security, March 5, 2012), 10-17. On the potential for additional 19.75 percent enrichment to substantially reduce the dash time to WGU, see also Olli Heinonen, "The 20 Percent Solution," *ForeignPolicy.com*, January 11, 2012, http://www.foreignpolicy.com/articles/2012/01/11/the_20_percent_solution.
8. Albright et al., "Preventing Iran from Getting Nuclear Weapons," 10; and Tabassum Zakaria and Mark Hosenball, "Special Report: Intel Shows Iran Nuclear Threat Not Imminent," *Reuters*, March 23, 2012, http://www.reuters.com/article/2012/03/23/us-iran-usa-nuclear-idUSBRE82M0G020120323?feedType=RSS&feedName=Iran&virtualBrandChannel=10209&utm_source=dlvr.it&utm_medium=twitter&dlvr.it=59365.
9. For unclassified portions of the NIE, see Office of the Director of National Intelligence, *Iran: Nuclear Intentions and Capabilities* (November 2007), http://www.dni.gov/press_releases/20071203_release.pdf.
10. James Risen, "U.S. Faces a Tricky Task in Assessment of Data on Iran," *The New York Times*, March 17, 2012, http://www.nytimes.com/2012/03/18/world/middleeast/iran-intelligence-crisis-showed-difficulty-of-assessing-nuclear-data.html?_r=2&hp=&pagewanted=all; and Zakaria and Hosenball, "Special Report: Intel Shows Iran Nuclear Threat Not Imminent."
11. Office of the IAEA Director General, "Implementation of the NPT Safeguards Agreement and Relevant Provisions of Security Council Resolutions in the Islamic Republic of Iran" (November 8, 2011), 8.
12. According to a 2009 internal IAEA document released by the Institute for Science and International Security, "Iran has sufficient information to be able to design and produce a workable implosion nuclear device based upon [highly enriched uranium] as the fission fuel." Albright et al., "Preventing Iran from Getting Nuclear Weapons," 8.
13. Office of the IAEA Director General, "Implementation of the NPT Safeguards Agreement and Relevant Provisions of Security Council Resolutions in the Islamic Republic of Iran," 7-8 and Annex; and Zakaria and Hosenball, "Special Report: Intel Shows Iran Nuclear Threat Not Imminent."
14. Israel's arsenal is more sophisticated, but smaller and less diverse. See Michael Elleman, "Iran's Ballistic Missile Program," in *The Iran Primer*, ed. Robin Wright (Washington: United States Institute of Peace, 2010), <http://iranprimer.usip.org/resource/irans-ballistic-missile-program>.
15. Institute for Science and International Security, "Excerpts from Internal IAEA Document on Alleged Iranian Nuclear Weaponization" (October 2, 2009), http://isis-online.org/uploads/isis-reports/documents/IAEA_info_30October2009.pdf; and Albright et al., "Preventing Iran from Getting Nuclear Weapons," 10.
16. David E. Sanger, "Officials Say Iran Could Make Bomb Fuel in a Year," *The New York Times*, April 14, 2010, <http://www.nytimes.com/2010/04/15/world/middleeast/15nuke.html>; and Zakaria and Hosenball, "Special Report: Intel Shows Iran Nuclear Threat Not Imminent." For the Israeli intelligence view, see Yossi Melman, "Outgoing Mossad Chief: Iran Won't Have Nuclear Capability Before 2015," *Haaretz*, July 1, 2011, <http://www.haaretz.com/print-edition/>

news/outgoing-mossad-chief-iran-won-t-have-nuclear-capability-before-2015-1.335656; and "Yadlin: Iran Has Not Yet Decided to Build Nuclear Bomb," *Jerusalem Post*, November 29, 2011, <http://www.jpost.com/Headlines/Article.aspx?id=247415&R=R101>.

17. For discussions of Iran's ballistic missile capabilities, see Elleman, "Iran's Ballistic Missile Program"; Burgess, "Iran's Military Power," 12-14; Mark Fitzpatrick, ed., "Iran's Ballistic Missile Capabilities: A Net Assessment" (International Institute for Strategic Studies, May 10, 2010); and Office of the Director of National Intelligence, *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, Covering 1 January to 31 December 2011* (2011), 3-4.

18. Director of National Intelligence James Clapper told the Senate Arms Services Committee on February 16 that Iranian leaders are "keeping themselves in a position to make that decision, but there are certain things they have not yet done and have not done for some time." Ken Dilanian, "U.S. Does Not Believe Iran Is Trying to Build Nuclear Bomb," *Los Angeles Times*, February 23, 2012, <http://www.latimes.com/news/nationworld/world/la-fg-iran-intel-20120224,0,1164870,full.story>. See also Zakaria and Hosenball, "Special Report: Intel Shows Iran Nuclear Threat Not Imminent"; and Joby Warrick and Greg Miller, "U.S. Intelligence Gains in Iran Seen to Boost Confidence," *The Washington Post*, April 7, 2012, http://www.washingtonpost.com/world/national-security/us-sees-intelligence-surge-as-boost-to-confidence/2012/04/07/gIQA1Ch2S_story.html. From a historical perspective, this is not surprising; leaders typically have not made formal commitments to acquire nuclear weapons until the last moment, after related technical, resource and political issues have been resolved. Levite, "Never Say Never Again," 67.

19. Amos Harel, "IDF Chief to Haaretz: I Do Not Believe Iran Will Decide to Develop Nuclear Weapons," *Haaretz*, April 25, 2012, http://www.haaretz.com/news/diplomacy-defense/idf-chief-to-haaretz-i-do-not-believe-iran-will-decide-to-develop-nuclear-weapons-1.426389?cid=nlc-dailybrief-daily_news_brief-link16-20120425.

20. Zakaria and Hosenball, "Special Report: Intel Shows Iran Nuclear Threat Not Imminent."

21. If the assessment is incorrect and Iran already has a parallel clandestine program, it would potentially accelerate the timeline. However, it would also mean a possible military strike against Iran's *known* facilities would do little to set back the program.

22. Albright et al., "Preventing Iran From Getting Nuclear Weapons," 10-12; and Warrick and Miller, "U.S. Intelligence Gains in Iran Seen to Boost Confidence." For an excellent analysis of the difficulties Iran will likely face in developing a full-fledged nuclear weapons program, see Jacques E.C. Hymans, "Botching the Bomb," *Foreign Affairs*, 91 no. 3 (May/June 2012), 44-53.

23. Levite, "Never Say Never Again," 66, note 17. See also Joseph F. Pilat, "Virtual Nuclear Weapons" (United States Institute of Peace/United States Los Alamos National Laboratory, 1997). Israeli Defense Minister Ehud Barak recently defined an Iranian threshold capability as the ability to assemble a nuclear bomb in 60 days; see Dan Williams, "Iran Could Seek Short Build Time for Bomb: Israel," *Reuters*, May 4, 2012, <http://www.reuters.com/article/2012/05/04/us-israel-iran-idUSBRE8430KK20120504>.

24. For a discussion of possible scenarios, see Albright et al., "Preventing Iran from Getting Nuclear Weapons," 18-26.

25. The logic has never been fully explained, but it most likely rests with the purported prohibition in Shiite jurisprudence against using weapons that produce indiscriminate violence (although it should be noted that this interpretation is contested). For a thorough discussion, see Mehdi Khalaji, "Shiite Jurisprudence, Political Expediency, and Nuclear Weapons," in Michael Eisenstadt and Mehdi Khaleji, "Nuclear Fatwa: Religion and Politics in Iran's Proliferation Strategy," Policy Focus No. 115 (Washington Institute for Near East Policy, September 2011), 13-14. Most recently, Khamenei declared in February 2012 that "holding these arms is a sin as well as useless, harmful and dangerous." See "Nuclear Weapons Are a Sin, Says Iran's Ayatollah Ali Khamenei," *The National* [Abu Dhabi], February 23, 2012, <http://www.thenational.ae/news/world/middle-east/nuclear-weapons-are-a-sin-says-irans-ayatollah-ali-khamenei>.

26. See, for example, the recent op-ed by Iran's Foreign Minister Ali Akbar Salehi, "Iran: We Do Not Want Nuclear Weapons," *The Washington Post*, April 12, 2012, http://www.washingtonpost.com/opinions/iran-we-do-not-want-nuclear-weapons/2012/04/12/gIQAjMnDt_story.html?tid=wp_ipad.

27. For example, Iran's first Supreme Leader, Ayatollah Ruhollah Khamenei, was willing to reverse his position on the absolute moral prohibition against developing chemical weapons in response to Saddam Hussein's use of chemical weapons during the Iran-Iraq war. See Greg Thielmann, "The Breakout Option: Raising the Bar for the Supreme Leader," *Iran Nuclear Brief* (Arms Control Association, April 5, 2012), 5-7.

28. Frederick Dahl, "Analysis: Libya Conflict May Strengthen Iran Nuclear Defiance," *Reuters*, March 24, 2011, <http://www.reuters.com/article/2011/03/24/us-iran-libya-nuclear-idUSTRE72N4WH20110324>; and Howard LaFranchi, "Libya Fallout: Why Iran, North Korea Now Less Likely to Drop Nuclear Ambitions," *The Christian Science Monitor*, April 1, 2011, <http://www.csmonitor.com/USA/Foreign-Policy/2011/0401/Libya-fallout-Why-Iran-North-Korea-now-less-likely-to-drop-nuclear-ambitions>.

29. International Institute for Strategic Studies, "North Korea's Weapons Programme: A Net Assessment" (IISS, 2004), 48.

30. Avner Cohen and Benjamin Frankel, "Opaque Nuclear Proliferation," *Journal of Strategic Studies*, 13 no. 3 (September 1990), 14-44. Opacity is similar to, but not identical with, "ambiguity." Ambiguity suggests uncertainty as to the existence of a fully weaponized program. In other words, ambiguity occupies the undetectable space between a "threshold" capability and a fully weaponized but opaque arsenal.

31. Richard N. Haass, "A Conversation with Benjamin Netanyahu" (Council on Foreign Relations, July 8, 2010), <http://www.cfr.org/israel/conversation-benjamin-netanyahu/p22616>.

32. Bernard Lewis, "At War: Does Iran Have Something in Store?" *The Wall Street Journal*, August 22, 2006. See also Norman Podhoretz, "The Case for Bombing Iran," *Commentary*, June 2007, <http://www.commentarymagazine.com/article/the-case-for-bombing-iran/>; Mehdi Khalaji, "Apocalyptic Politics: On the Rationality of Iranian Policy," Policy Focus No. 79 (Washington Institute for Near East Policy, January 2008); Shmuel Bar, "Can Cold War

Deterrence Apply to a Nuclear Iran?" Strategic Perspectives No. 7 (Jerusalem Center for Public Affairs, 2011), 5-7; Thérèse Delpech, *Nuclear Deterrence in the 21st Century: Lessons from the Cold War for a New Era of Strategic Piracy* (Santa Monica, CA: RAND Corporation, 2012), 98-99; John Bolton, "On Iran, Sanctions are Not the Answer," *USA Today*, January 17, 2012, <http://www.usatoday.com/news/opinion/story/2012-01-17/John-Bolton-Iran-military-action/52623920/1>; and Peter Huessy, "Faulty Assumptions on Iran," *The Washington Times*, April 20, 2012, http://www.washingtontimes.com/news/2012/apr/20/faulty-assumptions-on-iran/?utm_source=RSS_Feed&utm_medium=RSS. More generally, the "relativist" school within the nuclear proliferation literature has long highlighted the difficulty of deterring "crazy" leaders and rogue states. See Peter R. Lavoy, "The Strategic Consequences of Nuclear Proliferation," *Security Studies*, 4 no. 4 (Summer 1995), 711-716.

33. For a thorough discussion of Israeli elite views of the Iranian nuclear threat, see Kaye, Nader and Roshan, *Israel and Iran*, chap. 3. Israelis tend to discuss the "existential" threat posed by Iran's nuclear ambitions in two different ways. Beyond the concern that Iran would use nuclear weapons or give them to terrorists in order to "wipe Israel off the map" in a literal sense, a second concern is that the shadow of an Iranian bomb would destroy the perception of Israel as a safe haven for the Jewish people. Although we discuss the existential challenge posed by the possible Iranian use of nuclear weapons against Israel, the second conceptualization is beyond the scope of this report.

34. Gabe Kahn, "Netanyahu Takes Tough Line Ahead of Iran Talks," *Israel National News*, May 21, 2012, <http://www.israelnationalnews.com/News/News.aspx/156062#.T7t6F44WX04>.

35. Mary Jordan and Karl Vick, "World Leaders Condemn Iranian's Call to Wipe Israel 'Off the Map,'" *The Washington Post*, October 28, 2005, <http://www.washingtonpost.com/wp-dyn/content/article/2005/10/27/AR2005102702221.html>.

36. Robert Mackey, "Israel Minister Agrees Ahmadinejad Never Said Israel 'Must be Wiped Off the Map,'" The Lede blog on NYTimes.com, April 17, 2012, <http://thelede.blogs.nytimes.com/2012/04/17/israeli-minister-agrees-ahmadinejad-never-said-israel-must-be-wiped-off-the-map/#>.

37. Lally Weymouth, "A Conversation with Mahmoud Ahmadinejad," *The Washington Post*, September 24, 2006, http://www.washingtonpost.com/wp-dyn/content/article/2006/09/22/AR2006092201306_pf.html.

38. For example, Maj. Gen Hassan Firouzabadi, the Chief of Staff of the Iranian Armed Forces, recently stated: "The Iranian nation is standing for its cause that is the full annihilation of Israel." "Top Commander Reiterates Iran's Commitments to Full Annihilation of Israel," *Fars News Agency* [Tehran], May 20, 2012, <http://english.farsnews.com/newstext.php?nn=9102112759>. See also Reuven Pedatzur, "The Iranian Threat and Israeli Options," *Contemporary Security Policy*, 28 no. 3 (December 2007), 516; and GlobalSecurity.org, "Nuclear Weapons – Iranian Statements," <http://www.globalsecurity.org/wmd/world/iran/nuke2.htm>.

39. Kenneth R. Timmerman, "The Day after Iran Gets the Bomb," in *Getting Ready for a Nuclear-Ready Iran*, eds. Henry Sokolski and Patrick Clawson (Carlisle, PA: Strategic Studies Institute, October 2005), 124.

40. Akbar Hashemi Rafsanjani, "Qods Day Speech," December 14, 2001 (Translated by BBC Worldwide Monitoring), <http://www.globalsecurity.org/wmd/library/news/iran/2001/011214-text.html>.

41. Specifically, Rafsanjani observed, "In a sermon during a Friday Prayer [at the University of Tehran in 1999] I advised the occupying regime of Israel that having nuclear weapons is not even in Israel's interest. If there is ever a nuclear confrontation – Israel is a small country, it will not be able to take even one bomb. It is a small country and can be destroyed easily, although they interpreted my advice as a threat. We deeply believe that nuclear weapons must not exist, and this has been part of our policy." Muhammad Sahimi, "Rafsanjani: I Wanted to Reestablish Ties with US, But 'Could Not,'" *PBS Media Watch*, April 6, 2012, <http://www.pbs.org/wgbh/pages/frontline/tehranbureau/2012/04/media-watch-rafsanjani-i-wanted-to-reestablish-ties-with-us-but-could-not.html>.

42. For the logic underwriting Cold War nuclear deterrence, see Bernard Brodie, ed., *The Absolute Weapon* (New York: Harcourt, 1946); Bernard Brodie, *Strategy in the Missile Age* (Princeton, NJ: Princeton University Press, 1959); Herman Kahn, *On Thermonuclear War* (Princeton, NJ: Princeton University Press, 1960); Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1960); Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966); Glenn H. Snyder, *Deterrence and Defense* (Princeton, NJ: Princeton University Press, 1961); and Arnold Wohlstetter, "The Delicate Balance of Terror," *Foreign Affairs*, 37 no. 2 (January 1959), 211-234.

43. Eisenstadt, "The Strategic Culture of the Islamic Republic of Iran," 2. See also Michael Eisenstadt, "Religious Ideologies, Political Doctrines, and Nuclear Decision-Making," in Eisenstadt and Khaleji, "Nuclear Fatwa: Religion and Politics in Iran's Proliferation Strategy," 1-12.

44. Karim Sadjapour, "The Supreme Leader," in *The Iran Primer*, ed. Robin Wright (Washington: United States Institute of Peace, 2010), <http://iranprimer.usip.org/resource/supreme-leader>; Davis et al., *Iran's Nuclear Futures*, 10-11; and Kaye, Nader and Roshan, *Israel and Iran*, 76.

45. Laura Rozen, "The Regime in Iran is a Very Rational One' Former Israeli Intelligence Chief Tells CBS," *Yahoo News*, March 8, 2012, <http://news.yahoo.com/blogs/envoy/iran-very-rational-one-former-israeli-intelligence-231418280.html>. IDF Chief of Staff Gantz and GEN Martin Dempsey, the Chairman of the U.S. Joint Chiefs of Staff, have recently expressed a similar view. See Harel, "IDF Chief to Haaretz: I Do Not Believe Iran Will Decide to Develop Nuclear Weapons"; and Katarzyna Klimasinska and Danielle Ivory, "Israeli Attack on Iran Would Be Destabilizing, Dempsey Says," *Bloomberg Businessweek*, February 22, 2012, <http://www.businessweek.com/news/2012-02-22/israeli-attack-on-iran-would-be-destabilizing-dempsey-says.html>.

46. Eisenstadt, "The Strategic Culture of the Islamic Republic of Iran," 2.

47. Takeyh, *Guardians of the Revolution*; and James M. Lindsay and Ray Takeyh, "After Iran Gets the Bomb," *Foreign Affairs*, 89 no. 2 (March/April 2010), 35-36.

48. Bruce Riedel, "Iran-U.S.: After the Iranian Bomb" (Center for Strategic Studies, Institute for National Strategic Studies, National Defense University, September 20, 2011), 2-3; and Cheryl M. Graham, "To Deter or Not to Deter:

Applying Historical Lessons to the Iranian Nuclear Challenge," *Strategic Studies Quarterly*, 5 no. 3 (Fall 2011), 57-58.

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51. Eisenstadt, "The Strategic Culture of the Islamic Republic of Iran," 8-9.

52. Riedel, "Iran-U.S.: After the Iranian Bomb," 2.

53. Ibid.

54. Kevin Baron, "In Baghdad, Panetta Warns Iran Against Arming Iraqi Militias," *Stars and Stripes*, July 10, 2011, <http://www.stripes.com/news/in-baghdad-panetta-warns-iran-against-arming-iraqi-militias-1.148809>; Phil Stewart and David Alexander, "U.S. General Warns Iran on Iraq Militia Attacks," Reuters, July 26, 2011, <http://uk.reuters.com/article/2011/07/26/uk-usa-iran-dempsey-idUKTRE76P5VM20110726>; and Jennifer Griffin, "After Deadly Attacks in Iraq, Iran Lays Low While U.S. Plans Withdrawal," FoxNews.com, October 3, 2011, <http://www.foxnews.com/world/2011/10/03/after-deadly-attacks-in-iraq-iran-lays-low-while-us-plans-withdrawal/>.

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Threat Initiative, November 2011), <http://www.nti.org/country-profiles/israel/delivery-systems>; and Dan Williams, "Israel Test-Fires Missile as Iran Debate Rages," Reuters, November 2, 2011, <http://www.reuters.com/article/2011/11/02/us-israel-missile-idUSTRE7A11BR20111102>.

58. Abdullah Toukan, "Study on a Possible Israeli Strike on Iran's Nuclear Facilities" (Center for Strategic and International Studies, March 14, 2009), http://csis.org/files/media/csis/pubs/090316_israelstrikeiran.pdf.

59. "Israel Gets 4th Nuke-Capable German Submarine," Associated Press, May 3, 2012, <http://abcnews.go.com/Business/wireStory/israel-4th-nuke-capable-german-submarine-16272092#.T6mlyo4WXO4>. The Popeye Turbo cruise missiles have a reported range of 1,500 km and could potentially carry a 200-kg nuclear warhead. "Popeye Turbo," WMD Around the World, June 20, 2000, <http://www.fas.org/nuke/guide/israel/missile/popeye-t.htm>.

60. Barry R. Posen, "A Nuclear-Armed Iran: A Difficult but Not Impossible Policy Problem" (Century Foundation, 2006), 15; and Graham, "To Deter or Not to Deter," 56.

61. Louis René Beres, "Correspondence: Israel and the Bomb," *International Security*, 29 no. 1 (Summer 2004), 176-177; Louis René Beres, "Israel's Uncertain Strategic Future," *Parameters*, 37 (Spring 2007), 39-40; and Adamsky, "Why Israel Should Learn to Stop Worrying and Love the Bomb."

62. Yair Evron, "An Israel-Iran Balance of Nuclear Deterrence: Seeds of Instability," in *Israel and a Nuclear Iran: Implications for Arms Control, Deterrence, and Defense*, ed. Ephram Kam (Tel Aviv: Institute for National Security Studies, July 2008), 52.

63. Ibid., 52; and Graham, "To Deter or Not to Deter," 56.

64. This addresses a standard problem with extended nuclear deterrence: the difficulty of credibly putting one's own homeland at risk of nuclear attack to defend an ally's territory.

65. Graham, "To Deter or Not to Deter," 55-56; and Sadr, "The Impact of Iran's Nuclearization on Israel," 65.

66. Rafsanjani, "Qods Day Speech."

67. Kaye, Nader and Roshan, *Israel and Iran*, 76.

68. Dan Williams, "Barak Says Nuke-Armed Iran Couldn't Destroy Israel," Reuters, September 17, 2009, <http://www.reuters.com/article/2009/09/17/us-israel-iran-sb-idUSTRE58G6PW20090917>; and "Report: Barak Says Iran is Not Existential Threat to Israel," *Haaretz*, September 17, 2009, <http://www.haaretz.com/news/report-barak-says-iran-is-not-existential-threat-to-israel-1.7710>. Israel's current head of Mossad has apparently staked out a similar position. Barak Ravid, "Mossad Chief: Nuclear Iran Not Necessarily Existential Threat to Israel," *Haaretz*, December 29, 2011, <http://www.haaretz.com/print-edition/news/mossad-chief-nuclear-iran-not-necessarily-existential-threat-to-israel-1.404227>. Nevertheless, in a recent interview, Barak said that Iran might regard trying to destroy Israel with nuclear weapons as worth the risk of catastrophic retaliation, arguing that Iran might calculate that, "after the exchange of strikes, Islam would remain and Israel would no longer be what it was." See Williams, "Iran Could Seek Short Build Time for Bomb: Israel."

69. Command-and-control issues during a crisis are discussed below.

70. For the logic, see Robert J. Art, "A Defensible Defense: America's Grand Strategy After the Cold War," *International Security*, 15 no. 4 (Spring 1991), 27; and Peter D. Feaver, *Guarding the Guardians: Civilian Control of Nuclear Weapons in the United States* (Ithaca, NY: Cornell University Press, 1992), 71-73.

71. Frederick W. Kagan, "Deterrence Misapplied: Challenges in Containing a Nuclear Iran" (Council on Foreign Relations, May 2010), 1; and Kaye, Nader and Roshon, *Israel and Iran*, 75.

72. Scott D. Sagan, "More Will Be Worse," in Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (New York: W.W. Norton & Co., 2003), 59-63.

73. Thaler et al., *Mullahs, Guards, and Bonyads*, 120-122.

74. Bar, "Can Cold War Deterrence Apply to a Nuclear Iran?" 6.

75. Prominent examples of risk-taking behavior include the 2007 seizure by the IRGC-Navy of 15 British sailors patrolling a waterway between Iran and Iraq and the alleged 2011 IRGC-Qods plot to kill the Saudi ambassador to the United States in a crowded restaurant in Washington. For a general discussion, see Michael Rubin, "Iran's Revolutionary Guards – A Rogue Outfit?" *Middle East Quarterly*, XV no. 4 (Fall 2008), 37-48.

76. Ibid.

77. Sadr, "The Impact of Iran's Nuclearization on Israel," 65; and Jordan Seng, "Less Is More: Command and Control Advantages of Minor Nuclear States," *Security Studies*, 6 no. 4 (Summer 1997), 73-74.

78. Alireza Nader, "The Revolutionary Guards," in *The Iran Primer*, ed. Robin Wright (Washington: United States Institute of Peace, 2010), <http://iranprimer.usip.org/resource/revolutionary-guards>; and Kaye, Nader and Roshon, *Israel and Iran*, 75-76.

79. Riedel, "Iran-U.S.: After the Iranian Bomb," 3.

80. Kagan, "Deterrence Misapplied," 5.

81. Bar, "Can Cold War Deterrence Apply to a Nuclear Iran?" 5.

82. Kagan, "Deterrence Misapplied," 3-5.

83. Karl Vick, "In Iran, Even Some on Right Warning Against Extremes," *The Washington Post*, March 27, 2006, http://www.washingtonpost.com/wp-dyn/content/article/2006/03/26/AR2006032600755_pf.html; and Eisenstadt, "Religious Ideologies, Political Doctrines, and Nuclear Decision-Making," 6-7.

84. Saeed Kamali Dehghan, "Ahmadinejad Allies Charged with Sorcery," *The Guardian*, May 5, 2011, <http://www.guardian.co.uk/world/2011/may/05/ahmadinejad-allies-charged-with-sorcery>; "The Iranian Power Struggle and its Implications for the Nuclear Crisis," Institute for Science and International Security, Nuclear Iran website, June 2, 2011, <http://www.isisnucleariran.org/brief/detail/the-iranian-power-struggle-and-its-implications-for-the-nuclear-crisis/>; Neil MacFarquhar, "A Divine Wind Blows Against Iran's President," *The New York Times*, June 22, 2011, <http://www.nytimes.com/2011/06/23/world/middleeast/23iran.html?pagewanted=all>;

[nytimes.com/2011/06/23/world/middleeast/23iran.html?pagewanted=all](http://www.nytimes.com/2011/06/23/world/middleeast/23iran.html?pagewanted=all); Alireza Nader, "Ahmadinejad vs. the Republican Guards," *Al Arabiya News*, July 25, 2011, <http://english.alarabiya.net/articles/2011/07/12/157226.html>; and "A Generational Divide in Iranian Leadership," *Stimson Center Spotlight*, August 11, 2011, <http://www.stimson.org/spotlight/the-generational-divide-in-iran-leadership/>.

85. This scenario was mentioned by a number of participants during a Center for a New American Working Group on Israeli-Iranian nuclear rivalry, April 5, 2012.

86. Abbas Milani, "The Green Movement," in *The Iran Primer*, ed. Robin Wright (Washington: United States Institute of Peace, 2010), <http://iranprimer.usip.org/resource/green-movement>.

87. Pedatzur, "The Iranian Nuclear Threat and the Israeli Options," 535; and Kenneth Waltz, "The Spread of Nuclear Weapons: More May Better," *Adelphi Papers* No. 171 (London: International Institute for Strategic Studies, 1981), 20.

88. Greg Miller, "Iran, Perceiving Threat from West, Willing to Attack on U.S. Soil, U.S. Intelligence Report Finds," *The Washington Post*, January 31, 2012, http://www.washingtonpost.com/world/national-security/iran-is-prepared-to-launch-terrorist-attacks-in-us-intelligence-report-finds/2012/01/30/gIQCwGweQ_story.html.

89. "Full Text of Netanyahu Speech to AIPAC 2012"; "CBC Television Interview with Secretary Panetta," U.S. Department of Defense News Transcripts, April 2, 2012, <http://www.defense.gov/transcripts/transcript.aspx?transcriptid=5006>.

90. Graham, "To Deter or Not to Deter," 59. Nuclear forensics remains imperfect, but it is possible to complement these efforts with traditional law enforcement techniques to increase the prospects for attribution. Moreover, new technological developments are expected to continue improving effectiveness. See International Atomic Energy Agency, *Nuclear Forensics Support* (Vienna: IAEA, 2006), http://www-pub.iaea.org/MTCD/publications/PDF/Pub1241_web.pdf; Joint Working Group of the American Physical Society and the American Association for the Advancement of Science, "Nuclear Forensics: Role, State of the Art, and Program Needs" (February 16, 2008), <http://cstsp.aaas.org/content.html?contentid=1546>; and Debra K. Decker, "Before the First Bomb Goes Off: Developing Nuclear Attribution Standards and Policies," Discussion Paper 2011-03 (Belfer Center for Science and International Affairs, Harvard Kennedy School, April 2011), http://belfercenter.ksg.harvard.edu/files/Decker_DP_2011_FINAL.pdf.

91. Sadr, "The Impact of Iran's Nuclearization on Israel," 66.

92. Office of the Director of National Intelligence, *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, Covering 1 January to 31 December 2011*, 4.

93. Lindsay and Takeyh, "After Iran Gets the Bomb," 37.

94. Frederic Wehrey, David E. Thaler, Nora Bensahel, Kim Cragin, Jerrold D. Green, Dalia Dassa Kaye, Nadia Oweidat and Jennifer Li, *Dangerous but Not Omnipotent: Exploring the Reach and Limitations of Iranian Power in the Middle East* (Santa Monica, CA: RAND Corporation, 2009), chap. 4.

95. Sadr, "The Impact of Iran's Nuclearization on Israel," 66; Matthew Bunn, "Nuclear Terrorism: A Strategy of Prevention," in *Going Nuclear: Nuclear Proliferation and International Security in the 21st Century*, eds. Michael E. Brown, Owen R. Coté Jr., Sean M. Lynn-Jones and Steven E. Miller (Cambridge, MA: MIT Press, 2010), 343; Graham, "To Deter or Not to Deter," 58; Posen, "A Nuclear-Armed Iran," 14-15; and Reidel, "Iran-U.S.: After the Iranian Bomb," 3.
96. See Glenn H. Snyder, *Deterrence and Defense: Toward a Theory of National Security* (Princeton, NJ: Princeton University Press, 1961), 184-201; and Glenn H. Snyder and Paul Diesing, *Conflict Among Nations: Bargaining, Decision Making, and System Structure in International Crises* (Princeton, NJ: Princeton University Press, 1977), 453-455. Across the universe of historical cases, recent statistical analyses show that nuclear status increases the likelihood of low-level militarized disputes between nuclear states, including threats and the limited use of force, even as it reduces the chances of large-scale war. See Robert Rauchhaus, "Evaluating the Nuclear Peace Hypothesis: A Quantitative Approach," *Journal of Conflict Resolution*, 53 no. 2 (April 2009), 258-277.
97. See John Lewis Gaddis, "The Long Peace," *International Security*, 10 no. 4 (Spring 1986), 99-142; and Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospects of Armageddon* (Ithaca, NY: Cornell University Press, 1989), 19-22 and 35-37.
98. See S. Paul Kapur, *Dangerous Deterrent: Nuclear Weapons Proliferation and Conflict in South Asia* (Stanford, CA: Stanford University Press, 2007); and Sumit Ganguly and S. Paul Kapur, *India, Pakistan, and the Bomb: Debating Nuclear Stability in South Asia* (New York: Columbia University Press, 2010).
99. Sadr, "The Impact of Iran's Nuclearization on Israel," 66-67; and Frank Procida, "Overblown," *ForeignAffairs.com*, June 9, 2009, <http://www.foreignaffairs.com/articles/65127/frank-procida/overblown>.
100. It may have limited territorial ambitions in the Gulf and elsewhere, however.
101. Takeyh, *Guardians of the Revolution*, chap. 3.
102. Paul Pillar, "We Can Live With a Nuclear Iran," *Washington Monthly*, March/April 2012, 13-16.
103. David Ochmanek and Lowell H. Schwartz, *The Challenge of Nuclear-Armed Regional Adversaries* (Santa Monica, CA: RAND Corporation, 2008), 26 and 35-36; and Gregory F. Giles, "Deterring a Nuclear-Armed Iran from Adventurism and Nuclear Use," in *Tailored Deterrence: Influencing States and Groups of Concern*, eds. Barry Schneider and Patrick Ellis (Maxwell Air Force Base, AL: U.S. Air Force Counterproliferation Center, May 2011), 27.
104. See Lyle J. Goldstein, "Do Nascent WMD Arsenals Deter? The Sino-Soviet Crisis of 1969," *Political Science Quarterly*, 118 no. 1 (2003), 53-80; and Ochmanek and Schwartz, *The Challenge of Nuclear-Armed Regional Adversaries*, 32-34.
105. Pillar, "We Can Live With a Nuclear Iran," 16.
106. See Kapur, *Dangerous Deterrent*; Ochmanek and Schwartz, *The Challenge of Nuclear-Armed Regional Adversaries*, 33, 35; Ganguly and Kapur, *India, Pakistan, and the Bomb*; and Vipin Narang, "Posturing for Peace? Pakistan's Nuclear Postures and South Asian Stability," *International Security*, 34 no. 3 (Winter 2009/2010), 60-64.
107. Hal Brands and David Palkki, "Saddam, Israel, and the Bomb," *International Security*, 36 no. 1 (Summer 2011), 133-166.
108. Erik Gartzke and Dong-Joon Jo, "Bargaining, Nuclear Proliferation, and Interstate Disputes," *Journal of Conflict Resolution*, 53 no. 2 (April 2009), 209-233.
109. James Fearon, "How Do States Act After They Get Nuclear Weapons," *The Monkey Cage* blog, January 29, 2012, <http://themonkeycage.org/blog/2012/01/29/how-do-states-act-after-they-get-nuclear-weapons/>.
110. Michael Horowitz, "The Spread of Nuclear Weapons and International Conflict: Does Experience Matter?" *Journal of Conflict Resolution*, 53 no. 2 (April 2009), 234-257.
111. Ochmanek and Schwartz, *The Challenge of Nuclear-Armed Regional Adversaries*, 32-37.
112. Horowitz, "The Spread of Nuclear Weapons and International Conflict."
113. Eisenstadt, "Religious Ideologies, Political Doctrines, and Iran's Nuclear Decisionmaking," 4-6.
114. David Schapiro and Katherine Zimmerman, "Estimates for Hezbollah's Arsenal" (American Enterprise Institute Iran Tracker, June 29, 2010), <http://www.irantracker.org/military-activities/estimates-hezbollahs-arsenal>.
115. According to several senior commanders of the Israeli Defense Forces and officials of the Ministry of Defense, Iran has restrained its proxies from using "strategic" weapons out of concern for Israeli retaliation (Interviews with authors, Tel Aviv, April 29-30, 2012). During the 2006 Lebanon war, for example, Hezbollah did not launch any Zelzal rockets at Tel Aviv despite the group's warnings that it would do so in retaliation for strikes against Beirut. At least part of this restraint was likely a result of successful Israeli strikes against Hezbollah's Zelzal arsenal, but Iran may also have interceded to discourage their use. See Benjamin S. Lambeth, *Air Operations in Israel's War Against Hezbollah: Learning from Lebanon and Getting it Right in Gaza* (Santa Monica, CA: RAND Corporation, 2011), 105-106.
116. According to press reports, the Israelis believe that the IRGC has deepened its direct involvement in Lebanon since the 2006 war. See Anshel Pfeffer, "Hezbollah Cannot Prevent Rocket Fire from Other Groups," *Haaretz*, September 18, 2009, <http://www.haaretz.com/print-edition/news/hezbollah-cannot-prevent-rocket-fire-from-other-groups-1.7663>; Anshel Pfeffer, "Top IDF Officer: Iran Has Taken Over Hezbollah," *Haaretz*, September 17, 2009, <http://www.haaretz.com/news/top-idf-officer-iran-has-taken-over-hezbollah-1.7700>; and Jacques Neriah, "Iran Steps Up Arming Hizbullah Against Israel" (Jerusalem Center for Public Affairs, January 10, 2011), <http://jcpa.org/article/iran-steps-up-arming-hizbullah-against-israel/>.
117. Twice since February 2011, the Iranian Navy has passed through the Suez Canal and entered the Mediterranean. "Iran Claims Its Navy Enters Mediterranean as Tensions with Israel Grow," *The Telegraph*, February 18, 2012, <http://www.telegraph.co.uk/news/worldnews/middleeast/iran/9090465/>

iran-claims-its-navy-enters-Mediterranean-as-tensions-with-Israel-grow.html.

118. Ganguly and Kapur, *India, Pakistan, and the Bomb*, 92-93.

119. Lindsay and Takeyh, "After Iran Gets the Bomb," 37.

120. Ash Jain, "Nuclear Weapons and Iran's Global Ambitions: Troubling Scenarios," Policy Focus #114 (Washington Institute for Near East Policy, August 2011), 15-17.

121. Kaye, Nader and Roshan, *Israel and Iran*, 27. In facing more constraints to conventional military action imposed by a potential nuclear-armed Iran, Israel may also increasingly be forced to rely on unconventional activities to subvert Iranian capabilities.

122. Quoted in Ronen Bergman, "Will Israel Attack Iran?" *The New York Times*, January 25, 2012, <http://www.nytimes.com/2012/01/29/magazine/will-israel-attack-iran.html?pagewanted=all>.

123. Quoted in "Nuclear Iran Could Deter Wars in Gaza, Lebanon," *Jerusalem Post*, January 17, 2012, <http://www.jpost.com/IranianThreat/News/Article.asp?id=253998>.

124. Ibid. See also Amos Yadlin, "Israel's Last Chance to Strike Iran," *The New York Times*, February 29, 2012, <http://www.nytimes.com/2012/03/01/opinion/israels-last-chance-to-strike-iran.html>.

125. This is not only the case in the Levant. In Iraq, too, Iran's proxies show a degree of independence rooted in their own calculations of interest. Wehrey et al., *Dangerous but Not Omnipotent*, 104-123.

126. Iran has been a financier of Hamas' activities, but it does not exert direct control over Hamas (Ibid., 123-126). Moreover, Iran's funding to Hamas has decreased over the past three years, and Hamas' leadership has indicated that it will not come to the defense of Iran if the latter is attacked by Israel. See Bernard Gwertzman's interview with Karim Sadjapour, "Iran Supports Hamas but Hamas Is No Iranian Puppet" (Council on Foreign Relations, January 8, 2009), <http://www.cfr.org/israel/iran-supports-hamas-but-hamas-no-iranian-puppet/p18159>; Karin Brulliard, "Hamas Ties to Syria and Iran in Flux as Region Shifts," *The Washington Post*, March 7, 2012, http://www.washingtonpost.com/world/middle_east/hamas-ties-to-iran-in-flux-as-region-shifts/2012/03/06/gIQAhMvOxR_story.html; and "Hamas: We'll Stay Out of Any Israel-Iran War," *CBS News*, March 7, 2012, http://www.cbsnews.com/8301-202_162-57392433/hamas-well-stay-out-of-any-israel-iran-war/.

127. See Wehrey et al., *Dangerous but Not Omnipotent*, 86-103; David Schenker, "To Retaliate or Not: Hizballah's Calculus Following a Strike on Iran," PolicyWatch No. 1907 (Washington Institute for Near East Studies, March 14, 2012), <http://www.washingtoninstitute.org/templateC05.php?CID=3458>; and Andrew Exum, "Abu Muqawama: Like U.S., Hezbollah Caught in the Middle of Israel-Iran Conflict," *World Politics Review*, March 28, 2012, <http://www.worldpoliticsreview.com/articles/11782/abu-muqawama-like-u-s-hezbollah-caught-in-the-middle-of-israel-iran-conflict>.

128. See Mona Yacoubian, "Hezbollah After Assad," *ForeignAffairs.com*, December 1, 2011, <http://www.foreignaffairs.com/articles/136709/>

mona-yacoubian/hezbollah-after-assad; and Ehud Eiran, "What Happens After Israel Attacks Iran," *ForeignAffairs.com*, February 23, 2012, <http://www.foreignaffairs.com/articles/137300/ehud-eiran/what-happens-after-israel-attacks-iran>.

129. Lindsay and Takeyh, "After Iran Gets the Bomb," 37.

130. Feldman, Brom and Stein, "What to Do About Nuclearizing Iran?" 3.

131. If anything, the challenge to the credibility of Iran's extended deterrent would be greater because the survival of Iran's proxies is far less central to its vital interests than was the case with U.S. allies in Western Europe. As we discuss below, Iran's interests at stake in the Levant are inherently limited, and historically, when Iran has faced a choice between backing its allies in peripheral struggles or backing down, it has often chosen the latter.

132. Thomas Schelling famously observed that the irrationality of launching a nuclear war did not mean that it would never happen: Nuclear war could still emerge from a process of crisis escalation. During any crisis involving two nuclear states, each may want to avoid a major conflagration, but they also want to avoid the political defeat that results from backing down. These desires obviously push in opposite directions, and the tension between the two can drive escalation. As this process unfolds, "it is the essence of a crisis that the participants are not fully in control of events." See Thomas C. Schelling, *Arms and Influence*, chap. 3 (quote from 97).

133. Evron, "An Israel-Iran Balance of Nuclear Deterrence: Seeds of Instability."

134. On the general dynamics associated with crisis instability, see Thomas C. Schelling, *The Strategy of Conflict*, chap. 9; Schelling, *Arms and Influence*, chap. 6; and Jervis, *The Meaning of the Nuclear Revolution*, chap. 5.

135. Lindsay and Takeyh, "After Iran Gets the Bomb," 39; Eric S. Edelman, Andrew F. Krepinevich and Evan Braden Montgomery, "The Dangers of a Nuclear Iran," *Foreign Affairs*, 90 no. 1 (January/February 2011), 68-69; Matthew Kroenig, "Time to Attack Iran," *Foreign Affairs*, 91 no. 1 (January/February 2012), 78; and Austin Long, "Proliferation and Strategic Stability in the Middle East," in *Strategic Stability: Contending Views*, eds. Elbridge Colby and Mike Gerson (Carlisle, PA: Strategic Studies Institute, forthcoming).

136. Jeffrey Goldberg, "How Iran Could Trigger Accidental Armageddon," *Bloomberg.com*, January 23, 2012, <http://www.bloomberg.com/news/2012-01-24/how-iran-may-trigger-accidental-armageddon-commentary-by-jeffrey-goldberg.html>; and Kagan, *Deterrence Misapplied*, 6.

137. Gaddis, "The Long Peace," 135-136.

138. Waltz, "The Spread of Nuclear Weapons," 5.

139. Patrick M. Morgan, *Deterrence Now* (Cambridge, U.K.: Cambridge University Press, 2003), 271-272.

140. Indeed, Schelling described coercive bargaining in nuclear crises as a "competition in risk taking, characterized not so much by tests of force as by tests of nerve." Schelling, *Arms and Influence*, 94.

141. Schelling describes this process as making “threats that leave something to chance.” Schelling, *The Strategy of Conflict*, 187. For a general discussion, see *Ibid.*, chap. 8.
142. As Robert Powell writes: “Brinkmanship is fundamentally a contest of resolve in which states bid up the risk of events spiraling out of control until one of the states finds this risk intolerably high and backs down.” Robert Powell, “Nuclear Deterrence Theory, Nuclear Proliferation, and National Missile Defense,” *International Security*, 27 no. 4 (Spring 2003), 91. See also Schelling, *Arms and Influence*, chap. 3.
143. Robert Jervis, “Why Nuclear Superiority Doesn’t Matter,” *Political Science Quarterly*, 94 no. 4 (Winter 1979–1980), 617–633; and Richard K. Betts, *Nuclear Blackmail and Nuclear Balance* (Washington: The Brookings Institution, 1987). According to this argument, the relative balance of nuclear forces is largely irrelevant because, short of a “splendid” first-strike capability (i.e., the ability to completely destroy the opponent’s forces without fear of retaliation), nuclear superiority does not remove an adversary’s second-strike capability to produce devastating consequences.
144. Matthew Kroenig, “Nuclear Superiority and the Balance of Resolve,” *International Organization*, forthcoming.
145. The state defending the status quo typically has the advantage in the balance of resolve. This is especially likely to hold true when one state is defending its homeland and the provocation is not plausibly linked to the opponent’s survival. See Jervis, “Why Nuclear Superiority Doesn’t Matter,” 632.
146. Eisenstadt, “The Strategic Culture of the Islamic Republic of Iran,” 2; and Marisa Cochrane, “The Battle for Basra,” Iraq Report 9 (Institute for the Study of War, June 2008), <http://www.understandingwar.org/report/battle-basra>.
147. Eisenstadt, “The Strategic Culture of the Islamic Republic of Iran,” 2.
148. “Iran Says U.S. Presence in Gulf ‘Not New Issue,’” *The Daily Star* [Beirut], January 21, 2012, <http://www.dailystar.com.lb/2012/Jan-21/160669-iran-says-us-presence-in-gulf-not-new-issue.ashx#axzz1k7FiqHD5>.
149. Giles, “Deterring a Nuclear-Armed Iran from Adventurism and Nuclear Use,” 16–17 and 24–26.
150. Thaler et al., *Mullahs, Guards, and Bonyads*, 38 and 46.
151. Indeed, the same statistical studies that find that nuclear weapons possession encourages adventurism and induces low-intensity conflicts also find that these disputes are less likely to escalate and become major wars than is the case with nonnuclear states. See Rauchhaus, “Evaluating the Nuclear Peace Hypothesis.”
152. See Evron, “An Israel-Iran Balance of Nuclear Deterrence,” 57–58; and Adamsky, “Why Israel Should Learn to Stop Worrying and Love the Bomb.”
153. Long, “Proliferation and Strategic Stability in the Middle East”; Ellman, “Iran’s Ballistic Missile Program.” For a general discussion of the ability of mobility and concealment to prevent counterforce strikes against emerging nuclear programs, see Seng, “Less Is More,” 50–92.
154. Bradley A. Thayer, “The Risk of Nuclear Inadvertence,” *Security Studies*, 3 no. 3 (Spring 1994), 473.
155. Lambeth, *Air Operations in Israel’s War Against Hezbollah*, 92–110.
156. Sadr, “The Impact of Iran’s Nuclearization on Israel,” 65.
157. David J. Karl, “Proliferation Pessimism and Emerging Nuclear Powers,” *International Security*, 21 no. 2 (Winter 1996/97), 104–107.
158. Jervis, “Why Nuclear Superiority Doesn’t Matter,” 625.
159. Sadr, “The Impact of Iran’s Nuclearization on Israel,” 65.
160. Delpech, *Nuclear Deterrence in the 21st Century*, 102.
161. See Burgess, “Iran’s Military Power,” 9; Michael Connell, “Iran’s Military Doctrine,” in *The Iran Primer*, ed. Robin Wright (Washington: United States Institute of Peace, 2010), <http://iranprimer.usip.org/resource/irans-military-doctrine>; Davis et al., *Iran’s Nuclear Futures*, 32–36; and Eisenstadt, “The Strategic Culture of the Islamic Republic of Iran,” 4–5.
162. Takeyh, *Guardians of the Revolution*, 92–95.
163. Quoted in Eisenstadt, “The Strategic Culture of the Islamic Republic of Iran,” 3. Shamkhani reiterated this retaliatory threat in 2002, using language that is familiar to students of classic deterrence: “If Israel carries out any military action against Iran, it will face a response that will be unimaginable to any Israeli politician.” Quoted in Daniel Sobelman, “Iran: ‘Unimaginable’ Retaliation if Israel Hits Nuclear Plant,” *Haaretz*, February 4, 2002. In February 2012, however, Mohammad Hejazi, the deputy head of Iran’s armed forces, warned: “If we feel our enemies want to endanger Iran’s national interests . . . we will act without waiting for their actions.” Quoted in Saeed Kamail Dehghan, “Iran Raises Tension by Threatening Pre-Emptive Action,” *The Guardian*, February 21, 2012, <http://www.guardian.co.uk/world/2012/feb/21/iran-tension-threat-pre-emptive-action>. Although raising the possibility of pre-emptive action against Israel or the United States in this way was provocative, it also represents a historical outlier and probably does not reflect how Iran would approach its nuclear doctrine.
164. Evron, “An Israel-Iran Balance of Nuclear Deterrence,” 56–57; and Goldberg, “How Iran Could Trigger Accidental Armageddon.” For a general discussion of these dynamics, see Bruce G. Blair, *The Logic of Accidental War* (Washington: The Brookings Institution, 1993); Sagan, “More Will Be Worse”; and Scott D. Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton, NJ: Princeton University Press, 1993).
165. For the importance of nuclear posture for the risks of inadvertent nuclear war, see Narang, “Posturing for Peace?”
166. Thayer, “The Risk of Nuclear Inadvertence,” 448–51 and 474–75; Karl, “Proliferation Pessimism and Emerging Nuclear Powers,” 113; and Seng, “Less Is More,” 66–68 and 78.
167. See Peter D. Feaver, “Command and Control in Emerging Nuclear Nations,” *International Security*, 17 no. 3 (Winter 1992/93), 160–187; Peter D. Feaver, “Neooptimists and the Enduring Problem of Nuclear Proliferation,” *Security Studies*, 6 no. 4 (Summer 1997), 110–112; and Clayton P. Bowen

and Daniel Wolvén, "Command and Control Challenges in South Asia," *Nonproliferation Review*, 6 no. 3 (Spring/Summer 1999), 25-35.

168. Connectivity to launchers on the move will be more tenuous. See Bowen and Wolvén, "Command and Control Challenges in South Asia," 28-29. Moreover, the regime may choose not to communicate for fear that doing so could allow Israeli interceptions and therefore facilitate time-sensitive targeting.

169. Seng, "Less Is More," 75-77.

170. *Ibid.*, 79-80.

171. Betts, *Nuclear Blackmail and Nuclear Balance*; and Jervis, *The Meaning of the Nuclear Revolution*.

172. Ganguly and Kapur, *India, Pakistan, and the Bomb*, chap. 5.

173. Scott D. Sagan, "Sagan Responds to Waltz," in Sagan and Waltz, *The Spread of Nuclear Weapons*, 166-167.

174. Thayer, "The Risk of Nuclear Inadvertence," 476-477; Karl, "Proliferation Pessimism and Emerging Nuclear Powers," 115-116; and Seng, "Less Is More," 70.

175. It would also put somewhat less pressure on other regional states to develop their own nuclear weapons programs in response. See Cohen, "Israel Ponders a Nuclear Iran."

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177. Future reports published by the Center for a New American Security will examine this issue in greater detail.

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com, December 28, 2011, <http://www.thedailybeast.com/articles/2011/12/28/u-s-israel-discuss-triggers-for-bombing-iran-s-nuclear-infrastructure.html>.

180. Colin H. Kahl, "Not Time to Attack Iran," *Foreign Affairs*, 91 no. 2 (March/April 2012), 172.

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182. As Obama noted in his March 4, 2012 speech, "the only way to truly solve this problem is for the Iranian government to make a decision to forsake nuclear weapons," The White House, Office of the Press Secretary, "Remarks by the President at AIPAC Policy Conference." See also Kim Ghattas, "U.S. Weighs Iran Military Option," *BBC News*, April 21, 2010 (<http://news.bbc.co.uk/2/hi/8634204.stm>).

183. Jason Starr, "The U.N. Resolutions," in *The Iran Primer*, ed. Robin Wright (Washington: United States Institute of Peace, 2012), <http://iranprimer.usip.org/resource/un-resolutions>.

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187. As Lindsay and Takeyh correctly observe, "an Iran with only the capability to build a nuclear weapon would pose far less of an immediate threat to Israel than an Iran that possessed an actual weapon." Lindsay and Takeyh, "After Iran Gets the Bomb," 39. If Iran moves beyond its current near-threshold capability to a threshold capability, it would likely be bolder in challenging Israel and the United States, believing that it possessed a minimal existential deterrent.

However, the risks of deliberate nuclear use, transfer of nuclear weapons to terrorists and crisis escalation to nuclear war would not materialize until Iran actually crossed the threshold and developed a small number of assembled nuclear weapons. It also should be mentioned that the likelihood of other second-order consequences of great concern to Israel and the United States but not addressed in this report – most notably, the possibility of a regional or global proliferation cascade in response to an Iran's nuclear program – would also be far lower if Iran halts its progress short of full weaponization.

188. On May 17, 2012, for example, the U.S. House of Representatives passed H.RES.568, "Expressing the Sense of the House of Representatives Regarding the Importance of Preventing the Government of Iran from Acquiring a Nuclear Weapons Capability" (<http://thomas.loc.gov/cgi-bin/bdquery/z?d112:h.res.568>). A similar resolution, S.RES.380, is under consideration in the U.S. Senate (<http://thomas.loc.gov/cgi-bin/bdquery/z?d112:s.res.380>). See also Paul Richter and Christi Parsons, "Obama Likely to Resist Pressure to Further Toughen Iran Stance," *Los Angeles Times*, February 28, 2012, <http://www.latimes.com/news/nationworld/world/la-fg-us-iran-20120228,0,6892812.story>); Eli Lake, "Obama and Netanyahu's Competing 'Red Lines' for Attacking Iran," *TheDailyBeast.com*, March 5, 2012, <http://www.thedailybeast.com/articles/2012/03/05/obama-and-netanyahu-s-competing-red-lines-for-attacking-iran.html>; and Senators Robert P. Casey, Lindsey Graham and Joe Lieberman, "Iran Can't Be Allowed Nuclear 'Capability,'" *The Wall Street Journal*, March 9, 2012, <http://online.wsj.com/article/SB10001424052970203370604577263812648428928.html>.

189. As Director of National Intelligence James R. Clapper told the Senate Armed Services Committee on February 16, 2012: "Iran's technical advancement, particularly in uranium enrichment, strengthens our assessment that Iran has the scientific, technical, and industrial capacity to eventually produce nuclear weapons, making the central issue its political will to do so." James R. Clapper, "Unclassified Statement for the Record on the Worldwide Threat Assessment of the US Intelligence Community for the Senate Committee on Armed Services" (February 16, 2012), 6.

190. Cohen, "Israel Ponders a Nuclear Iran."

191. Israeli officials have signaled their strong opposition to a final agreement allowing any domestic Iranian enrichment. See Tony Karon, "For Israel, the Problem with Iran Diplomacy Is the Prospect of Nuclear Compromise," *Global Spin* blog on *Time.com*, April 19, 2012, <http://globalspin.blogs.time.com/2012/04/19/for-israel-the-problem-with-iran-diplomacy-is-the-prospect-of-nuclear-compromise/?iid=gs-x-mostpop1>; and Barak Ravid, "Netanyahu: Iran Must Commit to Halt All Enrichment in Upcoming Nuclear Talks," *Diplomania* blog on *Haaretz.com*, May 9, 2012, <http://www.haaretz.com/blogs/diplomania/netanyahu-iran-must-commit-to-halt-all-enrichment-in-upcoming-nuclear-talks-1.429227>.

Some members of Congress have adopted a similar position opposing any Iranian domestic enrichment. A February 16, 2012, letter to Obama signed by 11 senators, for example, argues: "We would strongly oppose any proposal that recognizes a 'right to enrichment' by the current regime or for a diplomatic endgame in which Iran is permitted to continue enrichment on its territory in any form." See "Sen. Toomey Signs Bipartisan Letter Urging President to Continue Pressure on Iran," February 17, 2012, http://www.toomey.senate.gov/?p=press_release&id=488. See also Mark Fitzpatrick, "The Iranian Nuclear Crisis: Avoiding Worst-Case Outcomes," *Adephi Paper*

398 (International Institute for Strategic Studies, November 2008), chap. 3; Michael Singh, "Avoiding a Bad Nuclear Deal with Iran," *Shadow Government* blog on *ForeignPolicy.com*, March 7, 2012, http://shadow.foreignpolicy.com/posts/2012/03/07/avoiding_a_bad_nuclear_deal_with_iran; Michael Herzog, "Washington and Israel on Iran: Unresolved Differences," *Policywatch* No. 1908 (Washington Institute for Near East Policy, March 16, 2012), <http://www.washingtoninstitute.org/templateC05.php?CID=3459>; Michael Singh, "Squandered Leverage Over Iran," *The Washington Post*, April 9, 2012, http://www.washingtonpost.com/opinions/us-must-not-squander-its-leverage-over-iran/2012/04/09/gIQAHLu6S_story.html; Michael Singh, "Avoiding the Containment Trap with Iran," *ForeignPolicy.com*, May 22, 2012, http://shadow.foreignpolicy.com/posts/2012/05/22/avoiding_the_containment_trap_with_iran; and Senators Lindsey Graham, Joseph I. Lieberman, and John McCain, "Getting a Good Deal with Iran," *The Wall Street Journal*, May 23, 2012, <http://online.wsj.com/article/SB10001424052702303610504577419971404427802.html>.

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