

# THE NUCLEAR FUTURE OF THE MIDDLE EAST

ASMERET ASGHEDOM, EDITOR

Center for Global Security Research  
Lawrence Livermore National Laboratory  
January 2025

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## About the Authors

**Asmeret Asghedom** is the associate deputy director of the Center for Global Security Research at Lawrence Livermore National Laboratory. Prior to joining CGSR, she worked at various positions in the U.S. federal government for over 10 years, focusing on global energy security issues. From June 2018 to January 2022, she was the director of the Energy Security Division in the Department of Energy's Office of Intelligence and Counterintelligence, managing the production, briefing, and coordination of energy security intelligence products that were briefed to the U.S. president and cabinet officials. She was also a policy advisor at the Treasury Department's Office of International Affairs and an economist at the U.S. Energy Information Administration.

**Eric Brewer** is deputy vice president for the Nuclear Threat Initiative's (NTI) Nuclear Materials Security Program. Prior to joining NTI, he was deputy director of the Project on Nuclear Issues and a senior fellow at the Center for Strategic and International Studies. He previously served as the director for counterproliferation at the National Security Council. From 2014 to 2017, he served as deputy national intelligence officer for WMD and proliferation at the National Intelligence Council. His research interests include Iran, North Korea, and emerging nuclear proliferation challenges.

**Natalie Ecanow** is a senior research analyst at the Foundation for Defense of Democracies (FDD) focusing on the Middle East and the Gulf. Prior to joining FDD, she worked at a private foundation in New York and on Middle Eastern affairs as an intern at the Hudson Institute. Natalie holds a BA in political science from Duke University and is an MA candidate in security studies at Georgetown University's School of Foreign Service.

**Christopher Ford** is a professor of international relations and strategic studies at Missouri State University's Graduate School of Defense and Strategic Studies, a nonresident senior fellow at Lawrence Livermore National Laboratory's Center for Global Security Research, and a visiting fellow at Stanford University's Hoover Institution. In prior government service, Dr. Ford served as assistant secretary of state for International Security and Nonproliferation (also performing the duties of the under secretary for Arms Control and International Security), and before that as special assistant to the president and senior director for WMD and counterproliferation at the National Security Council.

**Lindsey Gehrig** is a nonproliferation policy advisor in the National Security Directorate of Pacific Northwest National Laboratory (PNNL). Prior to joining PNNL, Ms. Gehrig worked abroad for organizations in London and China before joining the U.S. National Nuclear Security Administration (NNSA). At PNNL, her portfolio of work includes nuclear safeguards and security, arms control, nonproliferation policy, and climate security. She also serves as the laboratory lead of NNSA's Nuclear Security Women (NSW) Initiative. Working actively with international organizations and foreign partners, the NSW Initiative seeks to promote the visibility, opportunity, and representation of women around the world in all aspects of nuclear security.

**Eyal Hulata** is a senior international fellow at the Foundation for Defense of Democracies (FDD) and the first foreign visiting fellow at FDD headquarters. From July 2021 to January 2023, he served as Israel's national security advisor and head of Israel's National Security Council. He served under Prime Minister Naftali Bennett and Prime Minister Yair Lapid. During his tenure, Dr. Hulata coordinated the national effort on Iran, coordinated the maritime border agreement with Lebanon, and co-headed the Strategic Consultation Group with his American counterpart, Jake Sullivan.

**Ariel Levite** is a senior fellow at the Carnegie Endowment and the Harvard Kennedy School's Belfer Center. Prior to joining the Carnegie Endowment in 2008, Mr. Levite was the principal deputy director general for policy at the Israeli Atomic Energy Commission from 2002 to 2007. He also served as the deputy national security advisor for defense policy and was head of the Bureau of International Security and Arms Control (an assistant secretary position) in the Israeli Ministry of Defense.

**Joseph F. Pilat** is a program manager in the Office of National Security and International Studies at Los Alamos National Laboratory and a global fellow at the Woodrow Wilson International Center for Scholars where he co-directs the Nonproliferation Forum. He served as representative of the Secretary of Defense to the Fourth Review Conference of the Nuclear Nonproliferation Treaty (NPT), and as senior adviser to the U.S. delegation at the 1995 NPT Review and Extension Conference. Dr. Pilat also served as representative of the Secretary of Defense to the Open Skies negotiations. He has held positions in the Pentagon and the Congressional Research Service, and has taught at Cornell University, Georgetown University, and the College of William and Mary.

**Brad Roberts** has served as director of the Center for Global Security Research at Lawrence Livermore National Laboratory since 2015. From 2009 to 2013, he was deputy assistant secretary of defense for Nuclear and Missile Defense Policy. He also served previously as a research fellow at the Institute for Defense Analyses and the Center for Strategic and International Studies, as an adjunct professor at George Washington University, and as editor of *The Washington Quarterly*. From 2013 to 2015, Dr. Roberts was a consulting professor at Stanford University and a William Perry fellow

at the Center for International Security and Cooperation (CISAC). While at CISAC, he authored a book titled *The Case for U.S. Nuclear Weapons in the 21st Century*, which won the Choice Award for Outstanding Academic Title in 2016.

**Mahmood Sariolghalam** serves as an advisor on Iran projects at the Atlantic Council. He specializes in the political economy of development, U.S.-Iranian relations, and Iranian political culture. His current research focuses on the political psychology of authoritarianism and conceptual roots of Iranian foreign policy. He has authored an article entitled “Fundamentalism and Iranian Foreign Policy” in an upcoming Cambridge University Press book on Iran's foreign policy. Some of his recent publications are “Factors Shaping Iran's Current JCPOA Calculations” and “The Role of Algorithms in the Persistent U.S.-Iranian Impasse,” both at the Middle East Institute.

**Behnam Ben Taleblu** is a senior fellow at the Foundation for Defense of Democracies (FDD) think tank in Washington, DC where he focuses on Iranian political and security issues. He has worked on the Iran question at FDD for over a decade, covering both functional and regional issues related to Iran and the Middle East (ranging from nuclear nonproliferation, arms control, foreign and security policy, counterterrorism, sanctions, and internal Iranian matters). Often invited as an Iran subject matter expert to brief policy, academic, military, journalistic, diplomatic, as well as nongovernmental audiences across Washington DC, the United States, and around the world, Mr. Taleblu’s writings and analyses have also been featured in various U.S. and international media outlets.

**Sinan Ülgen** is a senior fellow at Carnegie Europe in Brussels, where his research focuses on Turkish foreign policy, transatlantic relations, and international trade policy. He is a founding partner of Istanbul Economics, a Turkish consulting firm that specializes in public and regulatory affairs, and director of the Center for Economics and Foreign Policy Studies, an independent think tank in Istanbul. He has served in the Turkish Foreign Service in several capacities: in Ankara on the United Nations desk (1990–1992), in Brussels at the Turkish Permanent Delegation to the European Union (1992–1996), and at the Turkish embassy in Tripoli (1996).

**Greg Weaver** is a retired deputy director for Strategic Stability on the Chairman of the Joint Chiefs of Staff Directorate for Strategic Plans and Policy (J5), where he was responsible for the formulation of Joint Staff positions and recommendations regarding strategic deterrence and nuclear policy, as well as U.S. Department of Defense efforts to combat weapons of mass destruction and negotiate-and-control international strategic agreements. Prior to joining the Joint Staff, he served as principal director for Nuclear and Missile Defense Policy in the Office of the Under Secretary of Defense for Policy, where he was responsible for all policy matters involving U.S. nuclear and missile defense forces, strategy, plans, and requirements.

# Preface

*Asmeret Asghedom*

Nuclear proliferation in the Middle East is a real possibility, especially as Iran advances its nuclear program. The stakes are high, and the tipping points are closer than ever. As the Trump administration formulates ways to apply its so-called “peace through strength” approach to foreign policy—while juggling crises and conflicts in multiple regions—keen attention will have to be devoted to the Middle East. Whichever approach the Trump administration ultimately takes, a central question underlying strategy discussions on the Middle East should be: What policy approach(es) will reduce the prospects for nuclear proliferation among state and nonstate actors?

As we prepare to publish this volume, there are several evolving factors, all with the potential to impact the nuclear future of the Middle East. Many are internal to the region: Iran’s advancements toward a nuclear bomb; the war between Israel and Iranian proxies on multiple fronts; unprecedented direct confrontation between Iran and Israel; the proliferation of ballistic missiles, cruise missiles, and unmanned aerial vehicles among state and nonstate actors; and tense relations between powerful regional foes Iran and Saudi Arabia—increasing the odds of a “cascade of proliferation” if one acquires nuclear weapons. And other factors are external: a decline in U.S. strategic involvement in the region relative to decades ago, a weakening global nonproliferation regime, and closer ties between nuclear-armed states and Middle East states (e.g., Russia and Iran, North Korea and Iran, and Pakistan and Saudi Arabia).

By publishing this volume, we hope the chapters will provide the insights and understanding needed to help recalibrate U.S. policy toward the Middle East—and most importantly, an approach to Iran. With the death of the Joint Comprehensive Plan of Action (JCPOA), the failed attempts to renegotiate a nuclear deal, and renewed conflicts across the region, the time to reformulate a new strategy is now, while considering the internal and external factors shaping the region’s nuclear future.

This volume was inspired by discussions at a workshop of the same name, “The Nuclear Future of the Middle East,” organized by CGSR in May 2024. After the event, it became clear that the workshop topics were worthy of deeper exploration and analysis. We hope that this volume will move the needle by inspiring discussions among relevant stakeholders, especially U.S. decisionmakers and U.S. allies, on how to shape the nuclear future of the Middle East while avoiding unwanted surprises and unwieldy consequences.



As you can see from the authors' biographies, CGSR is fortunate for the contributions from noted individuals with deep knowledge and decades of experience on this topic. The authors themselves are of American, Israeli, Iranian, and Turkish backgrounds—bringing together a volume of writing that captures the analysis and viewpoints from multiple countries. However, the views expressed in their writings are their personal views. We are immensely grateful to the authors for their invaluable insights.

# Chapter 1: The Nuclear Shadows Over the Middle East

*Brad Roberts*<sup>1</sup>

The term “nuclear shadow” is often used to express the broad impact of nuclear weapons on international politics. The mere presence of nuclear weapons, or even the possibility of their future presence, may affect the security perceptions and thus the choices and actions of many actors. Some actors may wish to exert and exploit that influence; others may wish to escape it.

The nuclear shadow over the Middle East is long and growing longer. More precisely, there are many nuclear shadows over the region. Their collective influence appears to be growing. That is, nuclear weapons and the policy questions they bring are increasingly intertwined with regional politics and security affairs. Nuclear dangers and risks appear to be rising. Concerns are re-emerging about a potential tipping point in the region, whereby the choice of one actor to “go nuclear” precipitates a cascade of decisions by others to do the same. This has generated a reaction from some with long memories that “we’ve been here before”—that is, we’ve worried about such tipping points at various time in the past—but those fears were not realized. Thus, they urge caution in assessing the risk of a proliferation cascade today.

To better understand that risk, this chapter explores three primary questions. First, what nuclear shadows fall over the region today? How might the regional nuclear order evolve? How strong is the case for preserving the existing regional nuclear order? The term “order” is used here primarily to describe the distribution of nuclear capabilities and capacities in the region. But order also has a broader connotation related to the web of domestic and international laws that govern the possession of nuclear weapons and the expected roles of key stakeholders in that regime.

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<sup>1</sup> The author is grateful to Ariel Levite and Asmeret Asghedom for comments on a draft of this paper and also to workshop participants for their comments on the main lines of argument. The views expressed here are the author’s and should not be attributed to any other individual or any institution.

## The Complex Nuclear Landscape

Let us begin with the shadows from the past.<sup>2</sup> In the 1960s, before the Nuclear Nonproliferation Treaty (NPT) was negotiated and entered into force, some in the region pursued nuclear power generation and, to varying degrees, the technical capabilities to design and build nuclear weapons. This included, for example, Israel, Iran,<sup>3</sup> and Iraq.<sup>4</sup> At least a couple (Egypt<sup>5</sup> and Libya<sup>6</sup>) tried to purchase weapons from others. The NPT compelled many states to abandon whatever weapons ambitions they might have had, though Israel remains a non-signatory. In the 1980s, Algeria,<sup>7</sup> Saudi Arabia,<sup>8</sup> and Syria<sup>9</sup> all took steps to develop some of the technical capabilities that could be useful in a nuclear program with both peaceful and military applications.

One legacy of this past interest in nuclear options is a high degree of latent nuclear weapons potential in the region.<sup>10</sup> Very few countries would be starting from scratch in a rush to acquire nuclear weapons. This fuels expectations of a cascade of proliferation if a catalyst of some kind unleashes all this potential.

But many other shadows fall over the region than the shadows of past ambitions and nuclear latency. There are at least eight. The first is the shadow cast by Iran's nuclear program. That shadow is cast by certainty about Iran's technical capabilities and uncertainty about its nuclear ambitions. The capabilities promise leverage and security, ostensibly. The uncertainty also promises leverage. But it also brings the risk of war by Israel and/or the United States if Iran's leaders choose to assemble nuclear warheads. At this writing in autumn 2024, Iran stands at the brink—as it might for a very long time.

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2 Alexis Blanc and Brad Roberts, Nuclear Proliferation: A Historical Overview, Document D-3447, Institute for Defense Analyses (March 2008). <https://apps.dtic.mil/sti/citations/ADA482642>. Accessed September 23, 2024.

3 Congressional Research Service, *Iran and Nuclear Weapons Production*, IF12106 (March 20, 2024). <https://crsreports.congress.gov/product/pdf/IF/IF12106>. Accessed September 23, 2024.

4 U.S. Central Intelligence Agency, *Comprehensive Report of the Special Advisor to the DCI on Iraq's WMD* (September 30, 2004). <https://onlinebooks.library.upenn.edu/webbin/book/lookupid?key=olbp60646>. Accessed September 23, 2024.

5 Robert J. Einhorn, "Egypt: Frustrated but Still on a Non-Nuclear Course," in *The Nuclear Tipping Point: Why States Reconsider Their Nuclear Choices*, Kurt M. Campbell, Robert J. Einhorn, and Mitchell B. Reiss, eds. (Washington, DC: Brookings Institution Press, 2004), p. 46.

6 Joshua Sinai, "Libya's Pursuit of Weapons of Mass Destruction," *Nonproliferation Review* 4, no. 3 (Spring/Summer 1997). <https://doi.org/10.1080/10736709708436683>. Accessed September 23, 2024.

7 David Albright and Corey Hinderstein, "Algeria: Big Deal in the Desert?," *Bulletin of the Atomic Scientists* 57, iss. 3 (May/June 2001).

8 Marie Colvin, "How an Insider Lifted the Veil on Saudi Plot for an 'Islamic Bomb,'" *Sunday Times* (July 24, 1994).

9 Graham Allison and Olli Heinonen, "Break the Silence on Syria's Nuclear Program," *The Wall Street Journal* (December 4, 2010).

10 Tristan A. Volpe, *Leveraging Nuclear Latency: How the Weak Compel the Strong with Nuclear Technology* (New York: Oxford University Press, 2023).

A second shadow is cast by Israel's nuclear program. That shadow is cast by uncertainty about Israel's technical capabilities (given its practice of nuclear opacity) and certainty about its nuclear intentions (given its declaratory policies). Ariel Levite has summarized the functions of Israeli nuclear capabilities as follows:

For the Israelis the nuclear option serves a couple of fundamental goals at once. It provides an existential hedge against an uncertain future in which one of its foes might try to challenge its very existence. It serves...also to reassure its own population, world Jewry, Israeli allies, and even foreign investors that Israel can prevent and withstand even the most acute threats to its security. It serves also to alert some of Israel's allies that failing to stop alarming proliferation trends in the Middle East or depriving Israel of material and other support might force it to turn its restrained nuclear option into a full-fledged nuclear posture.<sup>11</sup>

A third shadow is cast by the United States over its allies and partners with its extended nuclear deterrent. The oft-repeated commitment of U.S. presidents to reserve the right to employ nuclear weapons in the extreme circumstances when the vital interest of an ally or partner is in jeopardy applies to this region and others where the United States has security partners.<sup>12</sup> This shadow is intended to induce restraint by regional challengers to U.S. allies (and partners) and alliances. Its role in the Middle East is often overlooked by those concerned primarily with extended deterrence in a NATO context and in Northeast Asia.<sup>13</sup>

A fourth shadow is cast by those nuclear-armed outsiders who have assisted nuclear proliferators in the region and who might do so again. This includes, for example, Pakistan (e.g., to Libya and Iraq) and North Korea (e.g., to Syria).<sup>14</sup>

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11 Ariel Levite, "An Israeli Vision of a Middle East NWFZ," in Henry D. Sokolski, ed., *A Middle East Free of Weapons of Mass Destruction: A Utopia?* (Nonproliferation Policy Education Center, 2023), p. 49. <https://npolicy.org/wp-content/uploads/2023/11/2307-A-Middle-East-Free-of-Weapons-of-Mass-Destruction.pdf>. Accessed September 23, 2024.

12 Presidential commitments are typically expressed in the reports of the *Nuclear Posture Reviews* conducted by each new administration.

13 For further discussion of extended U.S. deterrence in the region, see Janice Gross Stein, "Extended Deterrence in the Middle East: American Strategy Reconsidered," *World Politics* 39, no. 3 (1987), pp. 326-352. <https://www.jstor.org/stable/2010223> (accessed September 23, 2024); Kathleen McInnis, "Extended Deterrence: The U.S. Credibility Gap in the Middle East," *The Washington Quarterly* 28, iss. 3 (2010), pp. 169-186. <https://doi.org/10.1162/0163660054026489> (accessed September 23, 2024).

14 David Albright and Corey Hinderstein, *Uncovering the Nuclear Black Market: Working Toward Closing Gaps in the International Nonproliferation Regime*, Institute for Science and International Security (July 2004). [https://isis-online.org/publications/southasia/nuclear\\_black\\_market.html](https://isis-online.org/publications/southasia/nuclear_black_market.html). Accessed September 23, 2024.

A fifth shadow is cast by the risk that violent extremists might seek or gain access to nuclear weapons and/or fissile materials and employ them for terrorist purposes. Nuclear terrorism remains a nightmare scenario despite an historical record that is strikingly free of such acts.

A sixth shadow is cast by the closely related risk that a revolutionary actor might emerge in the region that seeks to acquire and employ nuclear weapons not for terrorist purpose (that is, to terrorize to extort a political concession), but to change the flow of history and destroy enemy societies. Consider the possibility of a future resurrection of the hyper-violent Islamic State but armed with nuclear weapons.

A seventh shadow is cast by the capabilities of the region's nuclear-armed neighbors. Russia, China, Pakistan, and India all have the means to project nuclear deterrence effects into the region. So too do the United Kingdom and France. Whether and how they might do so in a future regional conflict cannot be known.

Finally, there is the long shadow cast by the nuclear nonproliferation regime. This shadow is changing in disturbing ways. The NPT has long served as a critical barrier to further nuclearization of the region. But the regime appears to be losing its efficacy amid progress by willful proliferators, growing dissent from advocates of the Treaty on the Prohibition of Nuclear Weapons, also known as the Ban Treaty, and President Putin's apparent decision to embrace North Korea and Iran as partners in his campaign to destroy the U.S.-led world order.<sup>15</sup>

## **The Future of the Regional Nuclear Order**

This catalogue of nuclear shadows illustrates the complex nuclear history of the Middle East and the potential for a cascade of nuclear proliferation in response to some catalyst. The catalogue of factors that are shaping the region's nuclear future includes many more factors. The Ukraine conflict could still have major spillover effects in the Middle East and especially if Russia employs nuclear weapons there. The conflict that erupted in Gaza in 2023 could yet widen and change in a way that brings nuclear deterrence closer to the center of the dynamic. The difficulties of assembling a viable nuclear deterrent may prove insurmountable for some, thus re-opening the door to alternative approaches (such as chemical and biological weapons). A critical factor will be the will and capacity of the major powers to shape the regional nuclear proliferation dynamic for the better.

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15 Toby Dalton et al., *Dimming Prospects for U.S.-Russia Nonproliferation Cooperation*, Carnegie Endowment for International Peace (March 14, 2024). <https://carnegieendowment.org/research/2024/03/dimming-prospects-for-us-russia-nonproliferation-cooperation?lang=en>. Accessed September 23, 2024.

The potential catalyst to a cascade of proliferation of most concern today is a decision by Tehran to proceed to weaponize its capabilities and to deploy an operational nuclear force. Saudi leaders have expressed a commitment to respond by deploying a nuclear force of their own.<sup>16</sup> Egypt and others might feel compelled to follow. The number of nuclear aspirants in the region could be many and the resulting competition to not be the last to acquire a nuclear deterrent could be very unstable.

Alternatively, there may be no tipping point and no cascade. After all, regional actors have long tolerated the ambiguities and uncertainties of the region's existing nuclear order. In the 1960s, many feared that Israel's nuclear ambitions would catalyze nuclear reactions by others; some have taken shape, but there has been no cascade. More recently, Iran has moved to the nuclear brink without generating widespread preparations by its neighbors to immediately follow suit if it crosses the threshold. This restraint may have something to do with expectations that ultimately Iran will be denied the bomb by military action by Israel and/or the United States. It may also have something to do with a judgment that a proliferation cascade would generate dangers of preventive war, preemptive attack, and terrorist access that are best avoided. It may also reflect the difficulties of developing a nuclear weapons program without longstanding prior investments in infrastructure and expertise.

A third possibility is that the existing regional nuclear order will erode in some ways but grow stronger in others. It may erode through more aggressive hedging by those with latent capability. It may grow stronger with a renewal of cooperation at the United Nations Security Council (UNSC) in support of the nonproliferation regime and through improvements to the U.S. nuclear capabilities with which the United States extends deterrence in support of its allies.

The future of the regional nuclear order seems likely to have a major impact on the future of the global nuclear order. A breakdown of that order could have a fatal impact on the global nonproliferation regime. With a reputation tarnished by the failures to prevent nuclear proliferation in South Asia and Northeast Asia, the regime seems unlikely to weather a third major failure in the Middle East. Many states in the region and beyond might conclude that it is time to move on, whether to the Ban Treaty or to hedge in new ways. Alternatively, action by the UNSC to renew collective action in support of nonproliferation by Iran could have positive implications elsewhere by demonstrating the will of the Council's five permanent members to cooperate for this purpose, despite their many sources of conflict.

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<sup>16</sup> Robert Einhorn, *A Way Forward on the U.S.-Saudi Civil Nuclear Agreement*, Brookings Institution (April 12, 2024). <https://www.brookings.edu/articles/a-way-forward-on-a-us-saudi-civil-nuclear-agreement/>. Accessed September 23, 2024.

## **On Preserving the Existing Regional Nuclear Order**

As the existing order erodes, an obvious question emerges: how strong is the case for preserving it? Different actors have different answers.

For some, the existing order is illegitimate and unacceptable because it favors the few with advanced capabilities and supports a regional status quo that they are committed to replacing with something different—whether a new regional balance of power or a new regional political order. For these actors, a redistribution of nuclear power in the region is an essential stepping stone to the future they seek.

For others, the existing nuclear order is sacrosanct. Any change might unleash dangerous new forces, the long-feared tipping point, and the dangerous rush through the cascade.

For yet others, the existing nuclear order is a flawed necessity. It is flawed in that it distributes nuclear capabilities inequitably across the region. But it is a necessity in that all of the plausible alternatives are worse, as they would increase a number of factors, including the number of nuclear-armed actors, the number of weapons in the region, and the possibility of weapons transfers to terrorist actors or simple theft. As a result, the risks of nuclear employment and war could be increased as well.

From the perspective of the United States and its allies and partners, the regional nuclear order in the Middle East falls into this third category. Indeed, the United States has accepted a responsibility as a permanent member of the UNSC to uphold the goals, objectives, and principles of the NPT and, together with the other permanent members, to address the threats to the peace posed by nuclear proliferation while it works toward reducing nuclear dangers and the ultimate abolition of nuclear weapons.

## **Conclusion**

The long and growing nuclear shadows over the Middle East raise significant questions about the region's nuclear future. A tipping point and cascade of proliferation appear to be drawing near, driven by Iran's nuclear ambitions and program. The resulting dangers and instabilities would likely be significant. But there is also good reason to doubt that a cascade will ensue—and even to doubt that Iran will cross the threshold. The existing nuclear order is fragile and perishable. But its preservation is in the interests of the United States and its allies and partners and of the future efficacy of the global nonproliferation regime.

## Chapter 2: Iran's Nuclear Program: Political and National Security Motives

*Mahmood Sariolghalam*<sup>17</sup>

### The Setting

Since the Iranian Revolution of 1979, Iran's foreign policy behavior has demonstrated remarkable consistency in purpose and overall direction. Four foundations constitute Tehran's philosophy of international relations: anti-Americanism, anti-Israeli orientation, the establishment of anti-Western proxies in the Arab world, and dissociation from the global order shaped by the West in general and the United States in particular. In the first decade following the Iranian Revolution and during the reign of Ayatollah Khomeini until his death in 1989, these foundations in foreign policy were motivated by Islamic fundamentalism and ideological rigidities initially espoused by Egyptian fundamentalist authors such as Seyed Qutb and Hassan al-Banna. However, after 1989 and during the leadership of Ayatollah Khamenei, Iran's foreign policy benefited from fundamentalist posturing but was essentially motivated by internal political dynamics to maintain a structure that would empower the revolutionary class.

All revolutions experience deep internal divisions and Iran is no exception. Two groupings stand out in Iran's power structure after 1989: the principalists believing in the preservation of the revolutionary idealism, and reformists promoting change at home and adaptation abroad. Since 1989—despite the attempts of three reformist presidents [Akbar Rafsanjani (1989 to 1997), Mohammad Khatami (1997 to 2005), and Hassan Rouhani (2013 to 2021)] who sought to redirect external relations—Iran's foreign policy has endured anti-Westernism and defiance of the international system.

What will happen if the Islamic Republic of Iran abandons anti-Westernism, dissolves the regional proxies, becomes neutral towards Israel, and acts as a normal member of the international community like other large Muslim countries such as Turkey, Indonesia, and Saudi Arabia? Such transformation in foreign policy would cause one immediate and another medium-term consequence. The immediate implication would be a dramatic fall in the political influence of the clerical community in the political processes of the

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<sup>17</sup> Mahmood Sariolghalam is a member of the Iran advisory committee at the Atlantic Council in Washington, DC. For more on this topic, see Mahmood Sariolghalam, "Is Iran an Ideological State?," Atlantic Council (July 2024). <https://www.atlanticcouncil.org/wp-content/uploads/2024/07/Is-Iran-an-Ideological-State.pdf>. Accessed September 26, 2024.



country. They would be reduced to religious preachers and charity activists. They would also lose their grip on power, national resources, and foreign policy.

The medium-term consequence would be a gradual loss of influence of non-clerical religious groups and organizations in national politics and social relations. Collectively, these two powerful assemblies, whose political legacy dates back to the Safavid dynasty (1501-1722) in Iran, have successfully kept Western ideas and practices at bay. Their *raison d'être* and influence are sustained by political and organizational dissociation from both internal and external religious entities. They are anti-globalists—not so much because they stand against commerce, trade, and foreign direct investment, but because large, able, highly educated, and secular forces exist in Iran that can comfortably interact with international institutions and substitute clerics and religious individuals and structures.

Iran's national politics historically have been fragmented by the lack of conceptual bridges among diverse and opposing nationalist, ethnic, religious, liberal, and leftist groups in reaching consensus and building coalition processes. In a sense, Iran's political machinery is instituted on zero-sum games. Political entities compete over exclusive authority and command of national resources; ideas are insignificant and ultimately serve as posturing and a source of justification. In theory, then, one can substantiate that Iran is not a nation-state, and Iranians have not succeeded in erecting a political structure based on domestic consensus and global trends. Iranians have thrived in science, engineering, commerce, medicine, architecture, art, music, and so forth, but have utterly failed in governance and statecraft. As a result, Iran's foreign policy does not serve the public, is not in line with human experience, and disregards planning for the future. Due to the lack of consensual politics, whoever is in power concentrates on keeping authority rather than focusing on national development.

## **The Nuclear Program and Elite Threat Perceptions**

Given the aforementioned domestic power structure, it naturally then follows that the West and the United States pose real threats to the status quo in Iran. Tehran's foreign policy behavior over the last three decades vividly indicates that it is willing to engage in trade with the West but participate as minimal as possible in political engagement. The elites hold the perception that the more they engage and share with the West, the more they would lose their internal grip on power, conceding authority to reformist, Westernized, and liberal entities in the country. From their domestic vantage point, the top elites correctly perceive that normalizing relations with the West will diminish their level of control over the policy process and public opinion. In this context, ideology and Islamic fundamentalism are effectively utilized to outstrip,

ridicule, and outmaneuver domestic competitors. The organizing principles of foreign policy and threat perceptions center on maintaining conflict with the West and the United States.

One particular accurate perception of the Iranian elites postulates that the United States is the only country with vast areas of economic, political, technological, and soft leverages that can effectively influence Iranian politics, culture, and economic activity. What the United States symbolizes and represents counter clerical and religious interests. It has long been held that internal security, despite cumbersome hurdles, can always be managed; it is the vastness and seriousness of external threats that pose major challenges. Iranian elites believe China, Russia, and the European Union do not have the will, interest, and capacity to alter the domestic power structure in Iran, but that the United States has the will and the tools to reshape and redirect Iranian politics. Subsequently, the whole architecture of Iran's threat perceptions is oriented towards the United States. Therefore, from the standpoint of the elites, Iran should neither normalize nor confront Washington. Normalization would mean subjugation, and confrontation would result in devastating defeat.

Beginning in the 1990s, Tehran gradually initiated a process to fortify its borders and national security by engaging in three sets of policies that constitute its strategy of containment to keep the United States out of Iran and make it costly for Washington to force it into capitulation. The three sets of policies include: a) restarting the nuclear program that began under the Shah in the 1970s, b) countering Israeli policies on the Palestinian issue as a playground to place pressure on the United States, and c) establishing, training, and financing proxies in Arab countries as a hedging force.

All three sets of policies were delineated as ideological and religious battlegrounds to oppose imperialism and carry out religious duties. These foreign policy pursuits were costly, resulted in the largest sanctions regime on the country after Russia, led Iran's economy into a sustained double-digit inflation rate of 40% and stagflation, facilitated emigration and brain drain, and forced infrastructure investment to plummet to almost zero. Yet, the Iranian elites felt secure in a constant battle with the United States through outsourcing their national security to proxies and displaying incessant vacillations in nuclear negotiations with no prospect of resolution. Domestically, the armed forces had the upper hand in setting priorities in both domestic and national politics, while focusing on regime security rather than national security.

Since the demise of the Soviet Union and the rise of China around the 2000s, almost all developing countries concentrated their national strategies on economic development, diversifying their economies, and seeking foreign direct investment. Iran's political journey has been in the opposite direction, focusing on a costly national security doctrine and compromising its economic and infrastructure enrichment. This



To what extent does Iran's leadership aim to take the nuclear program to the level of weaponization? Iran's approach in its nuclear diplomacy appears to contain five organizing principles: a) never abandon the program; b) vacillate between low and high levels of enrichment as a negotiating leverage; c) avoid a crisis between Iran and the International Atomic Energy Agency by promising to negotiate, and occasionally allowing agency inspectors to visit nuclear installations; d) expand facilities to create hedging capabilities; and e) confuse those who are concerned about Iran's nuclear program by constantly altering nuclear strategies. Iran's offensive capabilities are twofold: the nuclear program and the missile program. It is therefore reasonable to predict that Tehran will at least maintain a highly active nuclear program.

However, there are no indications that Iran plans to complete the weaponization cycle in its nuclear activity. Iran's calculus not to weaponize involves two elements: a) the belief that there is an American plan or an outsourced Israeli plan to strike Iran's nuclear facilities in case Iran approaches levels of weaponization and b) the vast current economic vulnerabilities and social discord that can further devastate the country in case its military and nuclear installations are destroyed, causing runaway inflation rates and social upheaval.

### **Prospects for Change?**

The psychological foundation of Iran's nuclear strategy is based on a political conclusion that confrontation with the West, Israel, and the United States will be long-lasting. On the surface, conflict with Israel in Iran's foreign policy appears to be an element of Islamic fundamentalism, but from another angle, perpetuating the conflict with Israel is a reliable platform that preserves enmity with the United States and obstructs entanglements with Iran. Preserving conflict and confrontation with Washington is the philosophical substance of the national security doctrine of the Islamic Republic of Iran. In this context, nuclear negotiations have consistently been fraught because they do not address the underpinning of Iranian-American confrontation—namely Iran's denial of the state of Israel and its support of regional proxies. Nonetheless, it appears that Iran will cross the threshold to become a nuclear weapons power if it believes its survival is under considerable doubt and it is vigorously facing an existential threat.

Iran's nuclear program also reflects the political and ideological horizons that Ayatollah Khomeini, the founder of the Islamic Republic, echoed in the early days of the 1979 revolution. With one profound pronouncement, he set the stage for preserving the state above ideology. Though Ayatollah Khomeini was an archetype of a believer in Islamic fundamentalism, he declared on November 16, 1981, "protecting the Islamic

Republic is above all [other matters].”<sup>19</sup> On this basis, the leaders of the Islamic Republic will utilize the nuclear option if necessary to preserve themselves.

Given the political and military opportunities in the current multipolar international system, Iran has been able to benefit from its relations with Beijing and Moscow to offset American policy pressures. In deconstructing Iranian calculations of its relations with major powers, it is evident that following the 2022 Russian invasion of Ukraine, Iran was further emboldened to maintain the essentials of its nuclear program. However, it appears that both China and Russia are pursuing the same policy as the United States in opposing Iran’s emergence as a nuclear weapons state.

Finally, another inquiry sets its shadow on Iran’s nuclear strategy: will Iranian foreign policy direction and national security calculations be transformed following a transition of power in the coming years? In Iran’s political culture, ambiguity is a virtue. Against this particular trait, however, when placing political, economic, and social indexes on a trajectory, it is unlikely that future leaders of Iran will discard the infinite bargaining capacity of the country’s nuclear program.

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19 Ayatollah Ruhollah Khomeini, “Preserving the state is more important than preserving the 12th imam,” remarks to the public (1981). <https://www.aparat.com/v/3LTKF>. Accessed August 27, 2024.

# Chapter 3: The Iranian Nuclear Threat in an Era of Self-deterrence

*Eyal Hulata with Natalie Ecanow*

## Introduction

Nuclear weapons are the ultimate means of deterrence and coercion. Once used as a decisive weapon to defeat Japan and end World War II, their massively destructive nature led to the emergence of a global taboo against using these weapons ever again.

The balance of power between the United States and the former Union of Soviet Socialist Republics (USSR) was formulated into an overarching nuclear theory, which introduced concepts such as mutually assured destruction (MAD), escalation dominance, and nuclear deterrence. This theory was challenged several times over the course of history but still serves as the basis of strategic planning, force buildup, and deployment.

However, the bipolar world of the Cold War has gradually evolved into a multi-polar world of capable state and non-state actors, and the Western world has become more risk-averse in considering how to exercise military power. The outcome is that we are now in an era in which posture is defined less by deterrence and possession of superior capabilities, but rather by self-deterrence and the willingness or reluctance to use capabilities.

The existing Western paradigm is that one should minimize risks by escalation management and avoid exercising meaningful power in fear of any future implications. The proposition in this paper is that this approach has created the perfect conditions for revolutionary actors such as the Islamic Republic of Iran to believe they can gradually become nuclear powers. While doing so, these actors violate existing international mechanisms and norms and will ultimately end up demolishing the existing nuclear world order.

## **Nuclear Theory**

The concept of “mutually assured destruction” (MAD) entails a scenario in which rival powers can predictably annihilate each other in the event of a nuclear exchange. This mechanism prevented a third world war because it guaranteed there could be no winner.

Inherent to MAD is the concept of escalation dominance, which suggests that one state’s dominance over a rival state dissuades the rival from escalating. In theory, an ideal MAD scenario is achieved when both sides have parallel capabilities along the entire escalation spectrum. Therefore, in practice, exercising escalation dominance should prevent a conflict from reaching total devastation. During the Cold War, for example, the theory of escalation dominance suggested that the United States should convince the USSR that engaging in conventional conflict was futile because the Americans would win at every level and during every round of conflict. Conversely, the USSR wanted to build up its conventional capabilities to demonstrate that it could match or overcome the Americans. The intended outcome was a balance of power that deterred both sides from igniting conflict intentionally or by miscalculation—which would inevitably lead to MAD.

But did escalation dominance ever really work?

As a student of Graham Allison, I’ve learned to appreciate the volatility of the 1962 Cuban Missile Crisis—a moment in history when the world was at the brink of nuclear annihilation. President John F. Kennedy didn’t trust that the recommendations of the U.S. military, whether for a preemptive attack or a naval blockade on Cuba, would satisfy the requirements and achieve the expected outcome of escalation dominance theory. Indeed, the escalation progressed to what nearly became a final nuclear showdown between the United States and the USSR.

The Cuban Missile Crisis exposed the fragility of escalation dominance theory. In the end, if it wasn’t for the personal capacity, improvisation, and courage of President Kennedy, the Cuban Missile Crisis probably would have ended differently. The historical evidence gives us less clarity on the Soviet side of things, but the negotiated settlement of the Cuban Missile Crisis suggests that the Soviets also realized how close the situation had come to an undesired outcome.

It is likely that from the USSR’s perspective, Soviet Premier Nikita Khrushchev wasn’t sure how escalation dominance theory would work either. It seems that Khrushchev’s trust in the Soviet generals and the USSR’s capabilities were limited too. Ultimately, he put his trust in the personal relationships that his ambassador to the United States, Anatoly Dobrynin, developed in Washington, which enabled a negotiated resolution of the showdown.

Where was the deterrence and where was the dominance during the Cuban Missile Crisis? Arguably neither was as strong as the theoreticians planned.

After the crisis, it became clear to the leaders of the United States and the USSR that neither MAD nor escalation dominance may be sufficient next time to forestall nuclear conflict; therefore, they better work together to control the production and deployment of nuclear weapons. In particular, Kennedy committed to pull back the short-range nuclear missiles from Europe understanding that, from a Soviet perspective, the missiles created an imbalance that had to be corrected. The fear of a surprise attack from Cuba was intolerable for the United States—not because it would give the USSR the means to “win,” but because it could result in dangerous miscalculation scenarios. Thus, in the ensuing decades, the United States and the USSR (therein after 1991, Russia) negotiated a series of agreements that capped the number of warheads each power was allowed to deploy and from where they could deploy them. Washington and Moscow signed the latest agreement (New START) in 2009 and, in 2022, extended the agreement through February 2026.

Arguably, these U.S.-Soviet arrangements developed more out of fear than strength. Rather than mainly deterring each other, the United States and the USSR were also self-deterred. In other words, it's not so much that the United States was confident that its own capabilities would deter the USSR, but rather that the U.S. was also worried about the consequences it would suffer in the event of a Soviet miscalculation. This distinction is far more than just semantics. Naturally, the virtue of MAD is that both sides fear annihilation and are therefore deterred by each other. But the underlying difference between deterrence and self-deterrence is what governs the decisionmaking process—a posture of strength (by which you know your adversary will refrain from provocations because it recognizes being inferior, granting you a level of confident stability), or a posture of fear (by which your enemy realizes that you avoid risk and refrain from responding effectively to provocations because you are worried that your enemy might launch a calculated or miscalculated attack).

According to the available documentation, it appears that the resolution of the Cuban Missile Crisis came about not so much because Kennedy was self-deterred, but more because Kennedy was indeed able to deter the Soviet Union. The outcome of the negotiations suggests that the USSR ultimately backed down when it received a reliable and dignified route to deescalate.

Naturally, there is a caveat to this framing of the balance of power—our information is drawn heavily from the U.S. record and the U.S. narrative—as the cliché goes, “history is written by the winners.” It might be that, from a Soviet perspective, Moscow's firmness pushed Kennedy to back down.



But even if the real situation was more symmetrical and the USSR strongly believed that the United States would eventually back down, the nature of the relationship between the two superpowers in 1962 allowed reasoning to ultimately prevail. There were various direct and indirect communication channels between Washington and Moscow, and a basic belief among Soviet premiers that both superpowers had the right to exist and that they both cared about their countries' survival. It is highly likely that, at all times during the crisis, the USSR's leadership believed that the risk of a U.S. strike was imminent and at the bare minimum Moscow was uncertain whether Kennedy would capitulate and overlook the deployment of the missiles in Cuba.

### **Can Reason Still Prevail in Today's Threat Landscape?**

Today, the already fragile theory of escalation dominance has been diminished to escalation management. The aim of escalation management is not to convince your adversary that you will dominate in any conflict, but rather to find the fastest path to ease tensions and avert further escalation. Would escalation management have been sufficient during the Cuban Missile Crisis? It is doubtful that the USSR would have refrained from deploying short range missiles to Cuba even if they thought Kennedy was averse of using force and would simply aim for de-escalation.

Is there reason to believe that escalation management could work against the adversaries we face in the 21st century, especially when it seems that our adversaries are even more revolutionary than the USSR in their nature?

### **21<sup>st</sup> Century Considerations**

Today, it seems that U.S. conventional and unconventional power might not be enough to prevent adversaries from taking offensive risks—at least so long as they believe that the United States fears the consequences of escalation and is self-deterred from engaging in new conflicts.

By aiming to prevent conflict at all costs, it seems the United States is discounting the strategy of escalation dominance for a weak policy of escalation management. The enemy reads those “management” signals very clearly and knows it can push the boundaries with no fear of retaliation.

Assessing the Iran nuclear threat through this lens suggests that deterrence by escalation management will not work, mainly because Iran doesn't believe anyone will be willing to use force when it becomes necessary. The reluctance to use force when needed encourages rogue actors to challenge the international order because they know they can get away with it.

During the Cold War era, most countries aligned themselves with the interests of either the United States or the USSR. International institutions, and specifically the United Nations Security Council (UNSC), served as an arena to resolve disputes without always directly confronting Washington and Moscow. However, the UNSC cannot act without the unanimous consent of its five permanent member states (the “P5”). Hence, many would argue that the UNSC has never served its intended purpose because an objective ruling is hard to achieve in a divided world. During the Cold War, divisions between the American and Soviet blocs overshadowed almost any council deliberation. Since the end of the Cold War, and as the unipolar posture of the United States is increasingly challenged, the efficacy of international institutions has even further eroded.

The inability of the UNSC to reach consensus on contentious issues often results in paralysis. There are of course rare cases of international consensus, when interests have converged. Oddly enough, one of those cases was the approval of nuclear-related sanctions on Iran in the years prior to the Joint Comprehensive Plan of Action (JCPOA). Unfortunately, for various reasons (some would point to President Trump’s withdrawal from the JCPOA while others would point to Iran drawing closer to Russia and China), the temporary consensus on Iran no longer exists. In turn, professional and respected international institutions such as the International Atomic Energy Agency (IAEA) are losing their capacity to oversee nuclear programs and ambitions not only in Iran but potentially anywhere around the world. Worse yet, we are experiencing the erosion of the major tool that allowed the IAEA to perform this duty—the Nuclear Nonproliferation Treaty (NPT).

The NPT is the cornerstone of international nonproliferation efforts. Originally signed in 1968 and extended indefinitely in 1995, the NPT has 191 signatories, led by the P5 members that possess nuclear weapons. Under the terms of the NPT, the five nuclear states agree to never assist non-nuclear states in acquiring nuclear weapons. The rest of the signatories commit to never acquiring nuclear weapons themselves but are permitted to obtain civilian nuclear technology. Additionally, the NPT requires non-nuclear states to sign an agreement with the IAEA that allows the agency to verify state compliance with the NPT.

The NPT regime was designed to assist compliant signatory countries with developing or acquiring nuclear energy, while preventing the proliferation of nuclear technology and materials. In effect, the NPT was intended to slow down, if not prevent, signatory countries with malign ambitions from becoming nuclear powers and further destabilizing the fragile world security order. The P5 countries created the NPT framework in part because of their shared interest in blocking other countries’ path to nuclear weapons. The P5 countries believed that their deterrent capabilities and their superior authority over the UNSC that supervised the IAEA mandate would be

sufficient to provide the IAEA with the necessary authority to prevent other countries from joining their nuclear club.

But as nuclear weapons come within reach of revolutionary players, the rules of the nuclear security order must become stronger, not weaker. Revolutionary ideologues, terror organizations, leaders who are willing to jeopardize the well being of their own peoples—all are inherently likely to use every opportunity they are given to break the existing order. One might argue that itself being a revolutionary regime, the USSR was trying to do just that during the Cold War. This is probably true, and even more so no one should contradict that Iran is using all its capabilities to deceive and crack the Western hegemony and destabilize the Middle East. And the more such a rogue actor crops up, the more difficult it becomes to slow or contain it.

How can deterrence work against such players, especially when the West is self-deterred by their unpredictability and brinkmanship? This is the challenge we are facing with Iran.

## **Iran Strategy**

For over four decades, Israel's strategy for dealing with countries with nuclear ambitions has been one of prevention, or at a minimum, one of delay. Israel likewise understands that it cannot afford to embrace a strategy of containment. The risks of containment should, God forbid, an enemy of Israel go nuclear, are just too high. In 2001, then-Iranian President Akbar Rafsanjani described Israel as a "one bomb country," noting that "the use of even one nuclear bomb inside Israel will destroy everything."<sup>20</sup> Indeed, to this day, such a scenario is the closest thing to an existential threat that Israel faces.

Exercising a strategy of prevention, Israel preemptively destroyed two nuclear reactors—Iraq's in 1981 and Syria's in 2007—and has engaged in a long, covert campaign against the Iranian nuclear program.

At the core of this prevention strategy is a complete distrust of the existing nuclear security world order. The NPT regime failed to detect and safeguard the nuclear programs of Iraq, Syria, and Iran. Time and again, external intelligence tipped off the IAEA about covert, undeclared facilities. And time and again, the international community proved incapable of preventing these programs from progressing. In the Syrian case, Israel didn't even wait to see if and what the international community

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<sup>20</sup> Bret Stephens, "Who's in more trouble: Israel or Iran?," *The New York Times* (May 21, 2024). <https://www.nytimes.com/2024/05/21/opinion/israel-iran-raisi-death.html>. Accessed September 24, 2024.

would do. In fact, President George W. Bush asked Israel to take its case to the UNSC before attacking, a suggestion which Israeli Prime Minister Ehud Olmert refused. Israel destroyed the Syrian reactor prior to its activation, understanding that afterwards it would be a *fait accompli*.

A strategy of prevention has gotten Israel this far. That strategy succeeded with Iraq and Syria but has so far been insufficient with Iran. In reality, Israel's achievement vis-à-vis Iran, with substantial contribution by the United States and other allies, has been to buy time. This joint effort has not prevented Iran from reaching its goal but has been able to delay the Iranian program significantly.

Buying time can be a viable part of a prevention strategy only if you use that time to degrade your enemy while simultaneously improving your own capabilities. The strategy is only effective, in other words, if time ends up on your side.

With Iran, there are several things that could have been done with the bought time—preparing for an effective military strike, seeking a robust agreement through diplomacy, or degrading the regime's appetite to pursue nuclear weapons.

The United States decided to spend the bought time on an allied effort to “fix” the Iran nuclear problem with the 2015 JCPOA, otherwise known as the Iran nuclear deal. But the JCPOA didn't really fix the problem. The deal legitimized Iran's nuclear fissile materials programs, and it came with expiration dates, so-called “sunset clauses,” that gradually would have loosened the JCPOA's restrictions on those fissile materials. Some readers may have opposed President Trump's decision to pull out of the deal in 2018. Some might argue that he should have further “fixed” the deal instead of “nixing” it. However, all should recognize that if neither had happened, and the deal was still intact as originally carved it is likely that Iran would have remained in compliance with the deal's terms. However, then, when those suns would have eventually set, Iran would not only have had the capabilities to become a nuclear threshold state, but also the legitimacy to do so having played by the rules for a decade. At that point, possessing nuclear weapons would simply be a matter of choice. The Obama administration had hoped that the benefits of the deal would also change the nature of the regime in Tehran in such a way that it would voluntarily drop its militarized ambitions. However, Iran's regional aggression, which has dramatically escalated since 2015, has proven that hope as delusional.

A key group of the JCPOA's restrictions are set to expire in October 2025. That includes the disbandment of the UN “procurement channel,” which regulates Iran's nuclear-related imports, and the lifting of restraints on Iran's ability to gradually install (and in future years use) as many centrifuges as it wishes. Crucially, the UNSC will close the Iran nuclear file, and UNSC members will no longer be able to use the

“snapback” mechanism that would reimpose international sanctions in the event of non-compliance.

Israel cannot wait for all that to happen. So, if Israel is left alone with the problem, it will be left with two bad choices: roll the dice and act unilaterally or agree to a strategy of containment and trust that the West will hold Tehran accountable.

Of course, Israel doesn't need to be left alone with the problem. The United States and the Western international community who view the risk in similar terms could embark on an effort to restore stability. With a proper combination of crippling pressure and, to use the words of former U.S. Secretary of State George Schultz, casting “the shadow of power” across the negotiating table, diplomacy could produce what President Biden has called a new “longer and stronger” nuclear deal with Iran. However, it is impossible to achieve that outcome with the existing, self-deterring “escalation management” strategy. It should not come as a surprise that flawed efforts to deal with the Iranian nuclear program are damaging the NPT order even before Iran has achieved its military nuclear capability.

We are also currently facing the potential collapse of the NPT-based safeguard mechanisms in nuclear energy production. As this article is written, Saudi Arabia is presenting a difficult nuclear challenge to the U.S. government, even before Iran has achieved a military nuclear capability. The Saudis are currently negotiating with the United States to help them develop a full nuclear energy fuel-cycle program, wielding the claim that if the United States refuses to do so, the Saudis will turn to China for partnership. It has been widely reported that the United States might be willing to undermine the so-called gold standard for nuclear cooperation deals, as included within the “123 agreement” between the United States and the UAE. The gold standard provision seeks to prevent U.S. partners from acquiring the entire nuclear fuel cycle, which would enable them to produce military grade fissile materials. If Saudi Arabia is successful in the current negotiations, the United States will grant Riyadh options that under certain future conditions could allow Saudi Arabia to possess the full scope of fissile material production technology.

The Saudis' fundamental argument is that if Iran was allowed by the terms of the JCPOA to possess a nuclear fuel cycle without committing to gold-standard restraints, then Riyadh should have the same right. This is a difficult argument to ignore, as granting legitimacy to Iran's mastery of the full nuclear fuel cycle was indeed the most fundamental flaw of the JCPOA. However, allowing the Saudis to do the same would allow it, if it so wishes, to over time become a nuclear threshold state just like Iran. Other countries would naturally follow and that would signal the end of the global nuclear energy order.

Continuing my previous argument about the possibility of the United States imposing a stable diplomatic solution on Iran, if the United States chooses to do so it could limit Saudi Arabia's ambitions while also insisting on continuing to limit Iran's nuclear capabilities. This could be an opportunity to curb Iran's ambitions, stand firm on the commitment to prevent Iran from ever acquiring nuclear weapons, and convince the Saudis that they need not fear an Iranian precedent.

Knowing what the policy implications of such approach would mean, and myself not being in a position to recommend U.S. policy in the first place, let's return to the probable scenario where there is a lack of an effective U.S.-led diplomatic prevention strategy. Countries other than Israel might be satisfied with containment, falsely thinking that they can live with a nuclear Iran, perhaps by relying on deterrence. However, the consequences of such containment are grim, and not only for Israel. The three main threats are as follows:

1. Iran might decide to fulfill its pledge to annihilate Israel either by using a nuclear bomb directly or try to deniably detonate a bomb via one of its proxies. This threat also endangers Iran's Sunni regional adversaries, which possess way fewer defensive and retaliatory capabilities than Israel.
2. The mere existence of this option would dramatically embolden Iran's regional aggression, which has already turned several Sunni Arab countries into failing states and is creating a "ring of fire" around Israel consisting of armed proxies.
3. Iran's Sunni adversaries would not let themselves remain defenseless against a nuclear Iran and a regional nuclear arms race will emerge. The international community would have little ability to prevent this arms race since it conceded to Iran's nuclear capability.

Many would argue that Iran will not use a bomb even if it gets one, because its leaders must know that would result in devastating consequences for the country. The regime, after all, isn't suicidal. That might be true, but unlike any of the other countries mentioned in this article, Iran is a revolutionary theocratic regime with deep ideological convictions. Taking chances with such a regime is far too dangerous a gamble for any country in the region, specifically for Israel.

At the bare minimum, Iran could threaten to use the bomb as deterrence against attempts to fend off its regional aggression, which is already pervasive. Israel, which has been continuously fighting Iran's proxy ring of fire, will not be able to tolerate this tightening of the rope around its borders. Without U.S. resolve to use power to defend its interests and allies in the region, chances of Iranian nuclear miscalculation will be

high. (Of course, the lack of such resolve contributed greatly to Iranian nuclearization in the first place).

But even if the reader prefers to overlook the Israeli angle or believes that the United States will eventually limit Israel's military actions, one must recognize that once Iran realizes that Israel and the United States are self-deterred, Tehran will seize the opportunity to bolster its revolutionary expansion across neighboring countries in the Middle East. Tehran will destabilize more Arab countries just as it brought chaos to Lebanon, Yemen, Iraq, and Syria. Saudi Arabia, the UAE, Bahrain, Jordan, and Egypt—their stability will all be at risk. It must be understood that Iran will threaten not only Israel but will increase its attempts to push the United States out of the region, endanger other U.S. allies, and target the stability of all pragmatic Arab countries.

Inevitably, the outcome will be a nuclear arms race in the Middle East. If Iran goes nuclear, several of its regional Sunni adversaries have already pledged to do the same. Pakistan already has the bomb, Saudi Arabia declared it will match whatever Iran will possess, and no one should rule out Turkey joining the party, regardless of the fact that it is a NATO member. Unless the Sunni world and the pragmatic Arab countries are willing to capitulate to Iranian Shiite hegemony, the international community will ultimately experience a Middle Eastern nuclear nightmare.

This will be the ultimate failure of the NPT. There has been no shortage of information about Iran's nuclear program and no shortage of diplomatic engagements. Iran, if successful, will have acquired its nuclear weapons capabilities overtly, in front of the watchful eyes of the international community and the top global intelligence services. The failure of the international community to prevent Iran from acquiring nuclear weapons will set a dangerous precedent that countries can openly defy the world order and prevail.

## **Recommendations**

The first thing to understand is that there is still time to act, but the window is closing fast.

Before focusing on Iran directly, there are vital actions to pursue at the global level.

The best course of action is to fix the NPT before the safeguard regime completely collapses. Ideally, that will include intrusive inspections by the IAEA, including at sites suspected of weaponization activities. The IAEA should have clear, predefined metrics of compliance, and upon its ruling the UNSC must impose severe punishment against

those who violate the norms. This may prevent countries from sneaking up to the nuclear threshold and cause them to think twice before dashing to acquire a bomb.

However, in the current environment of global power competition, it is unlikely that the permanent members of the UNSC will reach a consensus about such a fundamental change to the NPT regime and the IAEA's mandates. Such a normative approach is desirable but probably not achievable in the foreseeable future. In the existing transactional international framework, we need to be free of illusions. However, in my humble opinion, the importance of such an effort is high enough that it is worth being at the core of great power negotiations to deescalate the global tensions. For those readers who still believe in global governance, it must be emphasized that reconstructing the NPT regime could restore and rebuild a new stable global normative base.

Short of building a reformed and robust global nonproliferation order, there could be an agreement among the nuclear energy suppliers that prohibits them from undercutting each other when supplying or approving full energy cycle capabilities to other countries. The demand for nuclear clean energy would rise, but with the proper infrastructure and with energy providers exercising mutual responsibility, one can imagine a reality in which—with a reliable and fair-priced supply of fuel and treatment of waste—no country would need (or have a justifiable reason to demand) a nuclear fuel cycle. If the United States vigorously led this new standard, the other major providers in Asia and Europe would be bound to follow.

Finally, as for Iran, it must be said that the United States must hold itself accountable to the commitments that President Biden gave Israel in the form of the Jerusalem Declaration in July 2022, during my term as national security advisor. The declaration says that the United States will “never allow Iran to acquire a nuclear weapon” and that the U.S. “is prepared to use all elements of its national power to ensure that outcome.” President Biden has committed to that while also stating that “the United States reiterates its steadfast commitment to preserve and strengthen Israel's capability to deter its enemies and to defend itself by itself against any threat or combination of threats.”

If the United States is committed to stand by its words, preparations for taking firm action against Iran should be well underway. Absent an American commitment to follow through, Israel will have no choice but to indeed defend itself by itself, and to prevent Iran from acquiring nuclear weapons—by force, if needed.

For, so long as such nuclear shadow looms, there will be no way to clear the skies.



# Chapter 4: The October 7 Watershed in the Middle East

*Ariel E. Levite*

The heinous Hamas attack on Israel on October 7, 2023, unlike frequent earlier encounters between Hamas and Israel, turned into a watershed moment for the Middle East. Not only did the terrorist attack draw Israel into a direct, intense, and prolonged military confrontation with Hamas—which Israel has tried hard to avoid for years—it has also quickly evolved into a conflict involving far larger swaths of the region and multiple actors, including extra-regional ones. Since October 7, additional factions of Iran’s Axis of Resistance, which it has meticulously and painstakingly built and armed over the years, have joined in with attacks against Israel. Iran (strategically but less so operationally backed by Russia) and its proxies are pitted against Israel, which is backed intermittently by a less formal coalition led by the United States and comprising other Western parties and (unofficially) several moderate Arab states.

Remarkably, these events remind us of the sobering Middle East dynamics of the Cold War when the United States and the former Soviet Union were pitted against each other in the region, each having its own allies there. During that time, the Soviet Union was largely fomenting unrest as a way of consolidating its local influence, and the United States was helping its regional allies resist and defend against Soviet-backed threats. Like decades ago, relations between the East and West, and most saliently between Russia and the United States, are currently poor, and playing out in the region. The Russia-Ukraine War is now a central consideration shaping Russia’s approach to the Middle East, leading it to greatly expand its footprint in the region, well beyond its military deployment in Syria. Most pronounced is the strategic partnership (diplomatic, military, and economic) that Russia has forged with Iran. Russia’s actions reflect a somewhat veiled effort to undermine Western influence and interests in and around the region (including in the vital shipping lanes traversing the region) and distract the U.S.-led coalition from sustaining its support for Ukraine.

## **Iran: Unleashed and Emboldened**

Russian meddling aside, the most worrisome aspect of the current situation is the emboldening of Iran’s leadership. The Iranian regime has gone well beyond its typical strategy centered around its regional proxies and limited direct military presence in Syria (dating back to 2015). Notwithstanding acute economic, political, and security

pressures at home, the Iranian regime has repeatedly mastered the resolve to militarily engage Israel directly in the conflict, including from its own territory, while also stepping up overt assistance to (and encouragement of) its proxies. Iran and its proxies are not only targeting Israel but also Western assets in the region, including U.S. forces in Iraq and Syria along with Western shipping lanes in the Red Sea and the Gulf of Aden.

The most alarming aspect of this Iranian posture has been its capacity to integrate and synchronize its own actions against Israeli and Western targets (most prominently the United States) with those of its various proxies under the banner of the “Axis of Resistance.” It is combining increasingly formidable indigenous capabilities for force projection (cyber to kinetic) from its own soil with a global network of espionage and covert actions. The latter is serving multiple purposes ranging from clandestine (sanctions-busting) procurement, active subversion, cyber influence operations and attacks, and even outright acts of terrorism not merely throughout the Middle East but also in faraway lands, especially in Europe, the United States, Western Asia, and Latin America.

While Iran’s original aim may have been primarily defensive (in order to protect the Islamic revolution and the Ayatollah’s hold on power), its ideology has never been exclusively defensive. Five developments seem to have come together to imbue the Iranian leadership with the confidence and audacity to move toward a much more aggressive posture. Iranian leadership’s remarkable success in reaching a robust nuclear threshold status, with almost near impunity, is the first development. Russia’s backing for and assistance toward Iran is second. The third development has been the ripening of Iran’s asymmetrical military might, and the progress it has made in sharing it with, and otherwise bolstering, its proxies in Yemen, Iraq, Syria, Lebanon, and Gaza, consolidating them into a practical anti-Israeli (and Western) alliance it has labelled the “Axis of Resistance.” The fourth is the weakened hand of the United States in the region, with the pullout from Afghanistan, the mounting toll of supporting Ukraine, the overhang of growing tensions with China (not least over Taiwan), and the growing domestic resistance in the United States to military endeavors abroad. The final development is that Hamas’ bold, devastating attack on Israel has expanded the opportunities and space for Iran’s attacks on Israel and meddling in the region.

In this context, it is worth noting how the 2003 U.S.-led war in Iraq fundamentally transformed the Middle East. Unlike its Desert Storm predecessor, this war ended up dramatically weakening the Iraqi state and allowed Iran to build on the Iraqi Shi’a majority to greatly expand its influence westward, in and through Iraq. Critically, it removed Iraq as a check on Iran and as the historical buffer state between Iran and the Levant, thereby allowing Iran to directly meddle in this part of the region.

Some of these developments might be transient. For example, the severe blows both Hamas and Hezbollah have suffered over the past year at the hands of Israel have greatly weakened two of Iran's most menacing allies presently targeting Israel. But while Hamas might never be able to regain its past strength, Hezbollah and the Houthis are down but not out. Iran is determined to help Hezbollah and the Houthis regain their earlier strengths, while in the interim bolstering the capacity of its Iraqi-based Shi'a allies to regularly harass Israel. Other developments like the weakening of Iraq and the quasi-isolationist tendencies of the United States might become worse over time, proving to be remarkably unsettling for regional stability.

Iran is unleashed and emboldened externally, though increasingly vulnerable at home. Russia now stands firmly behind it. Erdogan's Turkey has clearly aligned itself with the more radical Islamic elements in the region. It does not shy away from intervening militarily in Syria, Iraq, and Libya, while using its veto power to prevent NATO from playing any constructive role in stabilizing the region. It has even threatened to deploy its military in defense of Hezbollah in Lebanon. China is cautious to not get directly involved militarily in the core of the region but is otherwise playing therein an unhelpful diplomatic and economic role to counter the United States. India remains de facto indifferent. And Europe is sadly militarily feeble and preoccupied with its internal woes and the war in Ukraine, relegating it to a marginal player in the region.

## **Post-October 7 Developments**

Going beyond this broad-brush portrayal of Middle East geopolitics, it's worth noting several additional insights emerging post-October 7. First is that the asymmetrical arms race is underway, which for now is conventional but multidimensional: quantitative, qualitative, temporal, and operational, all at once. Worryingly, Iran is doing relatively well on all these counts and sharing its achievements with its regional proxies (and in some areas with Russia too). Iran is innovating and mass producing its offensive military assets (ballistic and cruise missiles, and unmanned air and sea combat vehicles) faster, and rapidly collecting, applying, and sharing the operational insights it gains from employing these assets against the United States and Israel. Iran's steep learning curve and creativity in marshalling lower-end military and commercial technologies to offset its relative inferiority in higher-end technologies and platforms is perhaps most striking in this realm. Iran's manned air force and air defense has clearly lagged behind (even before Israel's retaliatory attack in October 2024 that severely damaged Iran's air defense systems), but Russia will likely step in to plug holes in its armor, given its heavy dependence on Iran for support in its war against Ukraine.

Furthermore, the Houthis' remaining ability to disrupt shipping in the Red Sea and the Gulf of Aden—amid the sustained but politically and operationally constrained U.S.-led efforts to rein in such actions—reveals the capabilities the Houthis have been able to amass and continuously upgrade, along with their audacity to employ them at will. What was initially presented as a local Houthi initiative to attack Israel as an expression of support for the Palestinian fight against Israel has gradually evolved into a sustained campaign to disrupt international shipping in the Red Sea and the Gulf of Aden, with a special emphasis on hitting Western targets. It's clear that the Houthis have upped the ante after October 7, after facing little retribution for their remarkably bold and successful attack against Saudi Arabian oil facilities in 2019.

Yearlong efforts by the United States (and coalition) to tackle the Houthis' menacing actions have thus far proven to be tactically useful but dismally ineffective operationally. Even worse, these efforts have proven strategically counterproductive as they have exposed how the newly acquired capacity of even small, supposedly backward, non-state actors can pose an acute threat and even cause global disruption without unleashing either meaningful preventive or preemptive actions nor serious retaliatory measures against them. In essence, these events underscore the lessons that have consistently emerged overtime—that the capacity and single-minded determination of Al-Qaeda, ISIS, Hamas, and Hezbollah, as well as other pro-Iranian Shi'a factions in Syria and Iraq, to inflict pain and mischief on Western targets has been consistently underestimated. Worryingly, it has also made clear that a disastrous domestic situation (such as in Lebanon or the Houthi controlled parts of Yemen) have neither adversely affected their motivation nor weakened their determination to sustain their offensive campaigns.

Second, Iran's ever more pronounced adoption of an extended deterrence doctrine to dissuade attack against all its allies is another (but related) development of some significance. This doctrine has been implemented by establishing its Revolutionary Guards (Quds Force) forward presence in Iraq, Syria, and Yemen, and most blatantly in support of its primary proxy in the region, Hezbollah in Lebanon. But Iran has now crossed the line by also committing to intervene militarily directly from its territory, as it did in April 2024 and October 2024. Moreover, contrary to the widespread practice of issuing extended deterrence guarantees to promote stability and sustain the status quo, Iran is engaging in extended deterrence primarily to further extend its zone of influence and encroach upon those of other players, primarily in Lebanon, Syria, Iraq, and Yemen. This development is especially disconcerting because it increases Iran's potential to cause massive escalation in local conflicts, where it was not directly involved previously, as well as create new ones.

Iran thus has until recently been most successful in leveraging its nuclear threshold status to dissuade attacks against its territory and to push back against actions

targeting its proxies. It has also defiantly and repeatedly stepped up its effort to expand its uranium enrichment capacity and restrict the monitoring of its nuclear activities by the International Atomic Energy Agency (IAEA), in response to Western-led efforts to hold it accountable for its behavior. After the recent Israeli attack on Iran's air defense, missile production, and some nuclear related infrastructure, which exposed its critical vulnerabilities, Iran might not be content any longer with holding back from completing the last mile necessary to make it into a full-fledged nuclear state. Iran is capable of doing so quickly now, and it might sense that it needs to bolster its deterrence, and that the risks it would face in such a scenario pale in comparison to any counterfactual.

Four separate but not mutually exclusive reasons could persuade the Iranian leadership that the benefits of nuclearizing currently exceed the costs, especially if a less risk-averse individual succeeds the current Supreme Leader. Firstly, nuclearizing might be perceived as bolstering its deterrence posture against retaliation on Iranian targets and territory, and secondly as lending further credence to its extended deterrence pledges. Thirdly, nuclearizing might be perceived as a way to offset shortfalls in its conventional defensive assets along with its offensive capabilities when pitted against comprehensive national and coalition missile defense capabilities (the latter facilitated and coordinated by the U.S. Central Command). Lastly, there could be a possible desire to present President Trump and his administration, likely replete with Iran hawks, with facts on the ground ahead of their inauguration.

Another significant development after October 7 is the mounting concern over Israel's own deterrence posture, given that it is increasingly isolated internationally and surrounded by well-equipped Iranian proxies. Notwithstanding Israel's formidable conventional (defensive and offensive) military capabilities, Israel increasingly finds itself since October 7 engulfed in an ever more fierce confrontation on seven fronts, not only in Gaza, Lebanon, and the West Bank but also from factions in adjacent countries, as well as more remote neighbors (e.g., 1,300 miles away in the case of Yemen's Houthis). Iran and many of its proxies now possess (largely courtesy of Iran) long-range (and increasingly accurate) strike capabilities of various types, which they do not shy away from using against Israel. While a large amount of the arsenals held by the closest proxies, especially Hamas and Hezbollah, have reduced owing to Israeli military strikes, these proxies have become adept (once again with Iranian assistance) at closing the OODA loop<sup>21</sup> and informing their targeting of critical assets, both mobile assets at sea and stationery on land.

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21 The OODA (observe, orient, decide, and act) loop refers to the four stages of a decisionmaking framework created by U.S. military strategist and U.S. Air Force Colonel John Boyd.

Israel has been (by itself, and with considerable assistance from the United States and to a lesser extent others) able to neutralize and retaliate against many of the incoming threats. Yet their frequency, intensity, and nuisance value has been growing dramatically since October 7. Notwithstanding the severe blows Israel, on its own, has been able to inflict on Iran's proxies and indigenous defense capabilities, the barrage of threats over the past year have adversely affected Israel's self-confidence, exacted a huge human, physical, and economic toll, and triggered real social angst domestically about its capacity to regain its prior security, normalcy, and affluence. This somber reality leads to serious anxiety and soul searching in Israel about the adequacy of its current security posture, especially in the face of its increasing international isolation (and even outright hostility in some circles) and U.S. neo-isolationist tendencies.

The firm and active stance repeatedly undertaken by the United States since October 7 to help Israel defend itself as well as deter aggression against it, has somewhat blunted the acute Israeli sense of its own vulnerability. It has also influenced some of Israel's responses to its current predicament. Yet the anxiety about the willingness of the United States to sustain this policy going forward, its interest in actively pushing back against Iranian nuclearization, and the bilateral tension over Palestinian issues are leaving many in the Israeli security elite rather anxious. In turn, unsurprisingly, the search for indigenous solutions to Israel's current security predicament, including the option of taking preventive or preemptive unilateral action against Iranian oil and nuclear facilities, is once again attracting serious consideration in Israel. Iran's largely unchecked nuclear advances suggest that the window of opportunity to setting back its nuclear accomplishments is closing, making a last-ditch Israeli initiative seem more appealing (notwithstanding its risks and costs), given that the U.S. resolve to prevent it, by force if absolutely necessary, seems increasingly uncertain. A dynamic is also slowly bleeding into public calls for Israel to reconsider its nuclear posture of extreme restraint, colloquially referred to as "nuclear opacity."

### **Permeating Effects throughout the Region**

While public expressions of the acute threat posed by Iran are heard most vocally from Israel, this is merely the tip of the iceberg. Other predominantly Sunni states in the Middle East and in the Gulf and beyond have become seriously worried about the post-October 7 realities in the region; hence, anxiety over their own vulnerabilities has heightened. Some of their concerns undoubtedly predate the direct confrontation between Israel and Iran since October 7. This anxiety has been building dramatically since the 2019 Iranian-Houthi attack on Saudi oil facilities as well as Iran's direct action against vessels going through the Straits of Hormuz. Their growing unease in the current environment is underpinned by Iran's boldness, its proxies' capabilities,

and the diminished confidence in Israel's and the United States' capacity and resolve to check Iran's nuclear progress and rising influence. Moreover, they have limited indigenous capacity to deter aggression against them and limiting encroachment on their vital economic interests (e.g., the Houthi derailment of shipping through the Suez Canal) adds to their anxiety.

Saudi Arabia has been pinning its hope on addressing its security deficit by exchanging support for post-Gaza reconstruction and normalization with Israel for U.S. extended security guarantees. No such deal has been realized to date, which seems to have led the Saudi leadership to hedge its bets by normalizing relations with Iran, sharpening its criticism of Israel, and engaging in some collaboration with both Russia and China. The UAE has been watching carefully to gauge what the United States would be willing to do for its allies in the region. Sensing that Israel is now weaker and that the United States cannot be confidentially counted upon to come to their rescue has left them pondering their own options. Kowtowing diplomatically to Iran and China and here and there to Russia as well while collaborating under CENTCOM auspices in a regional missile defense architecture have already emerged as partial interim solutions. However, barring a massive effort by the second Trump administration to stem the tide, odds are that at least some of them will eventually seek nuclear weapons—indigenously developed where possible and externally acquired if available (e.g., Saudi Arabia from Pakistan), in response to further Iranian nuclear advances.

## **Conclusion**

The reverberations of the October 7 attack have escalated well beyond the two parties most directly affected. What started as a singular localized, heinous event has increasingly drawn in other parties, leading to a gradual climb up the escalation ladder. It is now threatening to drive an already unstable region toward a more chaotic and uncertain future, potentially culminating into a bloody open-ended regional conflict—one that will deeply scar all involved and likely have immediate, adverse effects on non-regional parties, especially the United States. These dynamics further risk unleashing region-wide nuclear proliferation that could quickly spill over well beyond the region. While this is a rather gloomy outlook, it's not unavoidable if immediate steps are taken, not merely to address the symptoms, but to tackle the root causes of instability.

While the principal interest in re-stabilizing the region rests with regional parties, those in the region that do crave for stability are facing various challenges doing it on their own, especially when the Arab-Israeli divide (mostly over the Palestinian issue) gets in the way. The problem they face is amplified when considering the highly unsettling role Russia now plays in the region. This essentially leaves only the

United States in a position to lubricate political and military collaboration among the moderate forces within the region. It also leaves it up to extra-regional parties (mostly from Europe) to push back against Russian meddling, support and reassure pro-Western regimes in the region, and actively dissuade Iran and its proxies from efforts to upend what little remains of regional stability. In this context, events since October 7 have repeatedly demonstrated the indispensable and highly successful role the United States plays therein. Going forward, much will therefore depend on the willingness and capacity of the increasingly inward-looking United States to sustain this role in the region, especially as tests are most likely to arise early in the Trump administration's term.



# Chapter 5: External Geopolitics Impacting Proliferation Prospects in the Middle East

Asmeret Asghedom<sup>22</sup>

## Introduction

Geopolitical factors outside of the Middle East are affecting the prospects for proliferation in the region. This chapter focuses on five external factors having either direct or indirect effects on the prospects that Iran will cross the nuclear threshold and on the possibility that other countries in the region might proliferate in the future or at the very least seek to obtain nuclear latency capabilities—defined as having the technologies and materials to build a nuclear bomb but stopping short of doing so.<sup>23</sup> These five geopolitical factors are: deteriorating major power relations, undermining of the Nonproliferation Treaty (NPT), the intensification of major power rivalry in the commercial nuclear energy market, Russia’s war in Ukraine, and North Korea’s growing assertiveness.

These external geopolitical factors increase proliferation prospects in general by reducing cohesion among major powers on nonproliferation standards and norms; reducing efforts to impose meaningful consequences on would-be proliferators; deprioritizing global nonproliferation vis-à-vis narrow national interests; lowering barriers to obtain sensitive nuclear technology; and exposing weaknesses and gaps in the global nonproliferation regime, which countries seeking such capabilities can exploit. In the context of the Middle East, where the proliferation threat is high and nuclear future uncertain, the current nonproliferation environment is not able to effectively handle the existing and potential challenges, including stopping Iran from crossing the nuclear threshold and convincing other countries in the region to not attempt to partially or equally match Iran’s nuclear capabilities.

In this chapter, I will first expound upon the five external factors impacting the region’s proliferation prospects. Secondly, I will propose initial steps the United States can take to try and reduce the proliferation prospects.

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<sup>22</sup> The author is grateful to Brad Roberts and Rupal Mehta for comments and feedback on a draft of this paper.

<sup>23</sup> For more on nuclear latency, see Joseph Pilat, ed., *Nuclear Latency and Hedging: Concepts, History, and Issues*, Wilson Center (September 2019). [https://www.wilsoncenter.org/sites/default/files/media/documents/book/nuclear\\_latency\\_and\\_hedging\\_-\\_concepts\\_history\\_and\\_issues.pdf](https://www.wilsoncenter.org/sites/default/files/media/documents/book/nuclear_latency_and_hedging_-_concepts_history_and_issues.pdf). Accessed September 26, 2024.

## External Factor I: Deteriorating Major Power Relations

Deteriorating relations between the United States and its major power rivals Russia and China weaken the global nuclear proliferation regime's ability to manage and reduce global nuclear dangers. It does so in two main ways. First, deteriorating relations are leading to a breakdown in cooperation among the major powers on nonproliferation issues, which is playing out on the international stage. Secondly, deteriorating relations, growing distrust, and the revisionist aspirations of Russia and China have contributed to the expiration and nonrenewal of successive U.S.-Russia arms control agreements, and the inability to get China to engage in discussions about arms control or its nuclear buildup. This is culminating into a loosening of international nonproliferation norms and undermining nonproliferation efforts. This is especially concerning given that a weakening nonproliferation environment comes at a time when Iran is advancing its nuclear capabilities, and Saudi Arabia has threatened to follow suit.

In the past, major powers have worked together to manage and reduce nuclear dangers. During the Cold War, the United States and Russia thought it mutually beneficial to prevent nuclear proliferation and the spread of nuclear weapons technology worldwide, both supporting the creation of the NPT in 1968.<sup>24</sup> Following the fall of the Soviet Union, at the Moscow Summit in 1994, leaders in the United States and Russia reiterated intentions to work together to prevent nuclear proliferation, especially in the Korean peninsula and the Middle East.<sup>25</sup> The next two decades displayed that commitment, with great powers coming together in multilateral talks with the aim of reducing global nuclear dangers, despite their many differences in other arenas.

In the 2000s, the United States, Russia, and China came together for Six Party Talks, along with Japan, South Korea, and North Korea, with the purpose of achieving “verifiable denuclearization of the Korean Peninsula in a peaceful manner.” Although the talks failed to reach their intended goal of denuclearization of North Korea, it showed a commitment among world leaders to work together on denuclearization issues.

This commitment was reiterated in the next decade with a series of talks between Iran and the P5 (permanent members of the UN Security Council—the United States, Russia, China, UK, and France) plus Germany, culminating into the Joint Comprehensive Plan of Action (JCPOA) adopted in 2015. The JCPOA's goal was to roll

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24 “U.S.-Russia Nuclear Arms Control,” Council on Foreign Relations. <https://www.cfr.org/timeline/us-russia-nuclear-arms-control>. Accessed September 26, 2024.

25 “U.S.-Russian Summits, 1992-2000,” U.S. State Department Archive. [https://1997-2001.state.gov/regions/nis/chron\\_summits\\_russia\\_us.html](https://1997-2001.state.gov/regions/nis/chron_summits_russia_us.html). Accessed September 26, 2024.

back technical elements of Iran's nuclear program and extend the "breakout time" of building a nuclear bomb. During the period of JCPOA negotiations, the United States, Russia, and China worked together to reduce Iran's nuclear program. Although cooperation was not perfect, as demonstrated by China's reluctance to reduce Iranian oil purchases, all three powers ultimately agreed that preventing a nuclear-armed Iran was necessary and worthy of collaboration.

We are now in new territory. Despite continuous nuclear testing by North Korea, and reports from the IAEA of significant progress made by the Iranian nuclear program, there are no multilateral initiatives or plans by great powers to cooperatively manage and reduce nuclear dangers. While great powers recently in 2022 released a joint statement reaffirming their joint commitment to the NPT,<sup>26</sup> differences and disagreements among them have mounted so high that they are overshadowing opportunities for cooperation on nonproliferation issues. Differences include a lingering trade war between the United States and China, economic sanctions, Russia's invasion of Ukraine and subsequent nuclear saber-rattling, China's threats to Taiwan, China's buildup of its nuclear arsenal, and Russia's and North Korea's mutual defense commitment signed in June 2024.

The lack of cooperation among great powers on nonproliferation issues leaves a gap in enforcement. The United States, Russia, and China make up three of the five permanent members of the UN Security Council (UNSC), and the IAEA reports concerns about a country's nuclear activity to the UNSC, as it has done with Iran.<sup>27</sup> The lack of cohesion on addressing nonproliferation could create a window of opportunity for countries seeking proliferation, or at the very least, seeking to gain nuclear latency capabilities.

For the most part, experts agree that the JCPOA is dead. Any solution going forward requires some level or form of cooperation among great powers, in terms of negotiating a new agreement or sanctions compliance if a "snapback" is enacted before the October 2025 deadline under UN Resolution 2231. If Iran crosses the nuclear threshold, with great powers doing nothing to prevent that trespass, that would be detrimental to nonproliferation norms and mark another example of a country crossing the nuclear Rubicon without dire consequences. This sets a bad precedent for the future, especially in a region like the Middle East where multiple

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26 The White House, "Joint Statement of the Leaders of the Five Nuclear-Weapon States on Preventing Nuclear War and Avoiding Arms Races" (January 3, 2022). <https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/03/p5-statement-on-preventing-nuclear-war-and-avoiding-arms-races/>. Accessed September 26, 2024.

27 Paul Kerr, "IAEA Reports Iran to UN Security Council," *Arms Control Today* (March 2006). <https://www.armscontrol.org/act/2006-03/iran-nuclear-briefs/iaea-reports-iran-un-security-council>. Accessed September 26, 2024.

countries have expressed their right to enrichment and reprocessing technologies and have attempted to gain nuclear-weapons capabilities in the past.<sup>28</sup>

## External Factor II: Undermining of the NPT

The second external factor weighing on proliferation prospects in the Middle East and elsewhere is the undermining of the NPT. As mentioned earlier, the NPT was signed in 1968 and came into force in 1970. It has been hailed as a success at preventing the spread of nuclear weapons, as the amount of nuclear weapons states in the past 50 years has increased from five to nine<sup>29</sup>—far below President John F. Kennedy's prediction that at least a couple dozen countries would possess the bomb by the 21<sup>st</sup> century.<sup>30</sup>

The undermining of the NPT at different points of history is not new (e.g., when non-NPT states India and Pakistan became nuclear weapons states in 1974 and 1998, respectively,<sup>31</sup> or when North Korea withdrew from the NPT in 2003 and continued to advance its nuclear program). However, we are at a pivotal moment where both nuclear states (including members of the UNSC) and non-nuclear weapons states are doing the undermining.

First, Russia's invasion of Ukraine in 2022 showed blatant disregard for the Budapest Memorandum—"the security assurances pledged to Ukraine by the nuclear powers [including Russia] in exchange for its denuclearization."<sup>32</sup> In December 1994, Ukraine agreed to relinquish its nuclear arsenal (inherited in 1991 after the fall of the Soviet Union) and join the NPT in exchange for security assurances from the United States, the UK, and Russia. Those three countries also vowed "to respect the independence and sovereignty and the existing borders of Ukraine."<sup>33</sup> Several have wondered after

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28 Alexis Blanc and Brad Roberts, *Nuclear Proliferation: A Historical Overview*, Document D-3447, Institute for Defense Analyses (March 2008). <https://apps.dtic.mil/sti/citations/ADA482642>. Accessed September 23, 2024.

29 Rebecca Gibbons and Stephen Herzog, "Durable institution under fire? The NPT confronts emerging multipolarity," *Contemporary Security Policy* 43, no. 1 (2021), pp. 50–79. <https://doi.org/10.1080/13523260.2021.1998294>. Accessed September 26, 2024.

30 Michael O'Hanlon, Robert Einhorn, Steven Pifer, and Frank Rose, *Experts assess the nuclear Non-Proliferation Treaty, 50 years after it went into effect*, Brookings Institution (March 3, 2020). <https://www.brookings.edu/articles/experts-assess-the-nuclear-non-proliferation-treaty-50-years-after-it-went-into-effect/>. Accessed October 2, 2024.

31 Center for Arms Control and Non-Proliferation, "India and Pakistan," <https://armscontrolcenter.org/countries/india-and-pakistan/>. Accessed October 2, 2024.

32 Mariana Budjeryn, *Issue Brief #3: The Breach: Ukraine's Territorial Integrity and the Budapest Memorandum*, Nuclear Proliferation International History Project, Wilson Center. <https://www.wilsoncenter.org/publication/issue-brief-3-the-breach-ukraines-territorial-integrity-and-the-budapest-memorandum>. Accessed October 2, 2024.

33 *Memorandum on Security Assurances in Connection with Ukraine's Accession to the Treaty on the Non-Proliferation of Nuclear Weapons*, United Nations Treaty Series 3007, no. 52241 (December 5, 1994). <https://treaties.un.org/doc/Publication/UNTS/Volume%203007/Part/volume-3007-I-52241.pdf>. Accessed October 2, 2024.

Russia's invasion of Ukraine in 2022 if Ukraine had retained the nuclear arsenal it inherited in 1991, could it have deterred a land invasion from Russia? Although we will never know the answer, the question itself undermines efforts to persuade countries, like North Korea, to denuclearize or to persuade other countries in the future against proliferating in fear of rogue neighbors. Furthermore, Russia's somewhat veiled threats to use nuclear weapons against the West<sup>34</sup> (and its strategy to use those threats in hopes of deterring further Western intervention) undermines global nonproliferation efforts by demonstrating the perceived value of nuclear weapons in a wartime scenario.

Secondly, China's buildup of its nuclear arsenal undermines the denuclearization component of the NPT. In a 2023 report, the U.S. Department of Defense estimated that China "will probably have over 1,000 operational nuclear warheads by 2030," compared with more than 500 operational nuclear warheads it possessed as of May 2023.<sup>35</sup> Under the NPT, the original five nuclear weapons states (the United States, the UK, France, China, and Russia) were allowed to keep their nuclear weapons but were obligated "to make 'good faith' efforts to reduce and ultimately eliminate their nuclear arsenals."<sup>36</sup> Hence, China, a member of UNSC charged with enforcing NPT violations, is not adhering to the NPT itself.

Thirdly, advancements in North Korea's nuclear weapons and missile programs and breakdowns in negotiations in the past undermine efforts on denuclearization and nonproliferation. The last external factor identified in the paper elaborates on this point.

Lastly, tensions and disagreements over the Ban Treaty have the potential to undermine the NPT, although some might argue it is already doing so. The Treaty on the Prohibition of Nuclear Weapons (TPNW), also known as the Ban Treaty, came into force in 2021. TPNW has generated much debate over whether it conflicts with the NPT<sup>37</sup> (i.e., if it is at odds with the traditional nonproliferation architecture under the NPT<sup>38</sup>), whether it weakens the IAEA's verification role relative to the NPT, and whether

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34 Peter Dickinson, *Moscow escalates nuclear threats as Ukraine erases Russia's red lines*, Atlantic Council (September 3, 2024). <https://www.atlanticcouncil.org/blogs/ukrainealert/moscow-escalates-nuclear-threats-as-ukraine-erases-russias-red-lines/>. Accessed October 2, 2024.

35 U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China*, Annual Report to Congress (2023). <https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>. Accessed October 2, 2024.

36 Michael O'Hanlon, Robert Einhorn, Steven Pifer, and Frank Rose, "Experts assess the nuclear Non-Proliferation Treaty, 50 years after it went into effect."

37 Tytti Erästö, "The NPT and the TPNW: Compatible or conflicting nuclear weapons treaties?" Stockholm International Peace Research Institute (March 6, 2019). <https://www.sipri.org/commentary/blog/2019/npt-and-tpnw-compatible-or-conflicting-nuclear-weapons-treaties>. Accessed October 2, 2024.

38 Mary Beth Nikitin, *The Nuclear Ban Treaty: An Overview*, Congressional Research Service, IN10731 (January 25, 2021). <https://crsreports.congress.gov/product/pdf/IN/IN10731>. Accessed October 2, 2024.

it shifts the spotlight on nuclear weapons states, taking away some of the focus on non-nuclear weapons states. While TPNW has 70 state parties, several countries, including the United States, oppose the treaty:

The NPT nuclear weapon states, also the five permanent members of the UN Security Council, as well as the NATO countries, oppose the TPNW. The United States, UK, and France UN Permanent Representatives issued a joint press release stating: “A purported ban on nuclear weapons that does not address the security concerns that continue to make nuclear deterrence necessary cannot result in the elimination of a single nuclear weapon and will not enhance any country’s security, nor international peace and security.”<sup>39</sup>

A key difference between the NPT and the TPNW is that the latter is an outright ban on possessing nuclear weapons, and if nuclear weapons states join it, including the original five nuclear weapons states (China, France, UK, the United States, and Russia), they would be obligated to adhere to its denuclearization timeline. Whereas the NPT commits the original five to disarmament, it does not force them to fully eliminate their nuclear weapons.<sup>40</sup> There are two concerns with the TPNW. The first is that some non-nuclear weapons states might regard the TPNW higher than the NPT, and possibly withdraw from the NPT. The second related concern is that this would put the original five weapons states plus NATO at odds with TPNW states. Furthermore, it would possibly even undermine nonproliferation efforts by the United States or other original five countries, as TPNW countries might perceive them as hypocrites for not signing or adhering to the TPNW.

### **External Factor III: Major Power Rivalry in the Nuclear Energy Industry**

Commercial and diplomatic competition among the United States, China, and Russia to collaborate with Saudi Arabia on nuclear energy is increasing the odds that the “winner” will give into Riyadh’s demand and desire to acquire domestic uranium enrichment capabilities. At the time of writing in October 2024, the United States, which has had a longstanding policy against transferring enrichment technology, is considering building an enrichment facility in Saudi Arabia, as a part of the normalization deal that the United States is attempting to broker between Saudi Arabia and Israel.

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39 Ibid.

40 Ibid.

The United States, China, and Russia, although all a party to the NPT and all permanent UNSC members, have been known to have different approaches and levels of risk tolerance on nonproliferation conditions when collaborating with partners on nuclear energy. For example, traditionally the United States has largely discouraged countries from acquiring enrichment and reprocessing technologies, while Russia has taken a more neutral stance, deferring to IAEA safeguards to prevent proliferation.<sup>41</sup> Another difference is with the IAEA's Additional Protocol (AP), which countries can voluntarily implement in addition to the IAEA's Comprehensive Safeguards Agreement. The AP allows the IAEA to expand its inspections beyond declared nuclear areas to undeclared areas. The United States has made it a condition for partners to sign an AP before obtaining nuclear fuel, equipment, and technology, while Russia has not.<sup>42</sup>

China has less experience as a nuclear energy supplier compared with the United States and Russia, as it has only built reactors outside of China in Pakistan, which is already a nuclear weapons state. However, if rumors that China assisted in building a facility to extract yellowcake from uranium ore in Saudi Arabia are true,<sup>43</sup> then that would suggest that China has relatively looser nonproliferation restrictions, similar or even lower than Russia. This is especially concerning as Saudi Arabia has not implemented a full-scope Comprehensive Safeguards Agreement or voluntarily signed an AP with the IAEA. However, in September 2023, Riyadh did signal its intention to establish a Comprehensive Safeguards Agreement with the IAEA.

Competition among the United States, China, and Russia to partner with Saudi Arabia on nuclear energy has been playing out on and off for more than a decade. While it's believed that Riyadh prefers U.S. nuclear technology, Riyadh has remained open to partnerships with other suppliers due to past U.S. objections to transferring enrichment technologies. In 2008, the United States inked its first preliminary deal with the Saudis to help it establish a civilian nuclear program, with the mutual understanding that Saudi Arabia would import nuclear fuel and not pursue enrichment and reprocessing technologies.<sup>44</sup> However, nothing transpired from that deal. U.S.-Saudi nuclear talks were revived under the Trump administration, and in 2019, the U.S. Department of Energy approved seven confidential licenses allowing U.S. companies to share non-public information with Saudi Arabia, but it did not include

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41 Robert Einhorn, *Prospects for U.S.-Russian nonproliferation cooperation*, Brookings Institution (February 26, 2016). <https://www.brookings.edu/articles/prospects-for-u-s-russian-nonproliferation-cooperation/>. Accessed October 2, 2024.

42 Toby Dalton, Mark Hibbs, Nicole Grajewski, and Ankit Panda, *Dimming Prospects for U.S.-Russia Nonproliferation Cooperation*, Carnegie Endowment for International Peace (March 14, 2024). <https://carnegieendowment.org/research/2024/03/dimming-prospects-for-us-russia-nonproliferation-cooperation?lang=en>. Accessed October 2, 2024.

43 Muhammad Al-Madhaji, "Saudi Arabia's Nuclear Ambitions: U.S. Apprehensions and China's Allure," Wilson Center (December 13, 2023). <https://www.wilsoncenter.org/article/saudi-arabias-nuclear-ambitions-us-apprehensions-and-chinas-allure>. Accessed October 2, 2024.

44 U.S. Department of State, "U.S.-Saudi Arabia Memorandum of Understanding on Nuclear Energy Cooperation," Media Note (May 16, 2008). <https://2001-2009.state.gov/r/pa/prs/ps/2008/may/104961.htm>. Accessed October 2, 2024.

transfers of nuclear material or sensitive nuclear technologies. However, the DOE license approvals received much pushback from Congress.<sup>45</sup>

In recent years, Saudi Arabia has made it clear that it desires the entire nuclear fuel cycle.<sup>46</sup> It intends to bring online nuclear energy to diversify its domestic energy sources, and it wants a domestic nuclear fuel cycle to exploit its domestic uranium reserves. In a major departure, the United States is considering building an enrichment facility in Saudi Arabia, as part of the Saudi-Israel normalization deal the United States is attempting to broker (though its future remains uncertain). Years of the Saudis pitting the United States, China, and other nuclear suppliers against each other in their quest to be Saudi Arabia's nuclear supplier is potentially resulting in a reduction in nonproliferation conditions. If the United States does assist with building an enrichment facility in Saudi Arabia, this would likely set a new precedent for the region as other countries developing nuclear energy, like Egypt and Turkey, may also seek to acquire a fuel cycle.

The Saudis' intentions for a fuel cycle remain in question. The country does not need a nuclear fuel cycle to produce nuclear energy as it can simply import nuclear fuel like several countries do.<sup>47</sup> Secondly, a recent international report deemed its uranium resources as "severely uneconomic," meaning the cost to produce the resources would exceed revenue.<sup>48</sup> Additionally, in the past Saudi Arabia has been widely suspected of having attempted to develop a nuclear weapons program or of having secret nuclear facilities.<sup>49</sup> Lastly, top Saudi officials have said if Iran gets a nuclear

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45 Tom DiChristopher, "Trump administration OKs nuclear energy transfers to Saudi Arabia, sparking new battle with Congress," CNBC (March 29, 2019), <https://www.cnbc.com/2019/03/29/trump-team-and-congress-spar-over-nuclear-energy-transfers-to-saudis.html> (accessed October 2, 2024); Andrew Coffman Smith, "US DOE defends authorizing nuclear technology deals with Saudis," S&P Global (April 1, 2019), <https://www.spglobal.com/marketintelligence/en/news-insights/trending/pm3N1uLU0YObVxJiUK8-fQ2> (accessed August 29, 2024).

46 Lama Alhamawi, "Uranium in Saudi Arabia 'will fuel nuclear industry', energy minister says," Arab News (January 11, 2023), <https://www.arabnews.com/node/2230491/saudi-arabia>. Accessed October 2, 2024.

47 To be fair, a country not needing a fuel cycle might desire one to reduce dependence on international markets for its nuclear fuel, which could be exposed to the effects of sanctions or other types of unforeseen disruptions. While unexpected disruptions in nuclear fuel markets can raise prices for customers, customers can adjust to nuclear fuel supply disruptions by accessing the IAEA's international nuclear fuel bank (located in Kazakhstan) if they are an eligible IAEA Member State (see: <https://www.iaea.org/topics/iaea-low-enriched-uranium-bank>). Additionally, refueling for a nuclear reactor occurs once every 18 to 24 months (see: <https://www.eia.gov/todayinenergy/detail.php?id=37252#>). Thus, continuous fuel supplies for nuclear power plants are not needed, unlike fossil fuel power plants, making nuclear fuel disruptions relatively more manageable due to the longer lead time.

48 Nuclear Energy Agency and the International Atomic Energy Agency, *Uranium 2022: Resources, Production and Demand* (2023), [https://www.oecd-nea.org/jcms/pl\\_79960/uranium-2022-resources-production-and-demand?details=true](https://www.oecd-nea.org/jcms/pl_79960/uranium-2022-resources-production-and-demand?details=true). Accessed October 2, 2024.

49 Simon Henderson and David Schenker, *Saudi Arabia's Nuclear "Asks": What Do They Want, What Might They Get?*, Washington Institute for Near East Policy, Policy Watch 3771 (August 15, 2023), <https://www.washingtoninstitute.org/policy-analysis/saudi-arabias-nuclear-asks-what-do-they-want-what-might-they-get> (accessed October 2, 2024); Muhammad Al-Madhaji, "Saudi Arabia's Nuclear Ambitions: U.S. Apprehensions and China's Allure."



bomb, then Saudi Arabia will follow suit; based on IAEA reporting, Iran is capable of building several nuclear bombs over a matter of months.<sup>50</sup>

Saudi's demand for a nuclear fuel cycle likely reflects its desires to obtain a degree of nuclear latency, which is defined as having the technological capacity to build a nuclear bomb—such as enrichment and reprocessing capabilities and fissile materials—but stopping short of doing so. Multiple countries, such as Brazil, Iran, Italy, Japan, South Korea, and Sweden, have “all used civil nuclear programs to provide a degree of latency, with the nature and motivations for their latency changing as different governments controlled or influenced the course of the programs.”<sup>51</sup> The nuclear fuel cycle used to produce nuclear energy is virtually the same as the fuel cycle to produce nuclear weapons. Hence, a civil nuclear program can be used to gain nuclear latency capabilities, regardless of intent.

Saudi's interest in acquiring a nuclear fuel cycle, and in turn a degree of nuclear latency, likely reflects its desire to match Iran's fuel cycle capabilities.<sup>52</sup> This would not be the first time Saudi Arabia sought to beef up capabilities in response to Iran. The Saudis have been secretly working to advance its ballistic missiles program and capabilities, with assistance from China, which is a part of Saudi Arabia's greater ambition of creating several defense programs to deter Iran and its proxy groups that have launched missiles toward Saudi Arabia in the past.<sup>53</sup> Thus, the Saudis are likely seeking to increase its deterrent capabilities against Iran by building an advanced ballistic missiles program and acquiring nuclear latency to match, equally or at least partially, Iran's capabilities.

Riyadh has been taking advantage of the heightened competition among nuclear suppliers and has quietly made some progress on its nascent nuclear program. Saudi has worked with China to assess its uranium resources and potential extraction projects. In 2018, Saudi launched a project with INVAP, an Argentine government-owned nuclear company, to build a nuclear research reactor in Riyadh, which as of late 2023 was near completion.<sup>54</sup> In 2020, western news sources quoted unnamed

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50 “IAEA chief says Iran could produce a nuclear weapon ‘within months,’” NBC News (April 19, 2024). <https://www.nbcnews.com/video/iaea-chief-says-iran-could-produce-nuclear-weapon-within-months-209316933854>. Accessed October 2, 2024.

51 Joseph Pilat, ed., “Nuclear Latency and Hedging: Concepts, History, and Issues.”

52 Asmeret Asghedom, et al., “The Nuclear Future of the Middle East,” Center for Global Security Research, Workshop Summary (May 2024). <https://cgsr.llnl.gov/content/assets/docs/2024-05-nuclear-future-of-the-middle-east-workshop-summary.pdf>. Accessed October 2, 2024.

53 Riad Kahwaji, “Saudi ballistic missile program seeks deterrence against Iran, Houthi strikes,” Breaking Defense (February 4, 2022). <https://breakingdefense.com/2022/02/saudi-ballistic-missile-program-seeks-deterrence-against-iran-houthi-strikes/>. Accessed October 2, 2024.

54 Pasha Magid, “IAEA chief says Saudi research reactor almost complete,” Reuters (December 13, 2023). <https://www.reuters.com/business/energy/iaea-chief-says-saudi-research-reactor-almost-complete-2023-12-13/>. Accessed October 2, 2024.

officials stating China assisted Saudi Arabia with building “a facility in the Saudi desert to convert uranium ore into yellowcake, an intermediate stage before enrichment.”<sup>55</sup> However, Saudi officials have denied this.

Saudi Arabia is not the only country in the Middle East that has publicly stated its desire and/or its right to obtain enrichment technology. Egyptian President Sisi has stated a desire to build a domestic nuclear enrichment program to fuel its growing domestic nuclear energy program.<sup>56</sup> As of now, Egypt imports nuclear fuel from Russia, the main provider of its nuclear reactors. Although Turkey has not stated intentions to acquire enrichment technology, it believes it has a legal right under the NPT to enrich for peaceful purposes and has not ruled it out. The IAEA director-general met with top level Iraqi officials in March 2024 to discuss developing a “peaceful nuclear program,” though the program excludes enrichment.<sup>57</sup>

If the United States agrees to build an enrichment facility in Saudi Arabia, it will come at a tenuous time. Several countries in Middle East are looking to bring online nuclear energy, many of which believe it is within their legal right to acquire sensitive nuclear technologies for peaceful purposes. If they see the Saudis getting an enrichment facility, amid fears of Iran crossing the nuclear threshold, additional countries in the region might seek to gain nuclear latency capabilities as either: a sign of prestige; out of a sense of fairness as now both Iran and Saudi Arabia have access to sensitive nuclear technologies; as a deterrent against Iran; or to balance defense capabilities with its neighbors. If the United States objects to assisting these countries, then they might employ tactics from Saudi Arabia’s playbook, taking advantage of the heightened competition among nuclear suppliers to acquire such technologies and thereby boosting nuclear latency in the region and increasing the risk for regional proliferation.

## **External Factor IV: Russia’s War in Ukraine**

Russia’s invasion of Ukraine in February 2022 and the ensuing war has drawn Russia closer to Iran and North Korea, as the two U.S. foes are helping Russia source weaponry and equipment to sustain its fight in Ukraine. While friendly relations

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55 Simon Henderson and David Schenker, “Saudi Arabia’s Nuclear ‘Asks’: What Do They Want, What Might They Get?”

56 Egyptian government, “El-Sisi’s Speech at the Official Ceremony of Laying the Foundation Stone for Power Unit 4 at El-Dabaa Nuclear Power Plant,” State Information Service (January 23, 2024). <https://www.sis.gov.eg/Story/191272/El-Sisi%E2%80%99s-Speech-at-the-Official-Ceremony-of-Laying-the-Foundation-Stone-for-Power-Unit-4-at-El-Dabaa-Nuclear-Power-Plant?lang=en-us>. Accessed October 2, 2024.

57 Ahmed Rasheed, “IAEA to Help Iraq Develop Peaceful Nuclear Programme, Agency Head Says,” Reuters (March 18, 2024). <https://www.reuters.com/world/middle-east/iaea-help-iraq-develop-peaceful-nuclear-programme-agency-head-says-2024-03-18/>. Accessed October 2, 2024.

between Russia and those two countries are not new, Russian-Iranian and Russian-North Korean relations have deepened considerably since the invasion, heralding a new level of military cooperation on both fronts.

Experts believe Russian-Iranian relations have evolved into a “full-fledged defense partnership,” as Iran is now supplying Russia with drones, munitions, artillery shells, and ballistic missiles.<sup>58</sup> And in exchange, Iran is obtaining access to sophisticated military technology from Russia, such as fighter jets, attack helicopters, and a potential missile defense system. Iran’s defense assistance to Russia during its war in Ukraine has shifted the character of their relationship. Iran is no longer the subordinate and Russia no longer the dominant player in the relationship. Since Russia’s invasion of Ukraine, Iran has gained closer to equal footing with Russia, weakening the notion that Russia can influence or moderate Iran’s actions in the Middle East and on its nuclear program.<sup>59</sup> The two countries are also deepening ties in nonmilitary sectors, including economic investment, trade, and energy.<sup>60</sup>

Further, Moscow is no longer publicly opposing advancements in Iran’s nuclear program as it did before its invasion of Ukraine. In the 2000s and 2010s, Moscow supported international efforts to prevent progress on Iran’s nuclear program by helping to advance JCPOA talks, supporting IAEA verification, and openly criticizing Iran for expanding enrichment operations. For example, in 2007, Russia voted in support of UN Resolution 1747, urging Iran to “suspend all enrichment-related and reprocessing activities, including research and development, to be verified by the International Atomic Energy Agency (IAEA).”<sup>61</sup> Russia’s support for international efforts carried on all the way into 2021 during talks in Vienna, where experts have credited Moscow diplomats for mediating solutions and preventing a collapse in talks in attempts to restore the JCPOA.<sup>62</sup> However, now Russia is criticizing the West for pressuring Iran. After Russia’s invasion of Ukraine, Russia vetoed a UN resolution concerning Iran:

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58 Emil Avdaliani, “Iran and Russia Enter A New Level of Military Cooperation,” Stimson Center (March 6, 2024). <https://www.stimson.org/2024/iran-and-russia-enter-a-new-level-of-military-cooperation/>. Accessed October 2, 2024.

59 Dana Stroul, *Russian-Iranian Cooperation and Threats to U.S. Interests*, Washington Institute for Near East Policy (April 17, 2024). <https://www.washingtoninstitute.org/policy-analysis/russian-iranian-cooperation-and-threats-us-interests>. Accessed October 2, 2024.

60 Ibid.

61 United Nations, *Security Council Toughens Sanctions Against Iran, Adds Arms Embargo, with Unanimous Adoption of Resolution 1747 (2007)*, Meetings Coverage and Press Releases (March 24, 2007). <https://press.un.org/en/2007/sc8980.doc.htm>. Accessed October 2, 2024.

62 Hanna Notte, “Don’t Expect Any More Russian Help on the Iran Nuclear Deal,” War on the Rocks (November 3, 2022). <https://warontherocks.com/2022/11/dont-expect-any-more-russian-help-on-the-iran-nuclear-deal/>. Accessed October 2, 2024.

In June 2022, Russia vetoed the IAEA Board of Governors resolution that called for Iran to cooperate with IAEA inspections at three undeclared nuclear sites. After the vote, Iran disconnected IAEA cameras at nuclear sites and faced no protest nor concern from Russia, which instead blamed the board resolution for provoking Tehran. Subsequently, following the expiration of UN sanctions on Iran's missile imports and exports in October 2023, Russia offered unequivocal support to Iran and condemned the decision by the E3 (France, UK, and Germany) to extend ballistic missile sanctions on Iran.<sup>63</sup>

Similarly, as Moscow's ties to Pyongyang have deepened, so has Moscow's support to North Korea at the UN Security Council. In June 2024, Russian President Vladimir Putin and North Korean Supreme Leader Kim Jong Un signed a mutual defense treaty, promising to provide military assistance to the other if they are attacked and to also collaborate to "strengthen defense capabilities to prevent war."<sup>64</sup> The signed treaty follows North Korea's ongoing support to Russia during its war in Ukraine, in the form of artillery ammunition and short-range rockets. In March 2024, Russia vetoed a resolution to extend UN sanctions monitoring on North Korea—marking the first time in 14 years that monitoring was not renewed. Two years prior in May 2022, "a U.S.-drafted UNSC resolution to strengthen sanctions on North Korea following its repeated ballistic missile tests in violation of previous UN resolutions" was vetoed by both Russia and China.<sup>65</sup>

Russia's permanent seat on the UNSC and its veto power provides both Iran and North Korea a degree of protection, including on proliferation-related matters, and Russia has been extending this protection to its wartime suppliers since its invasion of Ukraine. Russia plays a critical role in international security and enforcement, as a permanent member of the UNSC, and thus, Moscow's complete split from the West after its invasion of Ukraine and its deepening relations with Western adversaries with growing nuclear capabilities is troublesome for global security. Thus, this increases the nuclear proliferation prospects in the Middle East and Asia. In a world where the UNSC is divided and unable to stop Iran from crossing the nuclear threshold if it chooses or preventing North Korea from making continuous advancements in its nuclear program, it will be increasingly difficult to make a case that these countries' respective foes—Saudi Arabia and South Korea—not do the same.

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63 Toby Dalton, Mark Hibbs, Nicole Grajewski, and Ankit Panda, "Dimming Prospects for U.S.-Russia Nonproliferation Cooperation."

64 Kelsey Davenport, "North Korea, Russia Strengthen Military Ties," Arms Control Association (July/August 2024). <https://www.armscontrol.org/act/2024-07/news/north-korea-russia-strengthen-military-ties>. Accessed October 2, 2024.

65 Eric Ballbach, "After Russia's Veto: The Future of the Sanctions Regime Against North Korea," 38 North (April 12, 2024). <https://www.38north.org/2024/04/after-russias-veto-the-future-of-the-sanctions-regime-against-north-korea/>. Accessed October 2, 2024.

## External Factor V: North Korea: Proliferator and Rogue Salesman

North Korea's growing assertiveness can contribute to proliferation prospects in the Middle East both directly as a supplier of proliferation technologies and indirectly as an example of achieving proliferation. North Korea, a rogue adversary of the United States and its regional allies, has undermined the global nonproliferation regime for decades by secretly developing nuclear weapons, withdrawing from the NPT, and transferring missile and nuclear-related technologies internationally, especially to the Middle East.

### Proliferation Supplier: Direct Impact

Pyongyang is known for pursuing illicit means to generate revenue to feed the Kim Jung Un regime, including military technology transfers, arms trade, cyber theft, drug trade, and human trafficking. For example, in 2023, a Biden administration official told the media they believed about 50% of North Korea's foreign currency earnings comes from theft from cryptocurrency heists and other cyberattacks.<sup>66</sup> One revenue-generating activity facilitated through North Korea's illicit trading networks since at least the 1980s is the export of missile and nuclear-related technology transfers. According to a 2023 report from the Royal United Services Institute (RUSI), since the 1980s, North Korea has transferred short-range ballistic missile systems to several countries in the Middle East—Iran, Egypt, Syria, Libya, Yemen, and the UAE.<sup>67</sup> In the 1990s, North Korea transferred medium-range ballistic missiles to Iran and Pakistan, and intermediate-range ballistic missiles to Iran. Further, on several occasions, North Korea has “transferred technology directly relevant to the development of nuclear weapons.”<sup>68</sup>

There are four notable examples of North Korea transferring nuclear weapons-related technology. In the 1990s, North Korea and Pakistan collaborated to advance their missile and nuclear programs. North Korea helped Pakistan to produce krytrons—components used to trigger a nuclear device.<sup>69</sup> In the early 2000s, North Korea sent uranium hexafluoride gas to Libya to support its secret enrichment ambitions. North Korea constructed a nuclear reactor in Syria capable of producing enough plutonium for one or two nuclear bombs per year if operational, but it was destroyed in 2007 by Israel.<sup>70</sup> Lastly, in 2016, North Korea “attempted to sell a form of lithium metal, a key

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66 Phil Muncaster, “North Korea Makes 50% of Income from Cyber-Attacks: Report,” *Infosecurity Magazine* (June 5, 2023). <https://www.infosecurity-magazine.com/news/north-korea-makes-50-income/>. Accessed October 2, 2024.

67 Daniel Salisbury and Darya Dolzikova, *Profiting from Proliferation? North Korea's Exports of Missile and Nuclear Technology*, RUSI Occasional Paper (2023). <https://static.rusi.org/onward-proliferation-dprk-occasional-paper-dec-2023.pdf>. Accessed October 2, 2024.

68 *Ibid.*

69 *Ibid.*

70 “The Next North Korea? Lessons for Addressing Iran's Nuclear Program,” *Iran Watch* (January 31, 2024). <https://www.iranwatch.org/our-publications/roundtables/next-north-korea-lessons-addressing-irans-nuclear-program>. Accessed October 2, 2024.

material for developing miniaturized nuclear weapons to unidentified nuclear buyers,” according to UN investigators.<sup>71</sup>

According to a paper by the Washington Institute, “No country in the Middle East has had deeper cooperation with Pyongyang in missile development than Iran, according to U.S. and Israeli officials.”<sup>72</sup> Some experts have suspected that the two countries might have collaborated on nuclear weapons-related technology, based on years of circumstantial evidence.

Less substantial evidence exists to definitively link North Korea and Iran on the nuclear front, although officials have repeatedly voiced concerns about that possibility, and unofficial sources hint at potential collaboration. According to Bruce Bechtol, North Korea and Iran have cooperated on developing nuclear technology provided by Pakistani nuclear scientist Abdul Qadeer Khan. A Japanese newspaper claimed that 200 North Korean nuclear scientists were working at uranium enrichment facilities in Natanz, Iran, in 2011. Iranian nuclear officials have attended nearly all of North Korea’s nuclear tests, according to Iranian defectors, and delegations of North Korean experts regularly travel to Iran for consultations, according to an Iranian opposition group in 2015. Moscow apparently supports the consolidation of Tehran-Pyongyang cooperation, with transiting North Korean officials stopping in Russia on their way to Iran.<sup>73</sup>

In the 2023 RUSI report, the authors considered a range of missile and nuclear-related technologies that Pyongyang could offer, based on advancements in these two areas.<sup>74</sup> Such offerings could include potential novel technologies that North Korea has developed, and a surplus of older technology. North Korea’s technological advances, coupled with persistent international sanctions that have left the country strapped for cash, could prompt the country to continue its historic track record of providing would-be proliferators with missile and nuclear-related technologies.

North Korea’s willingness in the past to supply Middle Eastern countries with missile and nuclear-related technologies and its close working relationship with Iran in this area should raise eyebrows as proliferation risks in the region are high due to

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71 Jay Solomon, “North Korea Tried to Sell Nuclear-Weapon Material Last Year,” *Washington Street Journal* (March 8, 2017). <https://www.wsj.com/articles/north-korea-tried-to-sell-nuclear-material-last-year-1489019429>. Accessed October 2, 2024.

72 Jay Solomon, *The North Korean-Israeli Shadow War*, Washington Institute for Near East Policy (September 9, 2019). <https://www.washingtoninstitute.org/policy-analysis/north-korean-israeli-shadow-war>. Accessed October 2, 2024.

73 Jonathan Corrado, “North Korea’s Coming Breakout,” *War on the Rocks* (September 12, 2023). <https://warontherocks.com/2023/09/north-koreas-coming-breakout/>. Accessed October 2, 2024.

74 Daniel Salisbury and Darya Dolzikova, “Profiting from Proliferation? North Korea’s Exports of Missile and Nuclear Technology,” RUSI (December 15, 2013). <https://rusi.org/explore-our-research/publications/occasional-papers/profitting-proliferation-north-koreas-exports-missile-and-nuclear-technology>.

advancements in Iran’s nuclear program and fears that Saudi Arabia will follow suit, as it has stated.

### **Proliferation Example: Indirect Impact**

North Korea’s ability to proliferate nuclear weapons—despite years of international condemnation, heavy sanctions, and diplomatic efforts—sends the wrong signal to rogue countries contemplating proliferation. Given North Korea’s isolated state and networks of illicit trade, economic sanctions have proven inadequate in achieving its intended goal of scaling back North Korea’s nuclear program, especially as the regime has no problem funneling limited funds to its regime, even amid an impoverished population.

North Korea has secretly advanced its nuclear and missile program since the 1960s, even during the negotiation periods of the 1994 Agreed Framework and during Six-Party Talks, initiated in 2003.<sup>75</sup> North Korea has been able to leverage its growing nuclear capabilities to occasionally gain concessions during periods of negotiations, including two unfinished light water reactors,<sup>76</sup> periods of sanctions relief, food aid, and oil supplies at given points of time. A paper written for the Carnegie Endowment describes this as North Korea’s blackmail strategy.

Since the end of the Cold War, North Korea has repeatedly attempted to compel concessions from the United States by wielding the threat of nuclear proliferation. In the early 1990s, North Korea threatened to produce plutonium for nuclear weapons unless Washington provided energy assistance. During the Six-Party Talks a decade later, the North Koreans returned to concession-seeking diplomacy by restarting their mothballed plutonium facilities, producing large quantities of fissile material, and testing a nuclear device. After these negotiations reached an impasse, North Korea avoided using its nuclear program as a bargaining chip until February 2012, when it agreed to a moratorium on “missile launches, nuclear tests, and nuclear activities” in exchange for food aid.<sup>77</sup>

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75 “North Korean Nuclear Negotiations,” Council on Foreign Relations (2024). <https://www.cfr.org/timeline/north-korean-nuclear-negotiations>. Accessed October 2, 2024.

76 Sulgiye Park and Allison Puccioni, “North Korea’s Pursuit of an ELWR: Potential Power in Nuclear Ambitions?” 38 North (January 24, 2024). <https://www.38north.org/2024/01/north-koreas-pursuit-of-an-elwr-potential-power-in-nuclear-ambitions/>. Accessed October 2, 2024.

77 Tristan Volpe, “The Unraveling of North Korea’s Proliferation Blackmail Strategy,” Carnegie Endowment for International Peace (April 10, 2017). <https://carnegieendowment.org/posts/2017/04/the-unraveling-of-north-koreas-proliferation-blackmail-strategy?lang=en>. Accessed October 2, 2024.

North Korea's blackmail strategy, which has played out gradually over the course of decades, demonstrates how a rogue country can take advantage of the carrots and concessions available via negotiations while secretly advancing its nuclear and missile program. North Korea has been able to engage in this type of blackmail only because it has sacrificed the economic well being of its people and quelled any threats of a domestic uprising, while also generating significant amounts of revenue via illicit means to feed the regime.

Hence, North Korea's ability to gradually develop its nuclear weapons and missile programs provides an example to countries on how things might unfold on the international stage, the tradeoffs that should be weighed, and how to try to prepare and attempt to maneuver through the consequences. Certainly, a country could not completely replicate North Korea's experience, but it can draw valuable lessons; namely that the international community tends to deemphasize military options to counter proliferation. Thus, when diplomacy, sanctions, and export controls fail to achieve a rollback of a nuclear program, it is unlikely that a military option to counter proliferation will be employed. A lack of military options reflects the challenges of locating key sites to target (particularly if facilities are spread out and underground), a lack of agreement among key international actors, and/or overall concern of a potential fallout or retaliation that creates a worsening security situation for the United States and/or our allies and partners.

In the context of the Middle East, Iran has followed a similar trajectory as North Korea by engaging in sporadic international negotiations but ultimately making advancements in its nuclear and missile programs while adapting to harsh economic sanctions. Although the extent to which Iran drew lessons from North Korea's proliferation experience is unknown, one can't help but wonder: If the United States had executed a kinetic, military strike destroying North Korea's nuclear facilities at an earlier date, would Iran have been so brazen to advance its nuclear program? Of course, doing so is much easier said than done, considering the scattered and secretive nature of the facilities along with the potential retaliation targeting South Korea.

## **How to Move Forward?**

The biggest challenge for decisionmakers is identifying ways to counter factors bolstering proliferation prospects in the Middle East, particularly in the current environment where tension among great powers is high and collaboration among U.S. adversaries—Russia, China, North Korea, and Iran—is growing. As a first step, the United States needs to promote diplomatic narratives that convince key countries that it is in their own national interest to reduce proliferation prospects in the Middle East.



While diplomatic relations between the United States and China are rocky, there is common ground on this issue. Like the United States, it's not in China's best interest for Iran to cross the nuclear threshold or for other countries in the Middle East, like Saudi Arabia, to follow suit. The following paragraphs outline the reasons why.

First, China does not want instability in the Middle East because that could affect its energy security, in terms of access to affordable and continuous oil and natural gas imports. China depends on foreign oil imports to meet around 70% of its total oil demand,<sup>78</sup> and China sources about half of its oil imports from the Persian Gulf, with Saudi Arabia being its top supplier.<sup>79</sup> China also imports a large amount of natural gas from Qatar. If the growth in conventional and nuclear military capabilities triggers and/or enables conflict in the Middle East that disrupts oil and gas trade and prices—even worse and longer lasting than the September 2019 attacks on Saudi's Abqaiq and Khurais oil facilities prompted by Iran—this would be detrimental to China's energy security.

Secondly, North Korea's burgeoning nuclear program and Iran's potential proliferation presents a larger security problem, in which some countries in the world might feel insecure and decide to acquire nuclear weapons themselves. For example, Japan has nuclear latency capabilities and could possibly cross the threshold in a matter of six months to one year.<sup>80</sup> While South Korea does not have the necessary infrastructure to build a nuclear bomb, its estimated that the country could achieve nuclear latency and possibly a bomb in two to three years.<sup>81</sup> They might seek to develop their own nuclear deterrent over fears that the United States is overcommitted in its extended deterrence commitments and also out of concern for collaboration among Western adversaries (Russia, China, North Korea, and Iran). As noted by experts at a CGSR workshop in May 2024:

While there is strategic cooperation between China and Iran, there is no deep affection. China does not want Iran to cross the nuclear threshold, but China is unlikely to lead the charge on this issue. However, if China sees this as a bigger proliferation issue—rather than only an Iran issue—which could affect the proliferation calculus

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78 Dale Aluf, "China's Reliance on Middle East Oil, Gas to Rise Sharply," Insights Global (January 11, 2022). <https://www.insights-global.com/chinas-reliance-on-middle-east-oil-gas-to-rise-sharply/>. Accessed October 2, 2024.

79 Bethany Allen-Ebrahimiyan, "China's economy hinges on a peaceful Middle East," Axios (Oct 25, 2023). <https://www.axios.com/2023/10/25/china-israel-hamas-war-energy>. Accessed October 2, 2024.

80 Robert Windrem, "Japan Has Nuclear 'Bomb in the Basement,' and China Isn't Happy," NBC News (March 11, 2014). <https://www.nbcnews.com/storyline/fukushima-anniversary/japan-has-nuclear-bomb-basement-china-isn-t-happy-n48976>; <https://www.irsem.fr/media/etude-irsem-93-albessard-japan-en-v2.pdf>. Accessed October 2, 2024.

81 Rachel Oswald, "If It Wanted To, South Korea Could Build Its Own Bomb," Pulitzer Center (April 11, 2018). <https://pulitzercenter.org/stories/if-it-wanted-south-korea-could-build-its-own-bomb>. Accessed October 2, 2024.

of South Korea and Japan, then China might more strongly oppose Iran's proliferation and might be willing to work with the United States.<sup>82</sup>

The United States should reach out to China to collaborate and try to reduce the risk of proliferation in the Middle East. The United States' immediate goal should be laying out a case that convinces China that it is not in its best interest for Iran to cross the nuclear threshold. If China is amenable to collaborate with the United States on this in a manner that is mutually beneficial, China may be able to exert influence and leverage on Iran because it is the largest importer of Iranian oil. China imports the majority of Iranian oil exports,<sup>83</sup> and during the first half of 2024, China imported 1.2 to 1.4 million barrels per day of Iranian oil, despite U.S. secondary sanctions prohibiting this.<sup>84</sup> Over the years, China and Iran have established a way to import Iranian oil, which entails "bypassing the Western financial system and shipping services," using dark fleet tankers, and receiving payments in *renminbi* through small Chinese banks not exposed to the U.S. financial system, according to a 2024 report from the Atlantic Council.<sup>85</sup> Amid a lack of sanctions enforcement, this has generated billions in revenue for the Iranian government. According to a March 2024 report from a U.S.-based organization, over the past three years Iran illicitly sold \$90 billion worth of oil, most of which was sold to China.<sup>86</sup>

If U.S.-Chinese collaboration proves even somewhat productive, then the United States should then aim for a broader solution to the proliferation problem. The United States should lead the charge on trying to garner support for an agreement or pact among nuclear suppliers that they will not export nor build enrichment and reprocessing facility in states not already possessing nuclear weapons. There are several commercial benefits for nuclear suppliers to agree to this, as nuclear energy customers will be forced to depend on existing suppliers for nuclear fuel. Hence, this would greatly benefit the commercial ambitions of the existing few nuclear fuel suppliers, including the United States, select European countries, and Russia—and potentially China in the future. For instance, in the United States, the government has been launching initiatives to revive its nuclear fuel cycle, which would be bolstered by foreign contracts and purchases. On the contrary, one opposing this argument might

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82 Asmeret Asghedom, et al., "The Nuclear Future of the Middle East."

83 Kimberly Donovan and Maia Nikoladze, "The axis of evasion: Behind China's oil trade with Iran and Russia," Atlantic Council (March 28, 2024). <https://www.atlanticcouncil.org/blogs/new-atlanticist/the-axis-of-evasion-behind-chinas-oil-trade-with-iran-and-russia/>. Accessed October 2, 2024.

84 Chen Aizhu, "Exclusive: China's Iranian crude imports find new market in northeast," Reuters (July 26, 2024). <https://www.reuters.com/markets/commodities/chinas-iranian-crude-imports-find-new-market-northeast-2024-07-26/>. Accessed October 2, 2024.

85 Kimberly Donovan and Maia Nikoladze, "The axis of evasion: Behind China's oil trade with Iran and Russia."

86 Claire Jungman and Daniel Roth, "February 2024 Iran Tanker Tracking," United Against Nuclear Iran (March 1, 2024). <https://www.unitedagainstnucleariran.com/blog/february-2024-iran-tanker-tracking>. Accessed October 2, 2024.

contend that outwardly banning countries' rights to enrichment could increase the demand for a black market selling sensitive nuclear technologies, as many countries wish to maintain their right to use nuclear technologies peacefully, in accordance with the NPT.

## **Conclusion**

The five external geopolitical factors affecting the prospects for proliferation in the region are major issues on their own, plaguing international relations and challenging the international world order. As a recap, these five factors are: deterioration of major power relations, the undermining of the NPT, the intensification of major power rivalry in the commercial nuclear energy market, Russia's war in Ukraine, and North Korea's growing assertiveness. Unfortunately, these major geopolitical problems are contributing to the increased risk of proliferation in the Middle East, while widening the divide between the United States and its great power rivals, Russia and China—who are all responsible for maintaining global security through their roles as permanent members of the UNSC.

The path forward is precarious, as there are limited policy options to reduce the risk of proliferation in the Middle East, particularly for Iran, as it has probably acquired the technical capability to cross the threshold if it so chooses. At this point, the policy options that remain for the United States are additional diplomacy attempts to make a deal with Iran, enacting snapback sanctions, or exercising a military option. In this chapter, I do not advocate for one of these options, as the purpose of the chapter is to analytically draw out how the geopolitical issues outside of the Middle East are affecting the region's proliferation prospects, as a means of raising awareness of unintended consequences.

However, I do recommend that the United States initiate a dialogue with China on this topic, as proliferation in the Middle East is not in the best interest of both countries. Showing China how proliferation in the region could affect its energy security and perhaps influence proliferation in East Asia might help to bring China in closer alignment with the United States at the UNSC during voting concerning Iran. China can also attempt to use its leverage over Iran to try and influence its next steps.

# Chapter 6: Turkey's Nuclear Future

Sinan Ülgen

## Introduction

Since Turkey became a member of the North Atlantic Treaty Organization (NATO) in 1952, it has played a role in the nuclear posture of the alliance. Turkey is also a part of NATO's nuclear sharing arrangement; therefore, Turkey's nuclear future has thus far been completely entangled with Ankara's commitments to the alliance. This analysis will explore whether this situation can change. In other words, it will assess conditions that could compel Ankara to potentially seek to develop its own nuclear deterrent. The first section of the paper will provide an overview of Turkey's nuclear posture and nonproliferation commitments, and the second section will provide an analysis on the different scenarios that could unravel the status quo.

## Turkey's Nuclear Posture

As things stand, there are several dimensions to Turkey's nuclear posture.

### NATO Nuclear Deterrence

As a member of NATO, Turkey is under the U.S. extended nuclear deterrence umbrella. Turkey is also a part of NATO's nuclear sharing arrangement. For Turkish policymakers, Turkey's inclusion in the nuclear sharing arrangement is viewed as an important component of the overall political and security relationship with Washington and NATO, and it has not been a controversial political issue within Turkey. One exception may be calls, especially by the pro-government media, for the Turkish government to end the base sharing arrangements with the United States, but these demands, which regularly surface during the peak of bilateral disputes with the United States, have had no impact on policy. Ankara's official position is that any potential change in NATO's nuclear sharing arrangement assets should be part of a consensual and collaborative decision among NATO allies.

Some analysts have also maintained that these nuclear sharing arrangements have had an anti-proliferation role in Turkey.<sup>87</sup> The argument is that the physical demonstration of U.S. extended nuclear deterrence have disincentivized possible

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87 Sinan Ülgen, *Turkey and the Bomb*, Carnegie Endowment for International Peace (February 15, 2012). [https://carnegie-production-assets.s3.amazonaws.com/static/files/files\\_\\_turkey\\_bomb.pdf](https://carnegie-production-assets.s3.amazonaws.com/static/files/files__turkey_bomb.pdf). Accessed September 24, 2024.

attempts by the country's political leadership to seek a domestic nuclear deterrent. Ankara has traditionally been fully supportive of the NATO nuclear posture and is actively participating in the NATO Nuclear Planning Group. The Turkish Air Force has been assigned tactical support roles in NATO missions, although it does not have a direct role in NATO nuclear missions due to the absence of dual capable aircraft.

### **Nonproliferation and Civilian Use**

Turkey has a strong nonproliferation record. Ankara ratified the Nonproliferation Treaty (NPT) in 1979 and signed the Comprehensive Safeguards Agreement with the International Atomic Energy Agency (IAEA) in 1981. The Additional Protocol added to its safeguards agreement has been in force since 2001. In addition, the country has no real infrastructure that could cause proliferation concerns. Commercial scale uranium enrichment capabilities are nonexistent.

The country's first nuclear power plant (NPP) is being built by Russia's Rosatom at Akkuyu, near Mersin. It is the first NPP in the world that is being constructed on the basis of a build own operate (BOO) investment scheme. As a result, Rosatom will essentially be responsible not for the financing and for the operation of the NPP. This arrangement also means that the fuel cycle will be managed by the Russian operator. The NPP's fuel will be imported from Russia, and the spent fuel is expected to be shipped back to Russia. There are currently no plans to set up domestic infrastructure for uranium enrichment. Nonetheless, this decision could come under review as Turkish policymakers seek to expand the scope of nuclear energy with additional projects in the Black Sea and the Thrace regions.

### **Turkey as a Nuclear-Weapons State?**

Turkey's nonproliferation commitments demonstrate the difficulty that Turkish authorities would face even if they became interested in developing a domestic nuclear deterrent. The establishment of a secret, non-IAEA-monitored fuel enrichment infrastructure, which if detected would trigger a series of sanctions, is a non-realistic scenario for the NATO ally. In addition, Turkey's political economy would also act as a major barrier. Turkey has an open economy, relying on its connections with the rest of the world and especially with Europe to generate wealth. The existing trade, investment, finance, and technology links with the West are critical for the future performance of this economic model. It is difficult to envisage how a democratically elected government can contemplate potentially crippling sanctions for the sake of a nuclear adventure.

Despite these realities, Turkey regularly appears in international commentary as a potential state of nuclear proliferation.<sup>88</sup> The argument is that Ankara would be part of a cascade of regional proliferation triggered by Tehran's acquisition of a nuclear weapon. Some statements by the Turkish President Recep Tayyip Erdogan may also have fueled this perception. For instance, when speaking to the ruling AK Party delegates in 2019, he stated, "Several countries have missiles with nuclear warheads, not one or two. But (they tell us) we cannot have them. This, I cannot accept. ... There is no developed nation in the world that does not have them."<sup>89</sup> Some analysts have interpreted Erdogan's comments as an indication of Ankara's desire to obtain a nuclear deterrent.<sup>90</sup> In reality, these statements should be read as a criticism of the global nuclear order that has not only failed in its ambitions of significantly lowering the global nuclear arsenal but has also allowed a select number of states to operate unhindered outside the NPT framework, rather than a reflection of Ankara's desire to violate its nonproliferation commitments.<sup>91</sup>

## **Under Which Conditions Might Ankara Proliferate?**

However, is there a scenario where Turkey could indeed seek its own nuclear deterrent? One could argue that Turkey's potential path to nuclear proliferation would require the concomitant fulfillment of a key number of conditions.

### **Condition #1: The Volatility of NATO Nuclear Deterrence**

As an ally, Turkey is a beneficiary of NATO's nuclear deterrence. Thus, any motivation for Turkey to acquire its nuclear weapons can be rationalized only under the extreme scenario of a collapse or severe weakening of the credibility that underpins this deterrence. A new U.S. administration that withdraws its commitment under NATO to the defense of its European allies could potentially create such a security conundrum.

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88 For instance, Richard Haas stated, "A nuclear-armed Iran would likely trigger a regional arms race. Several of its neighbors—particularly Saudi Arabia, Egypt, the United Arab Emirates, and Turkey—might well develop or acquire nuclear weapons of their own." See Richard Haas, "The Other Proliferation," *Project Syndicate* (August 26, 2024). <https://www.project-syndicate.org/commentary/increases-in-existing-nuclear-arsenals-create-new-dangers-by-richard-haas-2024-08>. Accessed September 24, 2024.

89 "Erdogan says he 'cannot accept' being told Turkey shouldn't have nuclear weapons," *Middle East Eye* (September 4, 2019). <https://www.middleeasteye.net/news/erdogan-says-he-cannot-accept-being-told-turkey-cannot-have-nuclear-weapons>. Accessed September 24, 2024.

90 For instance, see Shannon Bugos, "Turkey Shows Nuclear Weapons Interest," *Arms Control Association* (October 2019). <https://www.armscontrol.org/act/2019-10/news/turkey-shows-nuclear-weapons-interest>. Accessed September 24, 2024.

91 See also Tim Lister, "No longer the obedient NATO ally, Erdogan floats nuclear option," *CNN* (October 21, 2019). <https://www.cnn.com/2019/10/21/middleeast/turkey-erdogan-nuclear-weapons-intl/index.html>. <https://edition.cnn.com/2019/10/21/middleeast/turkey-erdogan-nuclear-weapons-intl/index.html>. Accessed September 25, 2024.

## **Condition #2: The Collapse of the Security Relationship with the United States**

Turkey and the United States have a long-standing bilateral security relationship that extends beyond the NATO framework. This very solid foundation has gradually been eroded over the past two decades with divergences regarding regional security. The ill-fated U.S. intervention in Iraq has created a security challenge for Turkey with the emergence of a frail state structure. But even more importantly, U.S. policies in Syria, which saw the establishment of a militarized support infrastructure for the YPG [a Syrian-based component of the Kurdistan Workers' Party (PKK)], have adversely affected the perception in Ankara of the United States as a security ally. This period also coincided with Turkey's ambitions to expand its strategic autonomy in its foreign relations. Turkey's acquisition of the S-400, an air and missile defense system from Russia—which precipitated Countering America's Adversaries Through Sanctions (CAATSA) measures against Turkey—was completed against this backdrop. And yet a total collapse of the Turkey-U.S. security relationship would involve a much greater degree of acrimony. It would probably imply Turkey's exit from a weakening NATO, and its closer alignment with the Russia-China axis.

## **Condition #3: Collapse of the NPT Regime**

From Ankara's perspective, the fallout from Iran's potential proliferation would be twofold. It would in all likelihood trigger a scenario of regional nuclear armament. But possibly—and more importantly—it would signal the vulnerability of the NPT regime. It would create a situation where the violation of NPT commitments or more realistically the withdrawal from the NPT regime would essentially become devoid of political costs.

## **Condition #4: Emergence of an Alternative/Competing European Union (EU)-Led Security Order**

Combined with the weakening of NATO deterrence and the concomitant erosion of trust within the transatlantic relationship, the emergence of an EU-led security and defense architecture with a possible European nuclear deterrence component that would exclude Turkey would also create conditions amenable for the Turkish leadership to independently advance their nuclear ambitions. French President Emmanuel Macron's recent speech at the Sorbonne has in fact alluded to such an outcome.<sup>92</sup> He talked specifically about a common security framework and a security guarantee for Europe that would be underpinned by the nuclear arsenal of France. Macron's vision for the future of Europe's strategic autonomy in security and defense has no room for Turkey. The EU Strategic Compass document, which set out this ambition, calls for the continuation of cooperation with Turkey in areas of common interest. And yet for other non-EU NATO allies, the terminology is vastly different and

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<sup>92</sup> Emmanuel Macron, remarks to Sorbonne University (April 25, 2024). <https://www.elysee.fr/en/emmanuel-macron/2024/04/24/europe-speech>. Accessed September 24, 2024.

ambitious.<sup>93</sup> The document iterates that the EU is “open to a broad and ambitious security and defence engagement” with the UK and that it will deepen its constructive relations with Norway as its most closely associated partner through the Agreement on the European Economic Area.

### **Condition #5: Heavily Securitized Authoritarian Domestic Politics**

Even if these external conditions were to be aligned in a way that would favor the politics of Turkey’s potential proliferation, the country’s political economy would act as a barrier. Given Turkey’s open economy growth model and its mutual interdependence with Western economies, Ankara cannot realistically envisage becoming a “rogue” regime that violates its multilateral nonproliferation commitments for the heavy economic, and therefore, domestic political cost that this path would entail. The only, and arguably extreme, scenario that would overcome this barrier is the emergence of an authoritarian governance that seeks to retain its popular legitimacy by nurturing a heavily securitized narrative laden with references to domestic and external enemies.

### **Conclusion**

This analysis has aimed to provide a reality check on Turkey’s aspirations to become a military nuclear power. As things stand, it is almost impossible to contemplate such a scenario, given that Turkey is a NATO member and has signed an Additional Protocol with the IAEA. The analysis has also set out the conditions that would need to be fulfilled for Turkey to chart such a divergent path. The fact that all of these conditions need to be fulfilled simultaneously demonstrates the unrealistically high bar for a proliferating Turkey.

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93 General Secretariat of the Council, *A Strategic Compass for Security and Defence*, Council of the European Union (March 21, 2022). <https://data.consilium.europa.eu/doc/document/ST-7371-2022-INIT/en/pdf>. Accessed September 24, 2024.



# Chapter 7: Nonproliferation, Clean Energy Demand, and the Evolving Nuclear Ecosystem

*Lindsey Gehrig*

## Introduction

This chapter examines the relationship between clean energy demand and nonproliferation. Global clean energy targets to reduce greenhouse gas emissions and combat climate change have revived demand for nuclear energy globally, particularly as a reliable, baseload source of clean energy that supports energy security.<sup>94</sup> However, growing demand for nuclear energy is presenting challenges to the nonproliferation community due to a number of factors. The sheer number of nuclear power plants needed to meet clean energy targets and energy demand, the increase in the types and designs of nuclear reactors under consideration, and a growing diversity in the applications and locations of nuclear technology all complicate the prospect of widespread civil nuclear expansion. So too is the suggested pace at which this expansion should occur.

To illustrate this point, this chapter first discusses trends and drivers contributing to the resurgent interest in civil nuclear expansion. It then explores the concept of an evolving nuclear ecosystem by providing two examples relevant to the Middle East. Throughout this analysis are questions designed to inspire thoughtful consideration of whether the international norms, institutions, treaties, technology, and guidance documents that currently comprise the nonproliferation regime will remain effective in the face of unprecedented changes to our planet, energy demand, and proposed applications of nuclear technology.

## Energy Demand and Nonproliferation

Nuclear energy, including the material and technology necessary to produce it, links the fields of clean energy demand and nonproliferation in new and unprecedented ways. Growth in the world's population and economy, coupled with rapid urbanization,

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94 According to the U.S. Energy Information Agency, "Nuclear power reactors have the highest average monthly and annual capacity factors because they usually operate at or near their rated electricity generating capacity throughout the year to provide base-load electricity generation." For more, see U.S. Energy Information Agency, "How much electricity does a power plant generate?" (July 10, 2024). <https://www.eia.gov/tools/faqs/faq.php?id=104&t=3>. Accessed October 24, 2024.

will drive substantial increases in energy demand over the coming years. The U.S. Energy Information Administration and others project that global energy consumption will increase through 2050, beyond what advances in energy efficiency can compensate for.<sup>95</sup> Acknowledging a potential gap between supply and demand growth, the World Nuclear Association points out that “almost all reports on future energy supply from major organizations suggest an expanded role for nuclear power is required, alongside growth in other forms of low-carbon power generation, to create a sustainable future energy system.”<sup>96</sup>

If an expanded role for nuclear power is required, there are important implications for the nonproliferation community. First, as more countries around the world acquire technologies, facilities, expertise, and materials to establish or expand their civil nuclear programs, the global capacity for converting those assets into a weapons program will increase if proliferation controls do not grow in tandem. Second, the global nuclear governance structure we rely on today was built around the assumption that countries seeking new or expanded nuclear energy infrastructure would construct large, land-based nuclear reactors. However, today’s interest in civil nuclear power programs is different than it has been in the past, and it is challenging previous assumptions about when, where, why, and how nuclear technology will be deployed.

To be sure, from the very beginning of the atomic age there has been debate about the promise and peril of nuclear technology. The International Atomic Energy Agency (IAEA) and the core pillars of the nonproliferation regime were established to encourage the spread of peaceful nuclear technology while protecting against the development of weapons capabilities—which has resulted in the simultaneous promotion and control of nuclear energy technologies. This tension around how and under what conditions nuclear technology is deployed has occurred on the international stage for decades.

What is different today is the suggested rate and scale with which nuclear technology must expand around the world to meet the demand for clean energy. In November 2023, at the 28<sup>th</sup> Conference of the Parties (COP28) under the United Nations Framework Convention on Climate Change (UNFCCC), more than 20 countries signed a declaration to triple nuclear energy capacity by 2050.<sup>97</sup> In parallel, more than

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95 U.S. Energy Information Administration, “EIA projections indicate global energy consumption increases through 2050, outpacing efficiency gains and driving continued emissions growth” (October 11, 2023). <https://www.eia.gov/pressroom/releases/press542.php>. Accessed October 22, 2024.

96 The World Nuclear Association, “World Energy Needs and Nuclear Power” (July 30, 2024). <https://world-nuclear.org/information-library/current-and-future-generation/world-energy-needs-and-nuclear-power>. Accessed October 22, 2024.

97 U.S. Department of Energy, “At COP28, Countries Launch Declaration to Triple Nuclear Energy Capacity by 2050, Recognizing the Key Role of Nuclear Energy in Reaching Net Zero” (December 1, 2023). <https://www.energy.gov/articles/cop28-countries-launch-declaration-triple-nuclear-energy-capacity-2050-recognizing-key>. Accessed October 22, 2024.

120 companies signed the Net Zero Nuclear Industry Pledge, echoing the goals set by the declaration.<sup>98</sup> More recently, 14 of the world's biggest financial institutions pledged their support for nuclear energy, adding an important constituency to the Tripling Pledge.<sup>99</sup> This potential rate of nuclear expansion is unprecedented since the beginning of the nuclear age, and should be of great importance to the nonproliferation community. For such growth to be realized there would be extensive impacts on nuclear industry, regulators, workforce development, and national energy policies all over the world. In addition, new players will likely emerge. They will emerge in industry by way of new technologies and at the state level by way of new countries seeking nuclear solutions for climate change, energy security, or sustainable development goals.

With respect to nonproliferation, the questions then become: How will an accelerated pace of nuclear expansion and new stakeholders integrate into and/or challenge our current nuclear ecosystem? Will the existing norms, treaties, laws, standards, best practices, and guidance documents that we rely on to promote security, provide transparency, safeguard material, prevent weapons proliferation, and avoid accidents be sufficient, or do they need to be modified?

Complicating matters is the wave of innovation we are currently experiencing related to Small Modular Reactors (SMRs), with over 80 new designs under development around the world.<sup>100</sup> Given the amount of research and investment in new design concepts, it is likely that some of the facility types and reactor designs we will see in the coming decades will be different than ones we are accustomed to today. This, in turn, introduces a range of questions surrounding new vendors, operators, regulators, business models, and importantly, new applications of nuclear technology.

For example, in many parts of the world, data centers are driving significant growth in electricity demand. The International Energy Agency (IEA) reported this year that electricity consumption from data centers, artificial intelligence (AI), and the cryptocurrency sector could double by 2026.<sup>101</sup> According to the IEA report, "after

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98 World Nuclear Association, "Net Zero Nuclear Industry Pledge sets goal for tripling of nuclear energy by 2050" (May 8, 2024). <https://world-nuclear.org/news-and-media/press-statements/net-zero-nuclear-industry-pledge-sets-goal-for-tri>. Accessed October 22, 2024.

99 "World's biggest banks pledge support for nuclear power," *Financial Times* (September 23, 2024). <https://www.ft.com/content/96aa8d1a-bbf1-4b35-8680-d1fef36ef067>. Accessed October 22, 2024.

100 SMRs are defined as "advanced nuclear reactors that have a power capacity of up to 300 MW(e) per unit, which is about one-third of the generating capacity of traditional nuclear power reactors. Many SMRs, which can be factory-assembled and transported to a location for installation, are envisioned for markets such as industrial applications or remote areas with limited grid capacity." For more information, see International Atomic Energy Agency, "Small Modular Reactors." <https://www.iaea.org/topics/small-modular-reactors>. Accessed October 22, 2024.

101 International Energy Agency, *Electricity 2024: Analysis and forecast to 2026* (January 2024). <https://www.iea.org/reports/electricity-2024>. Accessed October 22, 2024.

globally consuming an estimated 460 terawatt-hours (TWh) in 2022, electricity consumption from data centers could reach more than 1,000 TWh in 2026. This demand is roughly equivalent to the electricity consumption of Japan.”<sup>102</sup> Given the environmental commitments and decarbonization efforts that large multinational technology companies have made public, we are seeing unprecedented interest in nuclear energy from the technology industry.

In 2024, Talen Energy announced the \$650 million sale of a data center in Pennsylvania to Amazon Web Services (AWS) that is directly powered by the adjacent Susquehanna nuclear power plant.<sup>103</sup> Elsewhere in the technology world there has been notable activity from Microsoft, which is also exploring nuclear options to power its AI and cloud services.<sup>104</sup> In September 2024, Constellation Energy announced that it is reopening the Three Mile Island nuclear power plant in Pennsylvania and will exclusively sell the power to Microsoft as the company searches for energy sources to fuel its AI ambitions.<sup>105</sup>

The takeaway here is that projections of future energy demand are strong. As a result, we are seeing nontraditional end users seeking next-generation nuclear technology for new applications. Similar to the range of questions above regarding the pace of civil nuclear expansion and new stakeholders, what do these new end users and applications mean for the nonproliferation regime? Will the regime be able to remain relevant and effective in its current form and function? Also significant is the uncertainty over whose advanced reactor designs will win the race to the market, where they will be sold, and whether the associated conditions of supply will weaken or fortify the nonproliferation regime.

Having established the link between energy demand, nuclear technology, and associated nonproliferation implications, the following section will provide a few examples of what the evolving nuclear ecosystem could look like in the Middle East.

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102 Ibid.

103 Nuclear Newswire, “Amazon buys nuclear-powered data center from Talen,” American Nuclear Society (March 7, 2024). <https://www.ans.org/news/article-5842/amazon-buys-nuclearpowered-data-center-from-talen/>. Accessed October 22, 2024.

104 Drake Bennett, “Microsoft Sees Artificial Intelligence and Nuclear Energy as Dynamic Duo,” Bloomberg (September 29, 2023). <https://www.bloomberg.com/news/newsletters/2023-09-29/microsoft-msft-sees-artificial-intelligence-and-nuclear-energy-as-dynamic-duo>. Accessed October 22, 2024.

105 “Constellation to restart Three Mile Island unit, powering Microsoft,” World Nuclear News (September 20, 2024). <https://www.world-nuclear-news.org/articles/constellation-to-restart-three-mile-island-unit-powering-microsoft>. Accessed October 22, 2024.

## The Evolving Nuclear Ecosystem and the Middle East

In many parts of the world, combating climate change is a driver for clean energy demand, but what is the appetite in the Middle East for reducing the use of fossil fuels? After all, the region is home to five of the world's top 10 oil producers and three of the top 20 natural gas producers.<sup>106</sup> Of all places in the world, why consider new and expanded applications of nuclear technology here when nearly 95% of the electricity generated in the Middle East comes from natural gas and oil, the highest share in the world?<sup>107</sup>

Here are two factors to consider. First, oil and gas companies are under pressure to reduce greenhouse gas emissions to support global decarbonization efforts. This sector in particular is facing scrutiny because oil and gas production, transport, and processing contribute around 15% of all energy-related greenhouse gas emissions worldwide.<sup>108</sup> The IEA calculates that the use of oil and gas accounts for another 40% of emissions.<sup>109</sup> While the remote nature of most upstream oil and gas operations makes them difficult to electrify from the grid, the prospect of using SMRs to deliver power directly to sites changes this calculus.

If not electricity, there are numerous heavy industries, including oil and gas, with a significant market potential for utilizing nuclear process heat. According to the IAEA, “the simplest and most near-term application with very large market potential for small-sized modular nuclear reactors is the generation of high-quality steam for consumers in the chemical and petroleum industries.”<sup>110</sup> The concept itself is not farfetched. In March 2024, two UK-based companies, Viaro and Newcleo, announced a partnership to decarbonize oil and gas assets using an advanced modular reactor that Newcleo is developing.<sup>111</sup> It might take several more years, but if SMR technology becomes a cost-competitive option, one has to wonder what the economic and geopolitical implications would be for the Middle East if the oil and gas industry adopts nuclear technology.

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106 International Energy Agency, “Energy System of Middle East.” <https://www.iea.org/regions/middle-east>. Accessed October 3, 2024.

107 Ibid.

108 International Energy Agency, *Emissions from Oil and Gas Operations in Net Zero Transitions* (May 2023). <https://www.iea.org/reports/emissions-from-oil-and-gas-operations-in-net-zero-transitions>. Accessed October 22, 2024.

109 Ibid.

110 International Atomic Energy Agency, *Industrial Applications of Nuclear Energy*, Nuclear Energy Series No. NP-T-4.3 (2017). <https://www.iaea.org/publications/10979/industrial-applications-of-nuclear-energy>. Accessed October 22, 2024.

111 “Viaro partners with Newcleo to decarbonise oil and gas assets,” *World Nuclear News* (March 5, 2024). <https://world-nuclear-news.org/Articles/Viaro-partners-with-Newcleo-to-decarbonise-oil-and>. Accessed October 22, 2024.

If pressure on oil and gas companies to reduce greenhouse gas emissions is not compelling enough to introduce advanced nuclear technology, there is another source of pressure at play in the Middle East that is foundational to almost every aspect of producing energy, from electricity generation to fossil fuel extraction to fuel transport: water.

Water and energy are two deeply interdependent variables, and water sits at the center of the climate crisis. As a region, the Middle East has one of the lowest levels of freshwater use per capita in the world.<sup>112</sup> Rising sea levels, increasingly frequent flooding and droughts, and declining glacial and snow cover are all projected to exacerbate water stress and further limit access to sources of potable water. Without solutions to mitigate these and other effects of climate change, water scarcity will increasingly pose a threat to quality of life, public health, and regional stability on a global scale. For the Middle East, this means that climate change will result in an even higher need for energy consumption to be dedicated to water supply. In other words, more desalination plants will need to be commissioned.

With a growing population and easy access to seawater, desalination is the main approach used in the Middle East to overcome water scarcity. This technology is well established, with approximately 150 countries using desalination for various applications.<sup>113</sup> While more than 300 million people around the world rely on desalinated water for some or all of their daily water needs, this is especially true in the Middle East.<sup>114</sup> Gulf Cooperation Council (GCC) countries<sup>115</sup> account for roughly 60% of global water desalination capacity, producing around 40% of the total desalinated water in the world using over 400 desalination plants across the region.<sup>116</sup> This technology is a great option for curtailing water insecurity, but desalination is energy-intensive, often requiring over 1 kilowatt-hour per cubic meter of water treated.<sup>117</sup> With an abundance of cheap oil and gas, more than 95% of desalination services in the Middle East come from fossil fuels.<sup>118</sup> Saudi Arabia alone uses approximately 300,000 barrels of oil per day on desalination.<sup>119</sup> The IEA projects

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112 International Energy Agency, "Energy is vital to a well-functioning water sector" (March 22, 2024). <https://www.iea.org/commentaries/energy-is-vital-to-a-well-functioning-water-sector>. Accessed October 22, 2024.

113 Ibid.

114 Keith Hayward, "What role for desalination in the new water paradigm," International Water Association (June 6, 2016). <https://iwa-network.org/news/what-role-for-desalination-in-the-new-water-paradigm/>. Accessed October 22, 2024.

115 GCC countries include Kuwait, Saudi Arabia, Bahrain, United Arab Emirates (UAE), Qatar, and Oman.

116 Achref Chibani, "The Costs and Benefits of Water Desalination in the Gulf," Arab Center Washington, DC (April 12, 2023). <https://arabcenterdc.org/resource/the-costs-and-benefits-of-water-desalination-in-the-gulf/>. Accessed October 22, 2024.

117 International Energy Agency, "Energy is vital to a well-functioning water sector."

118 Ibid.

119 Achref Chibani, "The Costs and Benefits of Water Desalination in the Gulf."

that the growing demand for desalination in the Middle East will push its share of final energy consumption from 7% (as of March 2024) to 10% by 2030 and 15% by 2050.<sup>120</sup>

If the need for more desalination is met in a very energy- and emissions-intensive way, this could lead to a vicious cycle that produces more emissions and, in turn, more extreme weather. How acute will water scarcity and the climate crisis need to become before fossil fuels are no longer viewed as the leading option for powering desalination plants? What if the thermal energy needed came from nuclear reactors instead of fossil fuels?

For more than three decades, the IAEA has been supporting nuclear technology for seawater desalination. The IAEA and many of its member states view this as a proven and reliable option to meet the growing demand for potable water and provide hope to areas with acute water shortages.<sup>121</sup> Countries such as India, Japan, and Kazakhstan are currently leading the way in nuclear desalination, with hundreds of reactor-years of successful operations.<sup>122</sup> As with many things, economics holds the key to the future of nuclear desalination in the Middle East, but with climate change, energy demand, and water scarcity at play in the region, it is worth considering a future where traditional or advanced nuclear reactors are essential to maintaining economic growth, food production, human well being, and environmental sustainability in the region.

And if there is one thing we know about nuclear, it is that the players matter. The enduring and comprehensive nature of nuclear cooperation agreements matters. If the oil and gas industry or desalination technology results in the more pervasive use of nuclear technology in the Middle East, where will it be deployed? Who will provide it? How will advanced nuclear technology change priorities and partnerships in the region? Will partnerships be formed based on ideology or economics? To what extent will regional peace and stability be a consideration? Will the highest standards of nonproliferation, safety, and security be adhered to or deprioritized in the face of other competing interests?

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120 International Energy Agency, "Energy is vital to a well-functioning water sector."

121 International Atomic Energy Agency, "Nuclear Desalination." <https://www.iaea.org/topics/non-electric-applications/nuclear-desalination>. Accessed October 22, 2024.

122 Ibid.

## **Conclusion**

These examples are meant to illustrate ways in which the nuclear ecosystem is evolving, as companies turn to nuclear energy to power data centers, and nuclear energy is being considered for a diverse range of industrial applications. Underpinning demand for nuclear energy is the notion that climate change is exacerbating existing sources of insecurity to such an extent that the cost/benefit analysis for introducing nuclear technology in different use cases is changing. As a result, we are seeing nontraditional end users seeking next-generation nuclear technology for new applications. At the same time, we are hearing a global call from nations and industry to pursue civil nuclear expansion at an unprecedented speed. This should inspire thoughtful consideration of whether the international norms, institutions, treaties, technology, and guidance documents of today can support the nuclear ecosystem of tomorrow.



# Chapter 8: Challenges to the International Nuclear Order: Impacts on Nonproliferation Globally and in the Middle East

Joseph F. Pilat<sup>123</sup>

The international nuclear order—upheld by the Treaty on the Nonproliferation of Nuclear Weapons (NPT), the broader international nonproliferation regime, and the U.S.-Russian bilateral arms control architecture—is a key element of the broader liberal international rules-based order. The nuclear order, however, is being affected by the challenges posed to it, including increasing nationalism, protectionism and populism, the Russian and Chinese dissatisfaction with the status quo, and the Russian invasion of Ukraine. The direct challenges to the nuclear order are not entirely new and have been evident, in some cases for decades, especially in the nonproliferation realm. These challenges are global and regional.

## The Current Proliferation Problem

In this context, the actual proliferation concerns today focus on:

- North Korea's nuclear and missile programs, brinkmanship, and provocations
- Concerns about Iran's nuclear program and capabilities, including its latency,<sup>124</sup> both before and after the Joint Comprehensive Plan of Action (JCPOA) was concluded in 2015 and the United States decided to withdraw in 2018<sup>125</sup>

North Korea's accelerated nuclear weapon and ballistic missile development and testing programs, combined with its ever increasing bellicose threats of nuclear attack, were especially dangerous to the nonproliferation regime and to international

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123 This paper reflects the author's own views and not those of Los Alamos National Laboratory, the National Nuclear Security Administration, the Department of Energy, or any other U.S. government agency.

124 Nuclear latency is broadly defined as having capabilities (including the technologies, equipment, materials, and know-how) to build a nuclear bomb but stopping short of doing so. For more information, see Joseph Pilat, ed., *Nuclear Latency and Hedging: Concepts, History, and Issues*, Wilson Center (September 2019). [https://www.wilsoncenter.org/sites/default/files/media/documents/book/nuclear\\_latency\\_and\\_hedging\\_-\\_concepts\\_history\\_and\\_issues.pdf](https://www.wilsoncenter.org/sites/default/files/media/documents/book/nuclear_latency_and_hedging_-_concepts_history_and_issues.pdf). Accessed November 5, 2024.

125 For a fuller discussion of the JCPOA, see Nathan E. Busch and Joseph F. Pilat, *The Politics of Weapon Inspections: Assessing WMD Monitoring and Verification Regimes* (Palo Alto, CA: Stanford University Press, 2017).

security in the last few years. In the past, North Korea's nuclear program had not been given sufficient attention as a threat to the NPT and the global nonproliferation regime. The one exception was the debate over Article X of the NPT that ensued after North Korea's withdrawal from the treaty in 2003; Article X requires a country give three months' notice in advance of withdrawing. However, recent estimates of North Korea amassing an arsenal of scores of nuclear weapons in the near future have raised fundamental issues that could no longer be ignored in the context of the global nonproliferation regime or international security.

Moreover, it was increasingly understood that a nuclear-capable intercontinental ballistic missile (ICBM) force that could strike the United States would greatly impact U.S. relations with Russia and China as the United States developed responses in or near their respective regions. Even before the recent development of nuclear-tipped ICBMs (long-range missiles capable of delivering a nuclear warhead), the emerging missile threat from North Korea, along with that of Iran, has been a driving force in U.S. development and deployment of regional and national missile defenses, which have complicated nuclear stability discussions with China and Russia and continues to do so. There are continuing concerns and no concrete progress.

The potential impact of Iran's nuclear activities on the nonproliferation regime was always recognized as significant. Following more than a decade of growth in Iran's nuclear capabilities, on and off negotiations, increasingly tight sanctions, reported cyberattacks, and threats of military action, the JCPOA was adopted in 2015. The agreement was designed to reduce proliferation risks at key Iranian facilities—particularly the uranium enrichment sites of Natanz and Fordow and the nuclear reactor at Arak—in return for sanctions relief for Iran. The fate of the JCPOA was uncertain for many years after the U.S. withdrawal in 2018, but other parties tried to maintain the agreement. Nonetheless, the agreement no longer appears salvageable and now there is no diplomatic effort to halt or reverse Iran's progress. A new set of negotiations is possible, but unlikely. There is growing fear that Iran might decide to weaponize its nuclear threshold capabilities, in part due to the deteriorating security environment in the Middle East and Iran's closer ties to Russia and, to a lesser extent, China. The risks involved for Iran if it chooses to weaponize—from possible preventive attacks on the program to the nuclear responses by regional adversaries—may induce caution. In any case, Iranian nuclear latency will continue to be contentious and raise questions for regional and global security.

While North Korea and Iran will continue to dominate the debate, there are longstanding institutional challenges to the NPT posed by the possibility of new states acquiring weapons, along with a potential proliferation cascade. Challenges to the NPT include noncompliance with the treaty's provisions, limited consensus on compliance enforcement, growing state and nonstate access to sensitive

technologies, disagreements over a weapons of mass destruction (WMD) free zone in the Middle East, and increasingly bitter debates over the NPT's Article IV (the peaceful use of nuclear energy) and Article VI (agreement of parties to negotiate reduction and disarmament). Created in a different time to deal with different threats, the NPT has been showing its age. Serious problems and challenges are confronting the NPT, as was seen in the debate at its Tenth Review Conference in 2022. However, the failure to achieve a consensus final document at the 2022 conference was due to Russian intransigence.

## Geopolitics of Proliferation

Beyond the threats posed by Iran and North Korea, coupled with the crisis of the NPT is a growing concern about nuclear latency and hedging<sup>126</sup>—in part as a consequence of global great power competition, the regional impacts of North Korea and Iran, and growing concerns about the credibility of U.S. extended deterrence. Some regional powers, including U.S. allies, are hedging and pursuing asymmetric capabilities to counter the regional proliferation threats posed by North Korea and Iran, the rapid expansion of China's nuclear arsenal (coupled with China's unwillingness to engage in any arms control discussions), and Russia's new, exotic nuclear systems and its aggression in Ukraine. In the Middle East, Saudi Arabia, Turkey, and others have spoken openly of the need to develop nuclear capacity in response to Iran.<sup>127</sup>

For U.S. adversaries, including Iran, the pursuit of nuclear latency and hedging strategies, or even overt weaponization, often arises from regional ambitions and a desire to blunt possible future United States and Western interventions. This inherent ambiguity, along with ongoing challenges in monitoring and verification, will also continue to create difficulties in confirming the peaceful nature of various dual-use technologies in various countries across the globe. How the international community, and especially the great powers (United States, China, and Russia) respond to these challenges will shape the future prospects of continued nonproliferation.

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126 Hedging is defined as a country's "determination to reach the capacity to indigenously produce nuclear weapons in a realistic timeframe (weeks to a few years) alongside an important measure of restraint in how far to proceed along this path." For more information, see Ariel Levite, "Nuclear Hedging and Latency: History, Concepts, and Issues," in Joseph Pilat, ed., *Nuclear Latency and Hedging: Concepts, History, and Issues* (Wilson Center, 2019). [https://www.wilsoncenter.org/sites/default/files/media/documents/book/nuclear\\_latency\\_and\\_hedging\\_-\\_concepts\\_history\\_and\\_issues.pdf](https://www.wilsoncenter.org/sites/default/files/media/documents/book/nuclear_latency_and_hedging_-_concepts_history_and_issues.pdf). Accessed November 7, 2024.

127 David E. Sanger, "Saudi Arabia Promises to Match Iran in nuclear capabilities," *The New York Times* (May 13, 2015), <https://www.nytimes.com/2015/05/14/world/middleeast/saudi-arabia-promises-to-match-iran-in-nuclear-capability.html> (accessed November 7, 2024); Gevorg Novshadyan, "Erdogan's Nuclear Itch: Why Turkey's Nuclear Program is a Threat to Regional Stability and the International Nonproliferation Regime," *The International Affairs Review* (September 8, 2024), <https://www.iaar-gwu.org/blog/erdogans-nuclear-itchstrong-strongwhy-turkeys-nuclear-program-is-a-threat-to-regional-stability-and-the-international-nonproliferation-regime> (accessed November 7, 2024).

The shift in great power relations has other effects on the proliferation threat. Through most of the nuclear age, great powers have recognized their mutual interests in nonproliferation and played the most important roles in developing, implementing, and enforcing nonproliferation and arms control norms and policies. For some, the provision of extended nuclear security through Cold War alliances was a factor in such decisionmaking. These norms and policies shared among great powers have been very important, and great powers are seen as benefiting from and contributing to nuclear deterrence. As important as these norms have been, they have always competed with other foreign policy and defense priorities. At times, great powers have chosen other objectives and have even weakened or undermined nonproliferation and arms control norms and policies.

Today, great power support for nonproliferation has eroded. The sense of mutual interest has waned, and nonproliferation is a matter of contention among the United States, Russia, and China. Russia is openly challenging the institutions that are central to the nonproliferation regime, including the International Atomic Energy Agency (IAEA) and the NPT. This has implications for the future depending on how far it goes. Clearly, the hope that great powers can manage nonproliferation threat as they had during the Cold War is no longer as bright.

The possible widespread interest in military naval propulsion, especially nuclear-driven submarines, is problematic. Driven by geopolitical ambitions more than technology imperatives, this interest could be realized in Brazil and then other states. While allowed under the NPT, it raises significant issues for safeguards and for the future of nonproliferation. Russian assistance to an Iranian program is particularly worrisome.

Moreover, nuclear terrorism is increasingly seen as a grave threat. It is a continuing national security focal point for the United States, but is increasingly threatening in the Middle East as nuclear programs potentially spread.

### **Technology Change, Latency, and the Future of Export Controls**

These geopolitical challenges are exacerbated by technology diffusion and concerns over the growing access of states (and nonstate actors) to sensitive materials and technologies. This could lead to the rise of nuclear latency and possibly virtual weapon programs among states, black marketeering, and potential nuclear terrorism among nonstate actors. As technology spreads rapidly in a nonlinear fashion, it is eroding the barriers to proliferation and complicating the challenges of the emerging security environment at global and regional levels. This process has continued for decades and continues unabated through the internet, nonstate supplier networks, and other avenues.

Science and technology (S&T) advances in, and rapid development of, high-performance computing, additive manufacturing, advanced materials, nanotechnology, and other enabling technologies could exacerbate the problem in the near future by reducing the technological challenges and costs—increasing the efficiency of the processes used and making the entire project more difficult to detect.<sup>128</sup> This could dramatically reduce entry barriers to nuclear proliferation, and unpredictably worsen historic trends. Globalization and economic interdependences further complicate this environment—not only because they are the engines of technology diffusion but because deeper integration and connectivity increase the difficulty, complexity, and costs of responses.

Beyond the problems of controlling facilities and materials, knowledge and experience are wholly uncontrolled.<sup>129</sup> In fact, knowledge and experience cannot be practically addressed and effectively controlled under international safeguards or other mechanisms. In any case, controlling nuclear-related research would undermine the principles of scientific freedom and national sovereignty.

## **The Future of the International Nuclear Order**

Amid evolving geopolitics and technology diffusion, latency and hedging raise fundamental challenges to the international nuclear order and the nonproliferation regime, including the NPT, the IAEA, and the Nuclear Suppliers Group (NSG) and other export control regimes.

The Russian invasion of Ukraine and its aggressive behavior adversely affect the international nuclear order, directly challenges the broader international rules-based order, and worsens old nuclear fault lines. Russia's violations of the Budapest Memorandum<sup>130</sup>—which began with the annexation of Crimea in 2014 and only worsened with the invasion of Ukraine in 2022—are a grave concern. Russia's nuclear sword-rattling exacerbates the situation by making the prospect of nuclear use against

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128 On the challenges of additive manufacturing for nonproliferation, see Matthew Kroenig and Tristan Volpe, "3-D Printing the Bomb? The Nuclear Nonproliferation Challenge," *The Washington Quarterly* 38, no. 3 (2015), pp. 7-19. <https://doi.org/10.1080/0163660X.2015.1099022>. Accessed November 7, 2024.

129 See Avner Cohen and Joseph F. Pilat, "Assessing Virtual Nuclear Arsenals," *Survival* 40, no. 1 (1998), pp. 129-144. <https://doi.org/10.1093/survival/40.1.129>. Accessed November 7, 2024.

130 The Budapest Memorandum was signed in 1994 by the United States, the United Kingdom, and Russia. They pledged "security assurances to Ukraine in connection with its accession to the Treaty on the Nonproliferation of Nuclear Weapons as a non-nuclear-weapons state. The signature of the so-called Budapest Memorandum concluded arduous negotiations that resulted in Ukraine's agreement to relinquish the world's third-largest nuclear arsenal, which the country inherited from the collapsed Soviet Union, and transfer all nuclear warheads to Russia for dismantlement." See Mariana Budjeryn and Matthew Bunn, "Budapest Memorandum at 25: Between Past and Future," Harvard Kennedy School (March 2020). <https://www.hks.harvard.edu/publications/budapest-memorandum-25-between-past-and-future>. Accessed November 7, 2024.

a nonnuclear state more real. By undermining negative security assurances (NSAs)<sup>131</sup> by these actions, it could increase incentives for existing nonnuclear-weapon states to develop nuclear weapons. However, the ultimate lessons for NSAs (and any effects on incentives for proliferation) and lessons for the NPT can only be drawn after the war is over and its outcome is fully understood.

The status of extended deterrence will also play a critical role in this calculus. These commitments have contributed to nonproliferation and have been a key component of the international nuclear order. The war in Ukraine has strengthened extended deterrence, at least for a time, especially within NATO. However, if the United States and its allies cut military support for Ukraine, or do not respond to China's territorial claims and aggressive actions,<sup>132</sup> it could weaken the perceived reliability of U.S. commitments to extended deterrence and worsen the problem of latency and hedging.

The ongoing war and threats to Ukrainian nuclear power plants are impacting nuclear security and possibly the future prospects for the peaceful use of nuclear power. This raises serious concerns for the NPT, global security, and energy and climate strategies. The war in Ukraine, along with worsening great power relations, undermines a critical component of the strength of the nonproliferation regime—the mutual interests and cooperation of the great powers in addressing proliferation.

Any prospect for reducing nuclear dangers and furthering nonproliferation, arms control, and disarmament ultimately depends on the nature of great power relations. At a time when U.S.-Russian and U.S.-Chinese relations are at a downturn, there is little prospect for progress in these areas, except in limited areas where mutual interest remains acknowledged or recognized. Indeed, the prospect of Russia and China<sup>133</sup> supporting Iran and North Korea's nuclear programs and shielding them from the international consequences of their nuclear behavior has never been higher. A fundamental change in great power relations would have to precede any emerging consensus among them. Until there is some consensus among great powers on their interests in nuclear issues and on next steps, nonproliferation will become even more contentious.

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131 Negative security assurances "are the promise of nuclear weapon states not to use or threaten to use nuclear weapons against non-nuclear-weapon states." See Nuclear Threat Initiative, "Negative Security Assurances (NSAs)," <https://www.nti.org/education-center/treaties-and-regimes/proposed-internationally-legally-binding-negative-security-assurances/>. Accessed November 7, 2024.

132 For more information on China's territorial claims and disputes, see Simon Weiss and Michael Beckley, "Countering Chinese Aggression in the South China Sea," *War on the Rocks* (July 23, 2024). <https://warontherocks.com/2024/07/countering-chinese-aggression-in-the-south-china-sea/>. Accessed November 7, 2024.

133 According to a U.S. government report, "the Chinese government has ceased direct involvement in nuclear-related proliferation and transfers of complete missile systems. However, Chinese entities have continued to engage in proliferation" due to "weaknesses in China's export control system." The U.S. government has requested that Beijing put a stop to this, but "most of these cases remain unresolved." For more information, see Paul Kerr, *China: Nuclear and Missile Proliferation*, Congressional Research Service, IF11737 (October 3, 2024). <https://crsreports.congress.gov/product/pdf/IF/IF11737>. Accessed November 7, 2024.

Nuclear trade is an area where we are witnessing conflict, in part because of disagreements among great powers. Russia and China perceive the proliferation danger differently than the United States or the other Western suppliers. They see nuclear and international trade in terms of political, strategic, and economic benefits. They hold the interdependencies created by international commerce to be crucial instruments in managing their relations with other states. Of particular relevance to nuclear supply and nonproliferation policy are the special strategic trade relationships between nuclear suppliers and various countries and regions in the developing world. In this context, Russia might even sell nuclear-related technologies to Iran or North Korea. Moreover, the war of words on international trade in nuclear materials, equipment, and technology continues to be waged between North and South, between nuclear “haves” and “have-nots,” and could result in a full-scale reemergence of past politicized nuclear trade issues with dangerous consequences for nuclear trade in regions like the Middle East.

All in all, the prospects for future nonproliferation initiatives, future arms reduction treaties between the United States and Russia (whether bilateral or multilateral), and for disarmament initiatives as a whole are decreasing. For the foreseeable future, therefore, it is unlikely that any initiatives in these areas will make significant progress, including the creation of a WMD-free zone in the Middle East, which has additional obstacles.

As great power tensions and conflict exacerbate the serious and long-standing disagreements over enforcement within the United Nations Security Council (UNSC), it is unlikely that the United Nations will take strong steps to address noncompliance in the foreseeable future. Any international commitment to enforcement is unclear, with the world unable to respond effectively to Syrian chemical use violations and Russia’s efforts to protect Syria. Russia is also protecting Syria in the IAEA and NPT review cycle from providing information on its clandestine nuclear program that led to the destruction of a reactor under construction by Israel in 2007. Furthermore, Iranian support for Russia’s war in Ukraine makes it highly unlikely that Russia would take action if Iran overtly developed nuclear weapons or withdrew from the NPT. Enforcement efforts should continue to be pursued in the UNSC, as well as within the Board of Governors of the IAEA and the Organization for the Prohibition of Chemical Weapons until better procedures can be put in place. However, Russia’s dependence on North Korea and Iran for munitions will preclude Russian support for effective action by the IAEA Board or the UNSC. Any enforcement is most likely to be achieved through the actions of individual states and coalitions.

The process to build trust and reestablish the recognition of key elements of nonproliferation that serve the mutual interests of the United States, Russia, and other powers will take time. It is unlikely to begin in earnest until sometime after the war in

Ukraine has ended. However, the P5 process<sup>134</sup> can provide a forum for some level of dialogue even now. Through this process, the five recognized nuclear-weapon states meet “to examine what nuclear transparency and confidence-building measures they could jointly pursue.”<sup>135</sup> The strategic environment has changed significantly since the P5 process began in 2009, and it is important not to overstate the likelihood that the P5 process will achieve major breakthroughs any time soon because “it has not been able to isolate itself from the wider cooling of relations among the nuclear-weapon states.”<sup>136</sup> However, it is necessary to continue the initiative. Regional dialogues in the Middle East and Northeast Asia face similar obstacles, but they too will need to be pursued at some level.

## Conclusion

The prospect of preserving the international nuclear order does not appear promising at present. If the order collapses, due to longstanding challenges or newer challenges posed by the Russian invasion, it could lead to a loss of stability, transparency, and predictability in nuclear matters. There is worldwide concern about the future of arms control, the prospects of a new arms race, and the survival of the international nuclear nonproliferation regime. The collapse or further weakening of the international nuclear order would eventually affect security perceptions within regions and across the globe. The Middle East and Northeast Asia could be most impacted. But in the near term it will probably not directly damage perceptions of security in specific regional contexts. Saudi Arabia, Egypt, Turkey, South Korea, Japan and other countries might immediately cause concern in their respective regions if they were suddenly released from obligations required by the NPT. This concern would be based on their expected efforts to hedge, or the perception of hedging, against either North Korea or Iran. Other states may also hedge against a breakdown of the nonproliferation regime. In the Middle East, it will dramatically hinder progress on a regional WMD-free zone.

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134 The P5 are the five permanent members of the United Nations Security Council (China, France, Russia, the United Kingdom, and the United States) and the same five nuclear powers recognized by the NPT. “The P5 process is a multilateral discussion forum involving the five nuclear powers.” See Arms Control Association, “China Takes Over P5 Process, Repeats No-First-Use Call with African States,” Nuclear Disarmament Monitor (September 12, 2024). <https://www.armscontrol.org/blog/2024-09/nuclear-disarmament-monitor>. Accessed November 7, 2024.

135 Andrea Berger and Malcolm Chalmers, “The Art of the Possible: The Future of the P5 Process on Nuclear Weapons,” Arms Control Today (October 2014). [https://www.armscontrol.org/ACT/2014\\_10/Feature/The-Art-of-the-Possible-The-Future-of-the-P5-Process-On-Nuclear-Weapons](https://www.armscontrol.org/ACT/2014_10/Feature/The-Art-of-the-Possible-The-Future-of-the-P5-Process-On-Nuclear-Weapons). Accessed November 7, 2024.

136 Ibid.



# Chapter 9: Snapping Back and Looking Forward: A New Old Approach to the Iran Nuclear Crisis

Christopher A. Ford<sup>137</sup>

## Introduction

The days of early optimism among U.S. officials about using diplomacy to rein in Iran's nuclear weapons program are long past, and the Iranian nuclear crisis feared by nonproliferation experts for so many years is now upon us. The Joint Comprehensive Plan of Action (JCPOA) nuclear deal signed in 2015 between Iran, the United States, Britain, France, Russia, China, and the European Union (EU) now lies in tatters nearly a decade later. Even the temporary nuclear restraint Iran showed in those years is also a thing of the past.

At the time of writing, and as confirmed with depressing regularity by the International Atomic Energy Agency (IAEA), Iran remains in the process of rapidly expanding its fissile material production capacity and its stockpile of enriched uranium. According to IAEA Director-General Rafael Grossi, writing in his May 2024 report to the Agency's Board of Governors, "From 8 May 2019 onwards ... Iran stopped implementing its nuclear-related commitments under the JCPOA on a step-by-step basis until, on 23 February 2021, it stopped implementing them altogether, including the Additional Protocol."<sup>138</sup>

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137 Christopher Ford is professor of International Relations and Strategic Studies with Missouri State University's Graduate School of Defense and Security Studies, a visiting fellow at Stanford University's Hoover Institution, a distinguished visiting fellow with Oxford University's Pharos Foundation, and a non-resident senior fellow with the Center for Global Security Research at Lawrence Livermore National Laboratory. In prior government service, he was U.S. assistant secretary of state for International Security and Nonproliferation, also fulfilling the duties of the under secretary for Arms Control and International Security. The opinions he expresses herein are entirely his own, and do not necessarily represent those of anyone else, either in the U.S. government or elsewhere.

138 IAEA Director-General Rafael Grossi, *Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council Resolution 2231 (2015)*, GOV/2024/26 (May 27, 2024), pp. 2, 5. <https://www.iaea.org/sites/default/files/24/06/gov2024-26.pdf>. Accessed September 18, 2024. For more on the Additional Protocol, see note 6 below.

In June 2022, moreover, Iran removed all IAEA equipment related to JCPOA-mandated surveillance and monitoring of the Iranian nuclear program.<sup>139</sup> It also prohibited some IAEA inspectors from visiting Iran.<sup>140</sup>

With the regime in Tehran thus now systematically preventing a whole range of IAEA monitoring activities, the director-general reported, “The Agency has lost continuity of knowledge in relation to the production and inventory of centrifuges, rotors and bellows, heavy water[,] and UOC [uranium ore concentrate].”<sup>141</sup> Indeed, by early 2024, it had been fully three years since the IAEA has been able to exercise its investigative authorities under the Additional Protocol<sup>142</sup> that Iran had agreed to comply with under the JCPOA, thus raising grave questions about what undeclared facilities might exist or what undeclared nuclear activities might be going on in Iran.

Nevertheless, despite this Iranian obstruction, there was little question that Iran was in the process of rapidly expanding its capability to produce fissile materials and its stockpile of such materials, including uranium enriched at levels very nearly usable in a nuclear weapon—of which, because of the physics of uranium enrichment, could

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139 Ibid., pp. 3, 20.

140 Ibid., pp. 6, 21.

141 Ibid., pp. 3, 6.

142 The Additional Protocol (AP) is an agreement that supplements baseline IAEA nuclear safeguards in any given country, providing IAEA inspectors with more robust authorities to verify that no undeclared nuclear materials or facilities exist there. It was developed after revelations about Iraq’s nuclear weapons program that emerged after Saddam Hussein’s defeat in the First Gulf War of 1991, which made clear the limitations of traditional safeguards agreements. In this regard, the AP “significantly increases the IAEA’s ability to verify the peaceful use of all nuclear material in States with comprehensive safeguards agreements.” As of March 2024, Additional Protocols were in place with 141 states, as well as the European uranium enrichment consortium EURATOM. See IAEA, “Additional Protocol,” <https://www.iaea.org/topics/additional-protocol>. Accessed September 18, 2024. For the model terms the IAEA provides for the negotiation of such protocols, see IAEA, *Model Protocol Additional to the Agreement(s) Between State(s) and the International Atomic Energy Agency for the Application of Safeguards*, INFCIRC/540 (September 1997). <https://www.iaea.org/sites/default/files/infirc540.pdf>. Accessed September 18, 2024. There is little question that the AP provides vital investigative authorities for the IAEA, and its universalization as the new global safeguards standard is a high priority goal for U.S. officials and other likeminded nonproliferation leaders. Nevertheless, there is irony in the fact that even the AP proved demonstrably inadequate in the face of denial and deception on Iran’s scale. This was explicitly recognized even by IAEA Director-General El-Baradei in 2005: “Given Iran’s past concealment efforts over many years, such transparency measures should extend beyond the formal requirements of the Safeguards Agreement and Additional Protocol and include access to individuals, documentation related to procurement, dual-use equipment, certain military-owned workshops, and research and development locations.” See IAEA Director-General Mohammed El-Baradei, *Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran*, GOV/2006/67 (September 2, 2005), pp. 11, 50. <https://www.iaea.org/sites/default/files/documents/gov2005-67.pdf>. Accessed September 18, 2024.

be further enriched to optimal weapons-grade level with extraordinary rapidity.<sup>143</sup> As of late May 2024, Iran had 62 fully operating arrays (“cascades”) of uranium-enrichment centrifuges at three different nuclear facilities,<sup>144</sup> with work ongoing on additional cascades.<sup>145</sup>

Iran was at that point continuing to enrich more uranium, with more than 2,200 kilograms (kg) of such material—at levels of enrichment ranging from 2% U-235 to 60%—produced in early 2024 alone.<sup>146</sup> Iranian obstruction prevented the IAEA from verifying Iran’s total stockpile of enriched uranium, but the IAEA estimated that figure at upwards of 6,200 kg, including more than 751 kg enriched to 20% and more than 142 kg enriched to 60%.<sup>147</sup> Indeed, by June 2024, Iran was preparing to accelerate its production of enriched uranium even more, installing new centrifuge cascades in the deeply-buried bunker complex of the enrichment plant at Fordow.<sup>148</sup>

Iran, it would seem, is now on the cusp of becoming, and perhaps should already be considered, a so-called “virtual” or “latent” nuclear weapons state,<sup>149</sup> poised to sprint to weaponization by raising its stock of 20% and 60% enriched uranium to weapons grade and incorporating such material into a nuclear weapon. According to analyses conducted by the Institute for Science and International Security using IAEA data, by early 2024 Iran was able to make enough weapons-grade uranium (WGU) for seven nuclear weapons in one month, enough for nine weapons in two months, enough for 11 in three

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143 The amount of work done in the process of enriching uranium is measured in “separative work units” (SWU), a unit of measurement that “indicates the energy input relative to the amount of uranium processed, the degree to which it is enriched (i.e., the extent of increase in the concentration of the U-235 isotope relative to the remainder) and the level of depletion of the remainder—called the “tails.” The [SWU] unit . . . measures the quantity of separative work performed to enrich a given amount of uranium a certain amount when feed and product quantities are expressed in kilograms.” For present purposes, the key point about the number of SWUs it takes to enrich uranium is that most of the work is done at *lower* levels of enrichment. By the time material is enriched even to 20% U-235, the vast majority of the work of getting that material to an optimal weapons-grade level of around 90% has already been accomplished. Remarkably few additional SWUs—and hence very little time—are needed to push uranium from 20% to 90%, and very few indeed to bring uranium already at the 60% level up to weapons grade. “The curve flattens out so much because the mass of material being enriched progressively diminishes to these amounts, . . . so [it] requires less effort relative to what has already been applied to progress a lot further in percentage enrichment. The relatively small increment of effort needed to achieve the increase from normal levels is the reason why enrichment plants are considered a sensitive technology in relation to preventing weapons proliferation . . .” See World Nuclear Association, “Uranium Enrichment” (October 11, 2022). <https://world-nuclear.org/information-library/nuclear-fuel-cycle/conversion-enrichment-and-fabrication/uranium-enrichment>. Accessed September 18, 2024.

144 IAEA Director-General Rafael Grossi, “Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council Resolution 2231 (2015).”

145 *Ibid.*, pp. 6, 9.

146 *Ibid.*, pp. 7, 14-16.

147 *Ibid.*, pp. 7, 17.

148 See, e.g., Francois Murphy, “IAEA Report: Iran installs more centrifuges at Fordow enrichment plant,” Reuters (June 13, 2024). <https://www.reuters.com/world/middle-east/iaea-report-iran-installs-more-centrifuges-fordow-enrichment-plant-2024-06-13/>. Accessed September 18, 2024.

149 For more on the complexities and challenges of “virtual” nuclear weapons status, see, e.g., Christopher A. Ford, “Nuclear Weapons Reconstitution and its Discontents: Challenges of ‘Weaponless Deterrence,’” in *Deterrence: Its Past and Future*, George P. Shultz, Sidney D. Drell, and James E. Goodby, eds. (Stanford, CA: Hoover Institution Press, 2011), pp. 131-215.

months, enough for 12 or 13 in four months, and enough for 13 in five months.<sup>150</sup>

In response to all this, the Biden administration seemed to be doing little more than hoping that ordinary Americans did not notice the problem. Apparently afraid of people recognizing the extent of the crisis and realizing the failure of the Biden administration's Iran policy, U.S. diplomats actually tried to discourage their European counterparts at the IAEA Board of Governors from offering a resolution censuring Iran for its obstruction of IAEA monitoring.<sup>151</sup> (This Biden effort seems to have ensured that the Board would not directly criticize Iran, but that body did pass a resolution in early June 2024 calling upon Iran to resolve outstanding safeguards questions and permit the IAEA to do its work in Iran unimpeded.<sup>152</sup>)

Hiding one's head in the sand, however, is not a policy, and the Iranian nuclear crisis will not go away. This paper aims to draw attention to one potential way forward that the Biden administration was apparently unwilling to discuss. The following pages will first walk the reader through the history of nuclear diplomacy with Iran, and will then offer an approach that may be able to provide the Western powers with real leverage vis-à-vis Iran and an opportunity to restart long-stalled negotiations aimed at imposing enduring constraints upon Tehran's nuclear capabilities.

## How We Got Here

### Early History of the Program

Iran's nuclear program dates from the 1960s. The country first sought to develop nuclear power generation under the rule of Mohammed Reza Pahlavi, the shah of Iran, who the United States supplied with a research reactor in 1967. Despite his country's oil riches, the shah began an ambitious effort to create a nuclear power capability during the 1970s by striking deals with a number of foreign suppliers, including those in West Germany and France.<sup>153</sup> He did not openly seek nuclear weaponry—and indeed, Iran was one of the original signatories of the Nuclear Nonproliferation Treaty

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150 See David Albright, Sarah Burkhard, Spencer Faragasso, and Andrea Stricker, *Analysis of IAEA Verification and Monitoring Report – February 2024*, Institute for Science and International Security (March 4, 2024), pp. 1, 16. [https://isis-online.org/uploads/isis-reports/documents/Analysis\\_of\\_February\\_2024\\_IAEA\\_Iran\\_Verification\\_Report\\_March\\_4\\_2024\\_Final.pdf](https://isis-online.org/uploads/isis-reports/documents/Analysis_of_February_2024_IAEA_Iran_Verification_Report_March_4_2024_Final.pdf). Accessed September 18, 2024.

151 See Laurence Norman, "Biden Administration Presses Allies Not to Confront Iran on Nuclear Program," *The Wall Street Journal* (May 27, 2024). <https://www.wsj.com/world/middle-east/u-s-opposes-european-plan-to-censure-iran-over-nuclear-work-85ad7fc6>. Accessed September 18, 2024.

152 IAEA Board of Governors, "NPT Safeguards Agreement with the Islamic Republic of Iran," GOV/2024/39 (June 5, 2024), pp. 2-6. <https://www.iaea.org/sites/default/files/documents/gov2024-39.pdf>. Accessed September 23, 2024.

153 See generally, e.g., Kelsey Davenport, "Timeline of Nuclear Diplomacy with Iran, 1967-2023," Arms Control Association, <https://www.armscontrol.org/factsheets/Timeline-of-Nuclear-Diplomacy-With-Iran> (accessed September 18, 2024); Iran Watch, "A History of Iran's Nuclear Program," Wisconsin Project on Nuclear Arms Control (December 19, 2023), <https://www.iranwatch.org/our-publications/weapon-program-background-report/history-irans-nuclear-program> (accessed September 18, 2024).

(NPT)<sup>154</sup>—but he also spoke about Iran’s “rights” to nuclear technology loudly enough, and sought an uranium enrichment capability assiduously enough that U.S. officials worried he might at some point wish to develop weapons. Accordingly, the Americans made nonproliferation issues a central piece of their diplomatic engagement with his government.<sup>155</sup>

The Iranian Revolution of 1979 threw the country’s nuclear power development effort into disarray, but before long Tehran began to explore such work again—this time with a mix of overt and clandestine activities, and very much with weaponization in mind.

By the early 1990s, ... its nuclear program was once again moving forward, based on assistance from Russia, China, and Pakistan. With China, Iran signed two nuclear cooperation protocols, in 1985 and again in 1990. And in 1995, Iran concluded a protocol of cooperation with Russia to complete the construction of the reactor at Bushehr and possibly supply a uranium enrichment plant. Some of the items originally contemplated in these deals, like the enrichment plant, were never delivered as a result of pressure from the United States. Others, like Bushehr, served as a justification for Iran’s acquisition of sensitive equipment that would not be sold on its own because of its bomb-making potential. Throughout the 1990s, entities in Russia and China continued to help Iran, despite occasional pledges from their governments to curtail nuclear assistance. Iran is also believed to have received uranium enrichment technology through the black-market network run by Pakistani scientist A. Q. Khan during this period. In the late 1990s, senior Iranian officials approved a plan, called the Amad Plan, to build an arsenal of five nuclear weapons by 2004.<sup>156</sup>

As noted above, some of Iran’s efforts to acquire nuclear technology came through the nuclear weapons proliferation network run by Khan. He was an infamous nuclear smuggler who had stolen centrifuge enrichment technology from the European consortium EURATOM, and who subsequently went on to become the so-called “father” of Pakistan’s nuclear weapons program, as well as a supplier of enrichment technology and nuclear weapons designs to various international clients, including Muammar

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154 See, e.g., U.S. Institute of Peace, “The Iran Primer” (January 22, 2020). <https://iranprimer.usip.org/blog/2020/jan/22/iran-and-npt/>. Accessed September 18, 2024.

155 See William Burr, “U.S.-Iran Nuclear Negotiations in 1970s Featured Shah’s Nationalism and U.S. Weapons Worries,” *National Security Archive*, Electronic Briefing Book No. 268 (January 13, 2009). <https://nsarchive2.gwu.edu/nukevault/ebb268/>. Accessed September 18, 2024.

156 Iran Watch, “A History of Iran’s Nuclear Program.”

Qaddafi's Libya.<sup>157</sup>

Iran has admitted, for instance, that as early as 1987 it had been offered centrifuge designs and “materials for 2,000 centrifuge machines.” By the mid-1990s, such a deal had actually been reached, pursuant to which the “supply network” offered “the delivery of [Pakistani] P-1 centrifuge documentation and components for 500 centrifuges.” The “first deliveries of the P-1 components started in January 1994.” (These transactions involved centrifuges for enriching uranium, a crucial material for many nuclear weapons designs, but in 1998 Iran also began its own experiments with separating plutonium, another possible material “pathway” to a nuclear weapon.)<sup>158</sup>

The United States was aware of the Iranian regime's nuclear ambitions, and quickly understood that they included the eventual development of nuclear weapons. As early as January 1993, for instance, the U.S. Arms Control and Disarmament Agency (ACDA) assessed that Iran was in the early stages of developing a nuclear weapons program, and American officials warned publicly and repeatedly during the 1990s that Iran's nuclear intentions were “suspect” or “highly questionable.” In 2003, in fact, the United States declared explicitly that Iran “is pursuing a program to develop nuclear weapons.”<sup>159</sup> In 2005, the United States formally found Iran to be in violation both of its IAEA safeguards obligations and of Article II of the NPT.<sup>160</sup>

There was little or no publicly available evidence about secret Iranian nuclear work until August 2002, when the National Council of Resistance of Iran (NCRI)—an Iranian dissident group formed by the Mujahideen i-Khalq (MEK) group—announced that Iran was secretly constructing a nuclear material production facility at Natanz and a heavy water moderated nuclear power reactor at Arak.<sup>161</sup> (This type of reactor design is highly useful for producing plutonium out of spent reactor fuel.) It is suspected that NCRI did not actually originate this information, and it has been reported that U.S. officials

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157 See generally, e.g., Gordon Carera, “AQ Khan: the most dangerous man in the world?” BBC (October 10, 2021). <https://www.bbc.co.uk/news/world-asia-58857827>. Accessed September 18, 2024.

158 See IAEA Director-General Mohammed El-Baradei, *Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran*, GOV/2005/67 (September 2, 2005), pp. 5-7, 14, 16, 18, 21. <https://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/Iran%20GOV200567.pdf>. Accessed September 18, 2024.

159 See U.S. Department of State, *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments* (August 2005), pp. 72-73. <https://2009-2017.state.gov/documents/organization/52113.pdf>. Accessed September 18, 2024.

160 *Ibid.*, p. 80. Article II of the NPT provides that “Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.” See United Nations, *Treaty on the Non-Proliferation of Nuclear Weapons*, (signed July 1, 1968) (entered into force March 5, 1970) [hereinafter “NPT”], at Art. II. <https://disarmament.unoda.org/wmd/nuclear/npt/text/>. Accessed September 18, 2024.

161 Iran Watch, “Remarks by Alireza Jafarzadeh on New Information on Top Secret Projects of the Iranian Regime's Nuclear Program,” Wisconsin Project on Nuclear Arms Control (August 14, 2002). <https://www.iranwatch.org/library/ncri-new-information-top-secret-nuclear-projects-8-14-02>. Accessed September 18, 2024.

learned of these projects through their own intelligence sources and had briefed the IAEA about their concerns in advance of the NCRI's public revelations.<sup>162</sup> But whatever the case, August 2002 marked the public beginning of the Iran nuclear crisis—setting off a long succession of acrimonious debates, first at the IAEA and thereafter at the United Nations Security Council (UNSC).

## Contestation and Pressure

### Partial Suspension of Iran's Weapons Program

On the positive side, the public revelation that Iran had a secret nuclear program, and the international debates that thereby ensued in late 2002 and into 2003, had a material effect in slowing progress in the Iranian program itself. The discovery that Iran might have a secret nuclear weapons program raised the international stakes considerably, as it came at a time when the United States had already invaded and occupied the entire country of Afghanistan in response to the Taliban regime's harboring of the international terrorists responsible for the atrocities of September 11, 2001. Public revelations about Iran's secret nuclear weapons effort also came at a time when Washington was clearly considering whether to invade Iraq over the weapons of mass destruction (WMD) the United States and its allies believed Saddam Hussein's regime possessed. While this context made the international politics of trying to hold Iran to account for its nuclear violations far more contentious, it also offered an important lesson.

U.S. intelligence officials assessed with "high confidence" in a National Intelligence Estimate (NIE) in 2007, for instance, that in the fall of 2003, Iran suspended its "nuclear weapon design and weaponization work and covert uranium conversion-related and uranium enrichment-related work."<sup>163</sup> This assessment was contentious, not merely on its own direct merits—i.e., whether or not Iran actually had stopped those specific activities (as will be discussed further below)—but also because of the disingenuous phrasing used in that assessment's "Key Judgments," which misleadingly seemed to say that Iran had halted all of the work it had previously been doing as part of the government's effort to develop nuclear weapons.

The previously secret enrichment facility at Natanz and the plutonium-production reactor at Arak had been part of the secret weapons effort as well, of course: they were to be the sources of fissile material for the bombmaking effort. (After all, one

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162 Jeffrey Lewis, "NCRI did not discover Natanz," *Arms Control Wonk* (October 28, 2006). <https://www.armscontrolwonk.com/archive/201274/ncri-did-not-discover-natanz/>. Accessed September 18, 2024.

163 U.S. National Intelligence Council, *Iran: Nuclear Intentions and Capabilities*, National Intelligence Estimate (November 2007). [https://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/20071203\\_release.pdf](https://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/20071203_release.pdf). Accessed September 18, 2024.

cannot make nuclear explosives without a supply of fissile material, primarily uranium or plutonium.) Fissile material production, moreover, is generally acknowledged to be the most difficult and expensive part of any nuclear weapons program.<sup>164</sup> From this perspective, therefore, Natanz and Arak were arguably more important and problematic than the aspects of Iran's work that the NIE assessed to have been "halted."

Hence the problem with the NIE's phrasing. Its drafters expressly defined Iran's "nuclear weapons program" for the purposes of that document to include only the elements of Iran's nuclear weapons program that were by that point still secret, noting that their phrasing did not include "Iran's declared civil work related to uranium conversion and enrichment."<sup>165</sup> Notably, Natanz and Arak were by 2003 no longer "covert," as they had been the subject of public debate for months, having been revealed to the world by NCRI in August 2002. The NIE's idiosyncratic definition thus allowed its drafters to say that Iran's "nuclear weapons program" had been "halted," even though Iran was still briskly moving forward with the fissile material production effort it had begun to provide the material for nuclear weapons.<sup>166</sup>

One should remember that the NIE was publicly released in late 2007, a time of widespread recriminations against the U.S. Intelligence Community for having contributed to a disastrous Middle Eastern war by grievously overestimating the nature and extent of Iraq's WMD stockpile. This timing perhaps explaining the disingenuous phrasing in the NIE's "Key Judgments," which could have represented an effort to deliberately downplay threats in Iran so as to insulate the drafters from suspicion of further threat inflation. Nevertheless, it was hugely significant that Iran had halted at least some of its nuclear weapons work out of apparent fear of international sanctions or even direct U.S. attack. It demonstrated that it was not impossible to pressure Iran into making significant nuclear concessions. As we shall see below, this is a lesson that would subsequently be reinforced by the world's experience with nuclear sanctions against Iran in the mid-2010s, and it bears importantly upon the recommendations in this paper.

### Early Diplomatic Efforts

The threat of such potential penalties seems to have led to some aspects of Iran's nuclear weapons program being suspended in the fall of 2003, but such pressures

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164 See, e.g., Steve Fetter and Frank von Hippel, "A Step-by-Step Approach to a Global Fissile Materials Cutoff," *Arms Control Today* 25, no. 8 (October 1995). <https://cisssm.umd.edu/research-impact/publications/step-step-approach-global-fissile-materials-cutoff>. Accessed September 18, 2024.

165 U.S. National Intelligence Council, "Iran: Nuclear Intentions and Capabilities," p. 5.

166 *Ibid.*, p. 5. Oddly, and in a seeming self-contradiction, after having said that they assessed with "high confidence" that Iran had "halted its nuclear weapons program," the NIE's drafters *also* declared later that the Department of Energy and the National Intelligence Council assessed "with only *moderate* confidence that the halt to those activities represents a halt to Iran's *entire* nuclear weapons program." (Perhaps those two organizations had seen through the disingenuousness of the NIE's top-line phrasing seeming to suggest, falsely, that after the autumn of 2003 Iran was not still making progress along the road to a nuclear weapons capability.)



began to ebb quickly. Even as Iran was secretly making this decision to suspend some elements of its nuclear weapons effort, European diplomats—feeling aggrieved over Washington’s prosecution of the Iraq war—were in fact already making concessions to Iran in order to undermine U.S. efforts to bring the Iran issue to the UNSC.

In October 2003, the foreign ministers of Britain, France, and Germany (the so-called “EU-3” countries) traveled to Tehran and announced that they had reached a deal with the Iranian regime pursuant to which Iran would agree to answer the IAEA’s questions about its apparent violations of nuclear safeguards agreements, to sign the Additional Protocol, and to “suspend its uranium-enrichment and reprocessing activities.”<sup>167</sup> Iran did not fully honor these promises, not least by continuing to produce components for uranium enrichment centrifuges. (At first, Iran simply continued to manufacture such components under “existing contracts,”<sup>168</sup> but later it announced in June 2004 that it would resume full-scale production either way.)<sup>169</sup>

Officials in Tehran also struggled to explain results from IAEA environmental sampling that were inconsistent with Iran’s claim not to have conducted any undeclared enrichment activity, such as inspectors’ discovery of particles of enriched uranium on centrifuge components and at certain locations.<sup>170</sup> But the Europeans followed through on *their* implicit side of the bargain, and American diplomacy promptly stalled at the IAEA, with Washington now lacking support at the Board of Governors to find Iran in violation of nuclear safeguards and thus to forward the “Iran file” to the UNSC.

The EU-3 tried to salvage the *Iran* side of their Iran diplomacy in late 2004 with what became known as the Paris Agreement. Under its terms, Iran agreed to:

...continue and extend its suspension to include all enrichment related and reprocessing activities, and specifically: the manufacture and import of gas centrifuges and their components; the assembly, installation, testing or operation of gas centrifuges; work to undertake

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167 Ewen Macaskil, Dan De Luce, and Julian Borger, “EU ministers strike Iran deal,” *The Guardian* (October 22, 2003). <https://www.theguardian.com/world/2003/oct/22/iran.politics1>. Accessed September 18, 2024.

168 See, e.g., IAEA Director-General Mohammed El-Baradei, *Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran*, GOV/2004/11 (February 24, 2004), pp. 11, 69. <https://www.iaea.org/sites/default/files/documents/gov2004-11.pdf>. Accessed September 18, 2024.

169 See, e.g., IAEA Director-General Mohammed El-Baradei, *Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran*, GOV/2004/60 (September 1, 2004), pp. 3, 7. <https://www.iaea.org/sites/default/files/documents/gov2004-60.pdf>. Accessed September 18, 2024.

170 Samples taken at something called the Kalaye Electric Company in August 2003, for instance, “revealed the presence of high enriched uranium (HEU) particles and low enriched uranium (LEU) particles which were not consistent with the nuclear material in the declared inventory of Iran.” See IAEA Director-General Mohammed El-Baradei, *Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran*, GOV/2003/75 (November 10, 2003), pp. 3, 9. <https://www.iaea.org/sites/default/files/documents/gov2003-75.pdf>. Accessed September 18, 2024. Reportedly, some of this contamination reached enrichment levels of 36% U-235. See Iran Watch, “Farayand Technique,” Wisconsin Project on Nuclear Arms Control (December 21, 2023). <https://www.iranwatch.org/iranian-entities/farayand-technique>. Accessed September 18, 2024.

any plutonium separation, or to construct or operate any plutonium separation installation; and all tests or production at any uranium conversion installation.<sup>171</sup>

Tehran, however, continued to press forward with aspects of its nuclear program, and also continued to drag its feet in giving IAEA inspectors the information they needed in order to verify Iranian compliance with safeguards obligations. As a later account of this period summarized,

Iran did not follow through on these commitments. Its declarations to the IAEA in 2004 and 2005 were incomplete and at times inconsistent, preventing the Agency from developing a full picture of the nuclear program and Iran's past activities. Iran also resumed or continued activities that the IAEA considered to be related to enrichment.<sup>172</sup>

Iran failed repeatedly to declare relevant information about nuclear facilities and activities to the IAEA, including underground excavations in late December 2004 for a nuclear facility at Esfahan,<sup>173</sup> and in August 2005, it “started to feed uranium ore concentrate (UOC) into the first part of the process line at the Uranium Conversion Facility (UCF),”<sup>174</sup> thus beginning the process of preparing uranium hexafluoride (UF<sub>6</sub>) feedstock for the centrifuge cascades it had also been assembling. Unsurprisingly, a month later, the IAEA found it remained unable to “verify the correctness and completeness of Iran's statements concerning those programmes.”<sup>175</sup>

## On to New York

The EU-3's diplomacy with Tehran had succeeded in derailing American diplomatic efforts to hold Iran accountable at the IAEA Board of Governors for a time, but Iranian intransigence eventually made IAEA action inevitable. By February 2006, the Board—the chastened Europeans included—had finally reached the limits of patience. In a resolution that month, it insisted that Iran “re-establish full and sustained

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171 IAEA, *Communication dated 26 November 2004 received from the Permanent Representatives of France, Germany, the Islamic Republic of Iran and the United Kingdom concerning the agreement signed in Paris on 15 November 2004*, INFCIRC/637 (November 26, 2004), p. 3. <https://www.iaea.org/sites/default/files/publications/documents/infircs/2004/infirc637.pdf>. Accessed September 18, 2024.

172 Iran Watch, “A History of Iran's Nuclear Program.”

173 IAEA Director-General Mohammed El-Baradei, “Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran,” pp. 3, 7.

174 IAEA, “Iran Starts Feeding Uranium Ore Concentrate at Uranium Conversion Facility” (August 8, 2005). <https://www.iaea.org/newscenter/pressreleases/iran-starts-feeding-uranium-ore-concentrate-uranium-conversion-facility>. Accessed September 18, 2024.

175 IAEA Director-General Mohammed El-Baradei, “Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran,” pp. 11, 45.

suspension of all enrichment-related and reprocessing activities, including research and development.” And the Board finally directed the IAEA director-general to refer Iran to the UNSC.<sup>176</sup>

At the end of July 2006, the UNSC itself demanded that Iran “suspend all enrichment-related and reprocessing activities, including research and development, to be verified by the IAEA.”<sup>177</sup> When Tehran did not comply, the UNSC acted to mandate this under Article 41 of the UN Charter, thus making that requirement obligatory under international law.<sup>178</sup> In December 2006, UN Security Council Resolution (UNSCR) 1736 required Iran to suspend “all enrichment-related and reprocessing activities, including research and development,” as well as “work on all heavy water-related projects, including the construction of a research reactor moderated by heavy water.”<sup>179</sup> It also prohibited any country from providing “items, materials, equipment, goods and technology which could contribute to Iran’s enrichment-related, reprocessing or heavy water-related activities, or to the development of nuclear weapon delivery systems,” and (of course) it required Iran to cooperate with the IAEA.<sup>180</sup> UNSCR 1736 also imposed international sanctions on a number of entities associated with the Iranian nuclear program.<sup>181</sup>

The public revelations about Iran’s various violations of its safeguards obligations that had begun in August 2002 had now reached a formal climax, with the IAEA having found Iran in breach and the UNSC having both agreed and moved to punish Iran for the violation. December 2006, however, was grievously late, as this author later noted somewhat bitterly:

... [C]hances to put significant pressure on Iran had evaporated earlier, being quite deliberately undercut by the EU-3 in the concessionary side deal they reached with Tehran in the autumn of 2003. In return for an Iranian “suspension” that the IAEA has documented that Tehran never fully honored, the Europeans drove the U.S.-led multilateral effort

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176 IAEA Board of Governors, *Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran*, GOV/2006/14 (February 4, 2006), pp. 1-2. <https://www.iaea.org/sites/default/files/documents/gov2006-14.pdf>. Accessed September 18, 2024.

177 UN Security Council, *Resolution 1696 (2006)*, S/RES/1696 (2006), p. 2. <https://documents.un.org/doc/undoc/gen/n06/450/22/pdf/n0645022.pdf>. Accessed September 18, 2024.

178 Article 41 of the UN Charter authorizes the UNSC to “decide what measures not involving the use of armed force are to be employed to give effect to its decisions, and it may call upon the Members of the United Nations to apply such measures. These may include complete or partial interruption of economic relations and of rail, sea, air, postal, telegraphic, radio, and other means of communication, and the severance of diplomatic relations.” Charter of the United Nations (signed June 26, 1945) (entered into force October 24, 1945) [hereinafter “UN Charter”], at Art. 41, available at <https://www.un.org/en/about-us/un-charter/full-text>.

179 UN Security Council, *Resolution 1736 (2006)*, S/RES/1736 (December 27, 2006), p. 2. <http://unscr.com/en/resolutions/doc/1736>. Accessed September 21, 2024.

180 *Ibid.*, pp. 2-4, 3-8.

181 *Ibid.*, pp. 4-5, 12; an annex to Resolution 1737 listed these several entities. *Ibid.*, pp. 8-9.

at the IAEA into a ditch, making clear to Tehran that their new deal precluded Security Council action. It took years for Iran's continued deceit and provocations to exhaust the Europeans' patience, so that by the time the IAEA finally got around to complying with its own statute to report Iran to the Security Council and the first tentative sanctions were applied in 2006, Tehran had come a long way in making its enrichment program into a *fait accompli*. Natanz had been a hole in the ground in August 2002, but with European complicity, Iran was able to get its first centrifuges spinning by the time any sanctions started to bite.<sup>182</sup>

### **The Scope of Iran's Effort Becomes More Clear**

And still Iran continued to press forward with its nuclear ambitions. In the autumn of 2009, for instance, U.S., British, and French officials released sensitive intelligence information revealing "a multiyear Iranian effort, tracked by spies on the ground and satellites above, to build a secret uranium enrichment plant deep inside a mountain" at a place known as Fordow.<sup>183</sup> In 2010, Iran began enriching uranium to the 20% level,<sup>184</sup> thus beginning to produce material capable of being quickly and easily enriched further to optimal weapons-grade levels. A year after that, a Russian-built and -operated nuclear reactor at Bushehr began operations,<sup>185</sup> thus also—at least potentially—offering Iran the option, in extremis, to seize and appropriate that facility's partially-burned or spent fuel remnants as a source for plutonium.

In November 2011, with Director-General Mohammed El-Baradei having been replaced by the Japanese diplomat Yukiya Amano in December 2009, the IAEA was finally willing publicly to release a compendium of the extensive information about the specifically weaponization-related aspects of Iran's nuclear program that it had acquired over several years. In addition to reporting on Iran's continuing range of fissile-material activities—including the production of low-enriched uranium (LEU)—Amano published a lengthy compilation of IAEA concerns about what became known as the "possible military dimensions" of Iran's nuclear program (a.k.a. the "PMD issue").

According to Amano's report, the Agency had acquired "a large volume of documentation" about Iran's nuclear weapons program, including:

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182 Christopher A. Ford, "Law, Iran and the Bomb," *New Paradigms Forum* (October 7, 2009). <https://www.newparadigmsforum.com/p110>. Accessed September 18, 2024.

183 David Sanger and William J. Broad, "U.S. and Allies Warn Iran Over Nuclear 'Deception,'" *The New York Times* (September 25, 2009). <https://www.nytimes.com/2009/09/26/world/middleeast/26nuke.html>. Accessed September 18, 2024.

184 See, e.g., Robin Pomeroy, "Iran says has enriched 17 kg uranium to 20 percent purity," *Reuters* (June 23, 2010). <https://www.reuters.com/article/idU5TRE65M1CS/>. Accessed September 18, 2024.

185 See, e.g., "Iran's Bushehr nuclear plant begins operation," *BBC* (May 10, 2011). <https://www.bbc.co.uk/news/world-middle-east-13351134>. Accessed September 18, 2024.

...correspondence, reports, viewgraphs from presentations, videos and engineering drawings ... amounting to over a thousand pages. The information reflected in that documentation is of a technically complex and interconnected nature, showing *research, development[,] and testing activities over time. It also contains working level correspondence consistent with the day to day implementation of a formal programme.*<sup>186</sup>

The IAEA had also received information about Iran's nuclear work from "more than 10 Member States," as well as acquiring information from its own investigations.<sup>187</sup> Tellingly, Amano made clear that "the Agency finds the information to be, overall, credible."<sup>188</sup>

On the basis of this information and its own analysis, the IAEA said, it had become "increasingly concerned about the possible existence in Iran of undisclosed nuclear related activities involving military related organizations, including activities related to the development of a nuclear payload for a missile."<sup>189</sup> Specifically, the November 2011 report described "[e]fforts, some successful, to procure nuclear related and dual use equipment and materials by military related individuals and entities," as well as "[e]fforts to develop undeclared pathways for the production of nuclear material," "[t]he acquisition of nuclear weapons development information and documentation from a clandestine nuclear supply network," and "[w]ork on the development of an indigenous design of a nuclear weapon including the testing of components."<sup>190</sup>

While some of the Iranian work described was dual-use—that is, it could theoretically be applied to either civilian or military applications of nuclear energy—much of it, Amano noted, was "specific to nuclear weapons." Moreover, "prior to the end of 2003 the above activities took place under a structured programme"—that is, a nuclear weapons program. Worryingly, despite the seemingly sanguine conclusion of the 2007 U.S. NIE that Iran had "halted" its "nuclear weapons program" in 2003, the November 2011 IAEA report made clear that "[t]here are also indications that some activities

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186 IAEA Director-General Yukiya Amano, *Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran*, GOV/2011/65 (November 8, 2011), pp. [in Annex] 3, 12. <https://www.iaea.org/sites/default/files/documents/gov2011-65.pdf>. Accessed September 18, 2024.

187 *Ibid.*, pp. [in Annex] 3, 13-14.

188 *Ibid.*, pp. 10, 50 [main body of report].

189 *Ibid.*, pp. 7, 38.

190 *Ibid.*, pp. 8, 43. The interested reader will find Iran's efforts related to procuring nuclear-related and dual-use equipment and materials by military-related individuals and entities discussed in more detail in Sections C.1 and C.2 of the November 2011 report's Annex. *Ibid.*, pp. [in Annex] 4-6, 18-26. Undeclared pathways for producing nuclear material are covered in *Ibid.*, pp. [in Annex] 7, 27-30. Nuclear weapons development information and documentation from a clandestine nuclear supply network is discussed in *ibid.*, pp. [in Annex] 7-8, 31-37. Finally, development of and component testing for an indigenous nuclear weapon design are discussed in *ibid.*, pp. [in Annex] 8-12, 38-65.

relevant to the development of a nuclear explosive device continued after 2003, and that some may still be ongoing.”<sup>191</sup>

Further insight into Iran’s nuclear weapons work—or at least into Iran’s efforts to conceal this work—emerged in connection with an IAEA visit to a suspect facility at Parchin in September 2015. Iran refused to allow an IAEA team to visit until after extensive renovations and alterations had been made at the specific building the IAEA sought to inspect, and even during their eventual visit the Iranians excluded the inspectors from the room where they supposedly took environmental samples at the IAEA’s request.<sup>192</sup>

That building at Parchin was believed to have been the location of a huge metal containment vessel used for testing implosion detonator systems, and associated with a former Soviet nuclear weapons scientist named Vyacheslav Danilenko—who had helped Iran during the 1990s with warhead designs and technology,<sup>193</sup> particularly “the design and testing of an unusual, half-sphere-shaped detonator.”<sup>194</sup> (This was associated with the detonation system for what was unmistakably a spherical nuclear warhead, sized to fit into the idiosyncratically “tri-conic” warhead of an Iranian Shahab-3 ballistic missile.<sup>195</sup>) By the time the IAEA inspectors were permitted into the building, however, the large metal device had apparently been cut to pieces and removed.<sup>196</sup>

## Pressure Builds

Iran’s continuing refusal to comply with the UNSC’s legal requirement that it suspend its nuclear activities, the growing amount of information publicly available about

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191 Ibid., pp. 8, 44.

192 David Albright, Olli Heinonen, and Serena Kelleher-Vergantini, *IAEA Visit to the Parchin Site*, Institute for Science and International Security (September 22, 2015). [https://isis-online.org/uploads/isis-reports/documents/IAEA\\_Visit\\_to\\_the\\_Parchin\\_Site\\_September\\_22\\_2015\\_Final.pdf](https://isis-online.org/uploads/isis-reports/documents/IAEA_Visit_to_the_Parchin_Site_September_22_2015_Final.pdf). Accessed September 18, 2024.

193 David Albright, Paul Brannan, Mark Gorwitz, and Andrea Stricker, *ISIS Analysis of IAEA Iran Safeguards Report: Part II – Iran’s Work and Foreign Assistance on a Multipoint Initiation System for a Nuclear Weapon*, Institute for Science and International Security (November 13, 2011), pp. 5-6. [https://isis-online.org/uploads/isis-reports/documents/Foreign\\_Assistance\\_Multipoint\\_Initiation\\_System\\_14Nov2011.pdf](https://isis-online.org/uploads/isis-reports/documents/Foreign_Assistance_Multipoint_Initiation_System_14Nov2011.pdf). Accessed September 18, 2024.

194 Joby Warrick, “Russian scientist Vyacheslav Danilenko’s aid to Iran offers peek at nuclear program,” *The Washington Post* (November 13, 2011). [https://www.washingtonpost.com/world/national-security/russian-scientist-vyacheslav-danilenkos-aid-to-iran-offers-peek-at-nuclear-program/2011/11/12/gIQAeuiCJN\\_story.html](https://www.washingtonpost.com/world/national-security/russian-scientist-vyacheslav-danilenkos-aid-to-iran-offers-peek-at-nuclear-program/2011/11/12/gIQAeuiCJN_story.html). Accessed September 18, 2024.

195 David Albright, Paul Brannan, Mark Gorwitz, and Andrea Stricker, “ISIS Analysis of IAEA Iran Safeguards Report: Part II – Iran’s Work and Foreign Assistance on a Multipoint Initiation System for a Nuclear Weapon.”

196 David Albright, Olli Heinonen, and Serena Kelleher-Vergantini, *IAEA Visit to the Parchin Site*, Institute for Science and International Security (September 22, 2015). [https://isis-online.org/uploads/isis-reports/documents/IAEA\\_Visit\\_to\\_the\\_Parchin\\_Site\\_September\\_22\\_2015\\_Final\\_1.pdf](https://isis-online.org/uploads/isis-reports/documents/IAEA_Visit_to_the_Parchin_Site_September_22_2015_Final_1.pdf). Accessed September 21, 2024; stolen Iranian photographs released by Israel in 2018 show what is said to be the large implosion chamber at Parchin before it was dismantled. See David E. Sanger and Ronen Bergman, “How Israel, in Dark of Night, Torched Its Way to Iran’s Nuclear Secrets,” *The New York Times* (July 15, 2018). <https://www.nytimes.com/2018/07/15/us/politics/iran-israel-mossad-nuclear.html>. Accessed September 21, 2024.

Iran's now glaringly obvious nuclear weapons ambitions, and Tehran's continuing gamesmanship with the inspectors as they sought to determine the nature, scope, and status of this program led to a progressive strengthening of sanctions against the Iranian regime. Even before the revelations about the uranium enrichment bunker complex at Fordow, for instance, UNSCR 1801 had expanded sanctions in 2008,<sup>197</sup> and in 2010 additional sanctions were added—including a prohibition on testing of nuclear-capable ballistic missiles and the imposition of an embargo on the transfer of major weapons systems to Iran.<sup>198</sup>

The year 2010 also saw the EU step up sanctions against Iran.<sup>199</sup> In 2012, EU sanctions were expanded further, now banning imports of Iranian oil and freezing Iranian Central Bank assets in Europe.<sup>200</sup> Over the next several years, the U.S. Congress also enthusiastically expanded American sanctions. In 2010, Congress passed the Comprehensive Iran Sanctions, Accountability, and Divestment Act (CISADA), which targeted firms investing in Iran's energy sector or selling refined petroleum to Iran, as well as foreign banks doing business with designated Iranian banks.<sup>201</sup> In 2011, Congress passed new penalties on Iran's Central Bank over the Obama administration's objections.<sup>202</sup> U.S. sanctions expanded further in 2012 and 2013, with the Iran Threat Reduction and Syria Human Rights Act (ITRSHRA)<sup>203</sup> and then the Iran Freedom and Counter-Proliferation Act (IFCA).<sup>204</sup>

These various measures unquestionably imposed significant costs on Iran. Nonetheless, the Iranian program continued to expand rapidly.

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197 UN Security Council, *Resolution 1803 (2008)*, S/RES/1803 (March 3, 2008). <https://documents.un.org/doc/undoc/gen/n08/257/81/pdf/n0825781.pdf>. Accessed September 18, 2024.

198 See UN Security Council, *Resolution 1929 (2010)*, S/RES/1929 (June 9, 2010), pp. 4-8, 8-24. <https://documents.un.org/doc/undoc/gen/n10/396/79/pdf/n1039679.pdf>. Accessed September 18, 2024.

199 Council of the European Union, "European Council Decision of 26 July 2010 concerning restrictive measures against Iran and repealing Common Position 2007/140/CFSP," *Official Journal of the European Union* 135, no. 39 (July 27, 2010). <https://eur-lex.europa.eu/eli/dec/2010/413/oj>. Accessed September 18, 2024.

200 "EU Iran sanctions: Ministers adopt Iran oil imports ban," BBC (January 23, 2012). <https://www.bbc.co.uk/news/world-europe-16674660>. Accessed September 18, 2024.

201 U.S. Congress, *Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010*, P.L. 111-195 (July 1, 2010). <https://www.congress.gov/111/plaws/publ195/PLAW-111publ195.pdf>. Accessed September 18, 2024.

202 Arshad Mohammed and Susan Cornwell, "U.S. Senate OK's sanctions on Iran central bank," Reuters (December 2, 2011), <https://www.reuters.com/article/markets/us-u-s-senate-ok-s-sanctions-on-iran-central-bank-idUSN1E7B00N3/> (accessed September 18, 2024); Peter Crail, "Congress Sanctions Iran Central Bank," Arms Control Association, <https://www.armscontrol.org/act/2012-01/congress-sanctions-iran-central-bank> (accessed September 18, 2024).

203 U.S. Congress, *Iran Threat Reduction and Syria Human Rights Act*, P.L. 112-148 (August 10, 2012). <https://www.congress.gov/112/plaws/publ158/PLAW-112publ158.pdf>. Accessed September 18, 2024.

204 U.S. House of Representatives, *Chapter 95—Iran Freedom and Counterproliferation*, 22 U.S. Code §§ 8801-11. <https://uscode.house.gov/view.xhtml?path=/prelim@title22/chapter95&edition=prelim>. Accessed September 21, 2024.



By the summer of 2013, Iran had installed more than 18,000 of its first-generation IR-1 centrifuges and 1,300 more advanced centrifuges, mostly of the IR-2m model, across its enrichment sites. It had also amassed a stockpile of about 9,700 kg of uranium enriched up to 5% and 370 kg enriched up to 20%. According to the U.S. government in 2016, this amount would yield enough weapons-grade fissile material for a nuclear weapon, with further enrichment, within two or three months.<sup>205</sup>

### **Moving Toward an Agreement**

The pain inflicted by these combined international, U.S., and European sanctions, however, apparently *did* wear on the Iranian leadership, giving them incentives to explore diplomatic alternatives once more. In November 2014, Iranian officials met in Geneva with representatives of the United States, the EU-3, Russia, and China—together referred to as the “P5+1” powers, since this group represented all five permanent members of the UNSC plus Germany. (The EU itself, represented by EU High Representative Catherine Ashton, also played a key role.)

Together, these officials announced their agreement upon the Joint Plan of Action (JPOA), which was intended to point the way toward a more comprehensive nuclear deal. Under its terms, Iran agreed to dilute its uranium stockpile, temporarily stop enriching above 5% levels, refrain from “further advances” at various listed nuclear facilities, and allow some additional IAEA monitoring. In return, the Europeans would stop trying to restrict Iranian oil sales; would suspend sanctions on petrochemical exports, sales of gold and precious metals, and the auto industry; and would forswear new sanctions.<sup>206</sup> Iran would also be permitted to repatriate some of its assets that had been frozen abroad, and the Americans would stop sanctioning foreign companies involved with Iran’s automotive sector or involved in purchasing Iranian petrochemicals.<sup>207</sup>

The JPOA was an expressly provisional step, intended to create diplomatic space for further negotiations, and indeed by the summer of 2015, the Iranians and the P5+1 announced they had reached a more enduring agreement. This deal was the more elaborately acronymic Joint Comprehensive Plan of Action (JCPOA), which will be discussed in the following pages.

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205 Iran Watch, “A History of Iran’s Nuclear Program.”

206 IAEA, *Communication dated 27 November 2013 received from the EU High Representative concerning the text of the Joint Plan of Action*, INF/CIRC/855 (November 27, 2013), pp. 1-3. <https://www.iaea.org/sites/default/files/publications/documents/infcircs/2013/infcirc855.pdf>. Accessed September 18, 2024.

207 Ashish Kumar Sen, “A Brief History of Sanctions on Iran,” Atlantic Council (May 18, 2018). <https://www.atlanticcouncil.org/blogs/new-atlanticist/a-brief-history-of-sanctions-on-iran/>. Accessed September 18, 2024.



## The Joint Comprehensive Plan of Action

### Basic Provisions

The architecture of the JCPOA is at times numbingly complex, but its basic conception is simple. As with the JPOA, Iran undertook to abide by certain obligations in restraining aspects of its nuclear program for a certain period of time, in return for which the P5+1 powers agreed to lift a broad range of sanctions against Iran that had been imposed upon it for its nuclear activities.

The details are of little concern here, but for present purposes the key point is that the restrictions on Iran were only temporary. The duration of various provisions restricting specific aspects of Iran’s nuclear work varied considerably, but none of the significant ones were permanent. **Figure 1** below provides an account of limitations imposed on Iran by the JCPOA and UNSCR 2231.

**Figure 1: JCPOA Limits on Iran and their Duration**<sup>208</sup>

Limit on Iran	Duration	Date
UN heavy arms embargo	5 years	October 18, 2020
UN ballistic missile restrictions Manufacture of IR-6 and IR-8 centrifuge rotors prohibited (but after 8 years up to 200 of each are allowed)	8 years	October 18, 2023
Research with uranium on IR-4, IR-5, IR-6, and IR-8 centrifuges is prohibited (but after 8.5 years it is allowed for a single IR-4, IR-5, IR-6, and IR-8 machine at Natanz, and up to 30 IR-6s and 30 IR-8s may be tested)	8.5 years	April 18, 2024
Operating centrifuges reduced to 5,060 IR-1 machines, with a total centrifuge numbers capped at 6,104 IR-1s and no new introduction of IR-1s  JCPOA Joint Commission must review and approve approval of changes to centrifuge research and development plan  Joint Commission working group must approve purchase of dual-use materials	10 years	October 18, 2025

208 Kelsey Davenport, “The Joint Comprehensive Plan of Action (JCPOA) at a Glance,” Arms Control Association, <https://www.armscontrol.org/factsheets/joint-comprehensive-plan-action-jcpoa-glance>. Accessed September 18, 2024.

Iran can replace IR-1 centrifuges with the equivalent capacity of IR-6 and IR-8 machines	11-15 years	2026-2030
<p>Uranium enrichment level cannot exceed 3.67% of uranium-235 (U-235)</p> <p>Uranium enrichment only permitted at Natanz</p> <p>Uranium may not be introduced to centrifuge cascades at the Fordow facility</p> <p>Uranium stockpile limited to 300 kilograms of material enriched to 3.67% U-235</p> <p>No heavy water-moderated nuclear power reactors permitted in Iran, and no accumulation of heavy water</p> <p>Reprocessing of spent nuclear fuel (to separate plutonium) is prohibited</p> <p>Joint Commission oversees IAEA access requests to inspect undeclared sites</p>	15 years	October 18, 2030
Continuous monitoring of centrifuge production facilities	20 years	October 18, 2035
<p>Continuous monitoring of uranium mines and mills</p> <p>Joint Commission (of P5+1, EU, and Iran) to hold quarterly meetings, or by request, to oversee the JCPOA implementation (with dispute resolution mechanism)</p>	25 years	October 18, 2040
<p>Iran will ship spent nuclear fuel (e.g., from the Bushehr reactor) out of Iran.</p> <p>Nuclear weaponization work prohibited [note that this duplicates requirements of NPT Article II]</p> <p>Implementation of modified Code 3.1 of the Subsidiary Arrangements to its Safeguards Agreement [requiring prior submission of nuclear facility design information to the IAEA]</p>	Permanent	N/A

**Figure 2** below provides a corresponding table of obligations for the P5+1 with regard to relaxing sanctions on Iran in return for the limitations described in **Figure 1**. Note that such relief is *not* time-limited, but rather permanent.

Figure 2: JCPOA Requirements for Sanctions Relief<sup>209</sup>

<b>Sanctions Relief for Iran</b>		<b>Duration</b>
<b>United States</b>		
<p>Cease application of economic sanctions against Iran’s oil and banking sectors, allowing Iranian banks and companies to reconnect with international systems</p> <p>Remove designation of certain entities and individuals</p> <p>Allow licensed non-U.S. entities owned or controlled by a U.S. person to engage in activities with Iran permitted under JCPOA</p> <p>Allows sale of commercial passenger aircraft to Iran</p> <p>Allow import licenses for Iranian-origin carpets and foodstuffs</p> <p>Address state or local laws preventing full implementation of JCPOA by encouraging officials to adhere to JCPOA policy</p> <p>From eight years after “Adoption Day” (October 18, 2015), seek legislative action to terminate/modify nuclear related sanctions</p>	Permanent	
<b>European Union</b>		
<p>Terminate all provisions of EU Regulation related to Iran’s nuclear program (i.e., sanctions on financial and banking transactions, transactions in Iranian Rial, provision of U.S. banknotes to Iranian government, access to SWIFT messaging systems, insurance services, Iranian crude oil and petrochemical product sales, investment, transactions with Iranian energy and shipping sector, trade in gold and other precious metals, trade with automotive sector)</p> <p>Remove sanctions designations on specific individuals and entities</p> <p>Refrain from reintroducing sanctions terminated under JCPOA</p>	Permanent	

Source: Arms Control Association

209 Ibid.

## Sanctions “Snapback”

Though the JCPOA undertook to delay the progress of Iran’s march toward the possession of a large fissile material production capability and a large stock of uranium or plutonium, the drafters of the JCPOA generally refused to place *permanent* limits on Iran’s nuclear capacity. As set forth above, the most meaningful restrictions the JCPOA imposed upon Iran’s nuclear program were subject to so-called “sunset” provisions, whereby these restraints would expire in time, thereafter, leaving Iran facing no legal constraint upon its uses of nuclear materials and technology. (The JCPOA did contain a permanent provision whereby Tehran promised not to develop nuclear weapons, but this simply duplicated the basic obligation already imposed upon Iran by Article II of the NPT “not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices”<sup>210</sup>—a restraint that Iran had clearly felt free to disregard for many years.)

Under the JCPOA, however, the P5+1 powers were not subject to merely transitory obligations. If they wished to remain faithful to the JCPOA, they would have to continue to avoid sanctioning Iran for its nuclear activity indefinitely: no “sunset” time limits were put on the sanctions relief provisions in the deal. The JCPOA, therefore, was a structurally asymmetric arrangement strongly favoring Iran, amounting to the P5+1 promising permanent nuclear sanctions relief to Iran in return merely for a temporary suspension of the destabilizing activity to which those very sanctions had been a response. Eventually, Iran would be entirely free to do all that it had done before 2015 in terms of building up its fissile material capabilities, and more.

Yet there was one sole safeguard built into the structure of the JCPOA and the accompanying UNSCR: the so-called “snapback” provisions. Specifically, UNSCR 2231 of 2015 provided that 10 years after “Adoption Day”—a date defined as 90 days after the passage of that resolution on October 18, 2015<sup>211</sup>—all the provisions of the resolution: ...shall be terminated, and none of the previous resolutions described in paragraph 7(a) shall be applied, the Security Council will have concluded its consideration of the Iranian nuclear issue, and the item “Non-proliferation” will be removed from the list of matters of which the Council is seized.<sup>212</sup>

The reference to paragraph 7(a) above ensured that this provision covered all prior Security Council sanctions resolutions on Iran: UNSCRs 1696 (2006), 1737 (2006),

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210 United Nations, Treaty on the Non-Proliferation of Nuclear Weapons.

211 Kelsey Davenport, “The Joint Comprehensive Plan of Action (JCPOA) at a Glance.”

212 UN Security Council, *Resolution 2231 (2015)*, S/RES/2231 (July 20, 2015), pp. 3, 8. <https://documents.un.org/doc/undoc/genn15/225/27/pdf/n1522527.pdf>. Accessed September 23, 2024.

1747 (2007), 1803 (2008), 1835 (2008), 1929 (2010), and 2224 (2015).<sup>213</sup> Should termination occur, therefore, all UN sanctions against Iran’s nuclear program would evaporate completely. Without any further intervening action, this would occur on October 18, 2025 (a.k.a. Termination Day).<sup>214</sup>

This was not *necessarily* to be the end of the matter, however, for UNSCR 2231 also provided that under one specific set of circumstances, such termination of prior UN sanctions would not take place.<sup>215</sup> To wit, termination of UNSCR 2231 and prior UN sanctions on Iran would fail to occur if:

...within 30 days of receiving a notification by a JCPOA participant State of an issue that the JCPOA participant State believes constitutes significant non-performance of commitments under the JCPOA, it shall vote on a draft resolution to continue in effect the terminations in paragraph 7(a) of this resolution ... [and] if the Security Council does not adopt a resolution under paragraph 11 to continue in effect the terminations in paragraph 7(a), then effective midnight Greenwich Mean Time after the thirtieth day after the notification to the Security Council described in paragraph 11, all of the provisions of resolutions 1696 (2006), 1737 (2006), 1747 (2007), 1803 (2008), 1835 (2008), and 1929 (2010) that have been terminated pursuant to paragraph 7(a) shall apply in the same manner as they applied before the adoption of this resolution ....<sup>216</sup>

This phrasing is convoluted, but it is clear enough—and indeed, arguably quite ingenious. More simply put, this provision says that if any JCPOA participant State were not happy with Iran’s conduct under the deal, it could invoke its right to hold a UNSC vote on a resolution continuing UNSCR 2231’s termination of sanctions. If this resolution failed to pass, Iran sanctions would continue in place as before. Significantly, therefore, because permanent members of the UNSC enjoy the power to veto Council resolutions,<sup>217</sup> any JCPOA participant State which was a permanent member could move to keep UN sanctions in place by invoking its right to such a vote and then *vetoing* the continuation resolution.

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213 *Id.* at p. 3, ¶ 7.

214 Kelsey Davenport, “The Joint Comprehensive Plan of Action (JCPOA) at a Glance.”

215 UN Security Council, “Resolution 2231 (2015),” pp. 3, 9.

216 *Ibid.*, p. 4, 11-12.

217 See UN Charter, *supra*, at Art. 27(3) (“Decisions of the Security Council on all other matters [apart from merely procedural ones] shall be made by an affirmative vote of seven members including the concurring votes of the permanent members.”). <https://www.un.org/en/about-us/un-charter/full-text>. Accessed September 21, 2024.

This remarkable set of provisions is known as Iran sanctions “snapback.” Under its terms, it was thus entirely within the discretion of Britain, China, France, Russia, or the United States—the five permanent members of the UNSC, who were all JCPOA participant States upon adoption of UNSCR 2231—to keep sanctions in place against Iran after October 15, 2025, entirely *unilaterally*.

## The Collapse of the JCPOA

The Obama administration seems to have hoped that securing the JCPOA would help catalyze better behavior from Iran more generally. As this author summarized things when still in government:

President Obama ... picking up themes he had earlier voiced upon coming into office, when he famously offered an “extended hand” to Iran and in a Farsi-subtitled video on the occasion of the Persian New Year expressed his desire for “renewed exchanges among our people and opportunities for partnership and commerce”<sup>218</sup>—declared upon finalizing the JCPOA that the deal would give Iran a chance to “move in a different, less provocative direction.”<sup>219</sup> Indeed, the JCPOA itself declared that the participants anticipated that “full implementation of this JCPOA will positively contribute to regional and international peace and security.”<sup>220</sup>

Unfortunately, this did not happen, and Obama’s “extended hand” was spurned by the clerical regime in Tehran. If anything, its behavior became worse, with Iran evidently being made more aggressively self confident by the sanctions relief that accompanied the JCPOA, thus becoming an even more dangerous regional actor than before.

Iran did much better economically as a result of JCPOA sanctions relief, particularly with regard to oil sanctions, and as former Secretary of State John Kerry embarked upon a sort

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218 Barack Obama, “Videotaped Remarks by The President in Celebration of Nowruz,” Obama White House Archives (March 20, 2009). <https://obamawhitehouse.archives.gov/the-press-office/videotaped-remarks-president-celebration-nowruz>. Accessed September 18, 2024.

219 Barack Obama, “Remarks by the President on the Iran Nuclear Deal,” Obama White House Archives (August 5, 2015). <https://obamawhitehouse.archives.gov/the-press-office/2015/08/05/remarks-president-iran-nuclear-deal>. Accessed September 18, 2024.

220 Christopher A. Ford, “The Strategic Logic of U.S. Iran Policy,” remarks at the Vienna Center for Disarmament and Nonproliferation (September 19, 2019). <https://2017-2021.state.gov/the-strategic-logic-of-u-s-iran-policy/>. Accessed September 18, 2024. [Internal footnotes have been added here for the convenience of the reader. The embedded quotation from the JCPOA can be found in Joint Comprehensive Plan of Action (July 14, 2014), from the Preface, at 1, available at <https://www.europarl.europa.eu/cmsdata/122460/full-text-of-the-iran-nuclear-deal.pdf>.]

of diplomatic world tour to encourage business ties with Iran.<sup>221</sup> According to the Central Bank of Iran, the country's economy grew 12.5% over the 2016-17 period, compared to the nearly 6% shrinkage it had suffered over 2014-15 under international sanctions before the JCPOA.<sup>222</sup>

Unfortunately, that wealthier and more confident Iran also felt freer to act out dangerously. Iran's defense budget rose significantly, for instance, and its malign activities in the Middle East increased. Iran expanded its practice of unlawful detentions of Americans and Europeans. The Iranian Revolutionary Guard Corps' Qods Force expeditionary arm deepened its involvement in Syria, and became the headquarters cadre for Iran's proxy militia forces in Iraq. Iran funded an expansion in the development of a huge arsenal of ever more sophisticated ballistic and cruise missile and explosive drone capabilities.

Unfortunately, simply developing this destructive technology was not enough. Iran chose to proliferate missiles and missile production technology to clients such as Lebanese Hezbollah terrorists and the Houthis in Yemen to attack critical civilian infrastructure and energy facilities alike. Iran's broader support for international terrorism also continued, and even accelerated, to include directing a bomb plot in the heart of Europe that was foiled by French, Belgian, and German authorities in 2018.<sup>223</sup> By early 2018, in fact, an empowered and emboldened Iran seemed to be on the verge of consolidating an axis of malevolent influence or control that stretched from the Mediterranean to the Indian Ocean.

Iran's financial support for regional destabilization accelerated after the JCPOA. Billions of dollars went to prop up the Assad regime in Syria, for instance, with more than \$700 million or so annually to

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221 See, e.g., Michele Keleman, "John Kerry's Awkward Push for Investment in Iran," NPR (May 5, 2016), <https://www.npr.org/sections/parallels/2016/05/25/479462791/john-kerrys-awkward-push-for-investment-in-iran> (accessed September 18, 2024); David Brunnstrom, "Kerry seeks to soothe European bank nerves over Iran trade," Reuters (May 12, 2016), <https://www.reuters.com/article/world/uk/kerry-seeks-to-soothe-european-bank-nerves-over-iran-trade-idUSKCNOY300N/> (accessed September 18, 2024).

222 See Macrotrends, "Iran GDP Growth Rate 1960-2024." <https://www.macrotrends.net/global-metrics/countries/IRN/iran/gdp-growth-rate>. Accessed September 18, 2024.

223 See, e.g., U.S. Department of State, Bureau of Counterterrorism, *Country Reports on Terrorism 2018* (October 2019), pp. 76, 87, 91. <https://www.state.gov/wp-content/uploads/2019/11/Country-Reports-on-Terrorism-2018-FINAL.pdf>. Accessed September 18, 2024.

Lebanese Hezbollah, and perhaps \$100 million a year to Palestinian groups such as Hamas and Palestinian Islamic Jihad.<sup>224</sup>

Despite the Obama administration's hopes, Iran was only "empowered and emboldened in its malign activities."<sup>225</sup>

Thus was the stage set for the eventual collapse of the JCPOA, particularly after Donald Trump's victory in the 2016 U.S. presidential election. On the campaign trail, Trump had been unremittently hostile to the JCPOA, describing it as having been "incompetently negotiated"<sup>226</sup> and decrying the sanctions relief given to Iran under the deal. ("We should have kept the money.")<sup>227</sup>

In office, President Trump continued such themes, now with what he said was the intention of fixing the deal or negotiating a better one. One of his main arguments against the JCPOA related to the merely temporary nature of the restrictions on Iran's nuclear development—that is, its "sunset" clauses, which have been described above. In October 2017, Trump declared that:

I am directing my administration to work closely with Congress and our allies to address the deal's many serious flaws so that the Iranian regime can never threaten the world with nuclear weapons. These include the deal's sunset clauses that, in just a few years, will eliminate key restrictions on Iran's nuclear program.<sup>228</sup>

This direction was the basis for a U.S. diplomatic effort in late 2017 and early 2018 to develop a solution to the problem working with the EU-3 powers of Britain, France, and Germany. Central to those discussions, which were led by State Department official Brian Hook and by the author of this paper,<sup>229</sup> was the question of Iran's "breakout time" to nuclear weaponization.

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224 Christopher A. Ford, "The Strategic Logic of U.S. Iran Policy."

225 Christopher A. Ford, "Moving American Policy Forward in the Aftermath of the Iran Nuclear Deal," remarks at DACOR Bacon House (July 28, 2018). <http://www.newparadigmsforum.com/NPFtestsitesite/?p=2184>. Accessed September 18, 2024.

226 See Eli Stokols and Nick Gass, "Trump storms Washington," Politico (September 9, 2015). <https://www.politico.com/story/2015/09/donald-trump-iran-deal-washington-rally-213451>. Accessed September 18, 2024.

227 See Katy Tur, "Donald Trump Weighs in on Iran Deal," NBC News (July 14, 2015). <https://www.nbcnews.com/politics/2016-election/donald-trump-weighs-iran-deal-n391926>. Accessed September 18, 2024.

228 "Transcript: Trump's Remarks on Iran Nuclear Deal," NPR (October 13, 2017). <https://www.npr.org/2017/10/13/557622096/transcript-trump-s-remarks-on-iran-nuclear-deal>. Accessed September 18, 2024.

229 Hook was later appointed to be U.S. special envoy for Iran, where he led the U.S. "maximum pressure" campaign against Tehran, but at the time of these JCPOA negotiations he served as director of the Policy Planning Staff at the Department of State. When efforts first began to fix the "sunset clause" problem in 2017, the author of this paper served as special assistant to the President and National Security Council senior director for Weapons of Mass Destruction and Counterproliferation, but in January 2018 he became assistant secretary of state for International Security and Nonproliferation.



Nuclear weapons “breakout time” is a complicated and in some respects problematic concept. As one expert has attempted to explain it,

In technical terms, breakout refers to when a state achieves nuclear weapons capability as a *fait accompli* before it can be stopped by diplomatic pressure or military action. Opinions differ on what constitutes “nuclear weapons capability,” but it is generally accepted as the moment when a country has enough fissile material to make one nuclear device.<sup>230</sup>

The definition of how much nuclear material this means is also somewhat contested. The IAEA defines a Significant Quantity (SQ) of weapon-usable fissile material as “the approximate amount of nuclear material for which the possibility of manufacturing a nuclear explosive device cannot be excluded.”<sup>231</sup> In terms of direct use nuclear material, one SQ is defined as 25 kg of enriched uranium or 8 kg of separated plutonium,<sup>232</sup> though most experts believe the IAEA’s figures to be overestimates (i.e., that one can actually make a workable nuclear weapon with smaller quantities of those materials).<sup>233</sup>

Breakout time is conventionally used to refer to the amount of time it would take for a country (e.g., Iran) to produce enough weapons-grade material for its first weapon. In as much as having enough *fissile material* for a weapon is not the same thing as having actually turned that material *into* a weapon, of course, the total amount of

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230 Simon Henderson, *Iranian Nuclear Breakout: What It Is and How to Calculate It*, Washington Institute for Near East Policy (March 24, 2021). <https://www.washingtoninstitute.org/policy-analysis/iranian-nuclear-breakout-what-it-and-how-calculate-it>. Accessed September 18, 2024.

231 See, e.g., IAEA, *IAEA Safeguards Glossary, 2001 Edition*, International Nuclear Safeguards Series, no. 3 (2001), p. 23, para. 3.14. [https://www.iaea.org/sites/default/files/iaea\\_safeguards\\_glossary.pdf](https://www.iaea.org/sites/default/files/iaea_safeguards_glossary.pdf) (accessed September 18, 2024); see also IAEA, *IAEA Safeguards – Serving Nuclear Non-Proliferation* (June 2015), [https://www.iaea.org/sites/default/files/safeguards\\_web\\_june\\_2015\\_1.pdf](https://www.iaea.org/sites/default/files/safeguards_web_june_2015_1.pdf) (accessed September 18, 2024).

232 IAEA, “IAEA Safeguards Glossary, 2001 Edition,” p. 23. For additional nuance related to specific isotopes of the metals in question, it is worth noting that the eight-kilogram figure for plutonium is defined as “Pu containing less than 80%” of Plutonium-238 (Pu-238). For enriched uranium, it is specified that the 25-kilogram figure applies to Highly Enriched Uranium (HEU) enriched to greater than or equal to (“≥”) 20% of U-235. (Note also that IAEA figures give an 8-kilogram SQ figure for U-233.). *Ibid.* A specific level of enrichment is not specified for the 25-kilogram HEU figure; most commentators refer to 90% enriched uranium as weapons-grade material, but uranium at any level of enrichment beyond around 20%—which is the definition of HEU—can in theory be used. As explained by the Nuclear Threat Initiative, “[a]ll HEU is weapons-usable, but the lower the enrichment level the greater the amount of material required to achieve a critical mass—the amount of material required to build a bomb. States with nuclear weapons typically use so-called weapons-grade HEU, which is typically defined as 90% HEU or above, to minimize weapons’ size. Smaller and lighter nuclear weapons are much easier to deliver; ballistic missiles in particular can only deliver highly miniaturized nuclear weapons.” Nuclear Threat Initiative, “Nuclear 101: Module 2 – Uranium Enrichment” (2023). <https://tutorials.nti.org/nuclear-101/uranium-enrichment/>. Accessed September 18, 2024.

233 See, e.g., Thomas B. Cochran, “Adequacy of IAEA’s Safeguards for Achieving Timely Detection,” in *Falling Behind: International Scrutiny of the Peaceful Atom*, Henry D. Sokolski, ed. (Carlisle, PA: U.S. Army War College Strategic Studies Institute, 2008), p. 123 (arguing that the IAEA’s SQ figures are “not technically valid or defensible” and “should be reduced by about a factor of eight”). [https://npolicy.org/wp-content/uploads/2021/06/Falling-Behind\\_Ch6\\_Cochran.pdf](https://npolicy.org/wp-content/uploads/2021/06/Falling-Behind_Ch6_Cochran.pdf). Accessed September 18, 2024.

time to reach “weapon in hand” status will be somewhat longer, depending upon a variety of factors related to the complexity of one’s weapon design and how much pre-preparation of relevant components one has undertaken. Nevertheless, breakout time defined as “the time until one has enough material for a weapon” has long been an important measure of assessing a country’s proximity to nuclear weapons status.

This breakout time metric became an important part of U.S. nuclear diplomacy in the last months of the JCPOA. As of 2018, Iran’s estimated timeline (to being able to produce enough fissile material for a nuclear weapon) stood at about 12 months.<sup>234</sup> The Trump administration did not *like* this fact—believing, of course, that the best answer for an Iranian breakout period was to push it toward infinity—but it was willing to explore the possibility of a diplomatic *modus vivendi* that would at least prevent the problem from getting worse, as continued adherence to the JCPOA would otherwise inevitably ensure that it did as restrictions on Iran’s nuclear capabilities gradually expired.

Accordingly, under President Trump’s abovementioned mandate in October 2017 to fix the JCPOA’s “many serious flaws,” Brian Hook and this author traveled to a number of European capitals<sup>235</sup> for discussions<sup>236</sup> on whether it might be possible to agree upon a way forward with the EU-3.<sup>237</sup>

We proposed to lock in place what was then a 12-month Iranian “breakout” period for having enough fissile material for a nuclear weapon by securing a commitment from the EU-3 that if Iran built up nuclear capabilities that shrunk that period to less than 12 months, they would join us in imposing powerful sanctions on Tehran. If we could thus lock in a permanent commitment to the then-status quo of a 12-month period, in other words—as well, ideally, as a European commitment to sanction Iran if it pressed ahead with its missile program, which at that point was indeed starting to worry the Europeans greatly— we would have something to bring back to

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234 See Luis Martinez, “Iran can make enough material for nuclear device in ‘about 12 days,’ U.S. official says,” ABC News (March 1, 2023). <https://abcnews.go.com/Politics/iran-make-material-nuclear-device-12-days-us/story?id=97536371>. Accessed September 18, 2024.

235 Nicole Gauvette and Elise Labott, “U.S. prepares to leave Iran deal, even as talks with Europe continue,” CNN (March 21, 2018). <https://edition.cnn.com/2018/03/21/politics/us-iran-deal-trump-europe/index.html>. Accessed September 18, 2024.

236 Tom DiChristopher, “Trump’s Iran nuclear deal deadline is forcing tough talks with Europe. It’s not certain they’ll work,” CNBC (March 1, 2018). <https://www.cnbc.com/2018/03/01/trump-forcing-europe-us-to-resolve-differences-over-iran-nuclear-deal.html>. Accessed September 18, 2024.

237 Anthony Mills, “U.S. seeks to raise pressure on Europe over Iran nuclear deal,” *The Spokesman-Review* (March 16, 2018). <https://www.spokesman.com/stories/2018/mar/16/talks-on-iran-nuclear-deal-start-amid-questions-on/>. Accessed September 18, 2024.

President Trump so that he could say he had fixed what he himself had identified as the biggest flaws of the JCPOA.<sup>238</sup>

The Europeans, however, rejected this idea. They agreed that they did not wish Iran to build up its nuclear capabilities further and thus cause the 12-month breakout period to shrink, but they weren't actually willing to do anything about it. They had agreed in the JCPOA itself to permit Iran to build up such capabilities after a few years' delay, and the American proposal—to impose sanctions on Iran should that period fall below 12 months—was to them politically unacceptable, amounting to at least a partial repudiation of the JCPOA. As this author later summarized, “it would be a violation of the JCPOA to sanction Iran for doing what the JCPOA permitted it to do,”<sup>239</sup> and the Europeans could not bring themselves to depart from any provision of the JCPOA even at the cost of blessing Iran's emergence as a “virtual” nuclear weapons possessor.

Accordingly, the Trump administration achieved no breakthrough in fixing the sunset problem. Making matters worse, in an extraordinary and hugely successful covert operation, Israel had by that point stolen an enormous collection of documents and other records from Iran that offered unprecedented insight into Iran's prior nuclear weapons work under the so-called Amad program up until around 2003.

This “nuclear archive” detailed the Amad Plan's effort to manufacture no fewer than five 10-kiloton nuclear weapons, build a missile suitable for delivering them, and conduct an underground nuclear test. The treasure trove of documents exfiltrated to Israel also detailed Iran's abovementioned decision in the fall of 2003 to reduce the size of its nuclear weapons program and restructure it, halting the formal Amad effort itself but not ceasing all weapons-relevant work. Instead, some of the dual-use aspects of this work had been transitioned to a variety of limited successor activities—presumably in order to help protect them from scrutiny and shield Iran from accountability.<sup>240</sup>

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238 Christopher A. Ford, “New Old Wisdom on a Nuclear Deal with Iran,” remarks at Lawrence Livermore National Laboratory (May 22, 2024), <https://www.newparadigmsforum.com/new-old-wisdom-on-a-nuclear-deal-with-iran>. Accessed September 18, 2024.

239 Ibid.

240 See, e.g., David Albright, Olli Heinonen, and Andrea Stricker, *The Iranian Nuclear Archive: Impressions and Implications*, Institute for Science and International Security & Foundation for Defense of Democracies (February 25, 2019), [https://isis-online.org/uploads/isis-reports/documents/Overview\\_of\\_Nuclear\\_Archive\\_Findings\\_and\\_Policy\\_Steps\\_Final.pdf](https://isis-online.org/uploads/isis-reports/documents/Overview_of_Nuclear_Archive_Findings_and_Policy_Steps_Final.pdf) (accessed September 18, 2024); David Albright, Olli Heinonen, and Andrea Stricker, *Iran's Nuclear Archive Shows it Originally Planned to Build Five Nuclear Weapons by Mid-2023*, Institute for Science and International Security & Foundation for Defense of Democracies (November 20, 2018), [https://isis-online.org/uploads/isis-reports/documents/The\\_Plan\\_Iran\\_Archive\\_20Nov2018\\_Final.pdf](https://isis-online.org/uploads/isis-reports/documents/The_Plan_Iran_Archive_20Nov2018_Final.pdf) (accessed September 18, 2024).

Significantly, the Israelis are reported to have briefed their American counterparts on this nuclear archive at some point in early 2018.<sup>241</sup> Between the EU-3's rejection of the U.S. proposal to cap Iran's nuclear capacities at the 12-month breakout level and these new revelations about Iran's continuing dishonesty and obvious nuclear weapons ambitions, there was thereafter no chance of Washington remaining in the JCPOA. President Trump duly announced in May 2018 that the United States was pulling out.<sup>242</sup>

## **The American “Maximum Pressure” Campaign**

Having left the JCPOA in search of a way to press Iran to accept more meaningful and enduring restrictions on its nuclear program—and hopefully also restrictions on its aggressive missile development efforts and support for destabilizing proxy militia groups and terrorist organizations in the Middle East—the Trump administration moved rapidly to step up pressures against the Iranian regime. As Secretary of State Mike Pompeo laid out in a major policy speech after President Trump had withdrawn from the JCPOA, the United States sought a new and better agreement with Iran. In those remarks, Pompeo made clear that the new U.S. policy on Iran had 12 key objectives in such a future agreement:

First, Iran must declare to the IAEA a full account of the prior military dimensions of its nuclear program, and permanently and verifiably abandon such work in perpetuity.

Second, Iran must stop enrichment and never pursue plutonium reprocessing. This includes closing its heavy water reactor.

Third, Iran must also provide the IAEA with unqualified access to all sites throughout the entire country.

Iran must end its proliferation of ballistic missiles and halt further launching or development of nuclear-capable missile systems.

Iran must release all U.S. citizens, as well as citizens of our partners and allies, each of them detained on spurious charges.

Iran must end support to Middle East terrorist groups, including

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241 See, e.g., David Sanger and Ronan Bergman, “How Israel, in Dark of Night, Torched Its Way to Iran's Nuclear Secrets,” *The New York Times* (July 15, 2018). <https://www.nytimes.com/2018/07/15/us/politics/iran-israel-mossad-nuclear.html>. Accessed September 18, 2024.

242 See, e.g., Mark Landler, “Trump Abandons Nuclear Deal He Long Scorned,” *The New York Times* (May 8, 2018). <https://www.nytimes.com/2018/05/08/world/middleeast/trump-iran-nuclear-deal.html>. Accessed September 18, 2024.

Lebanese Hizballah, Hamas, and the Palestinian Islamic Jihad.

Iran must respect the sovereignty of the Iraqi Government and permit the disarming, demobilization, and reintegration of Shia militias.

Iran must also end its military support for the Houthi militia and work towards a peaceful political settlement in Yemen.

Iran must withdraw all forces under Iranian command throughout the entirety of Syria.

Iran, too, must end support for the Taliban and other terrorists in Afghanistan and the region, and cease harboring senior al-Qaida leaders.

Iran, too, must end the IRG Qods Force's support for terrorists and militant partners around the world.

And too, Iran must end its threatening behavior against its neighbors—many of whom are U.S. allies. This certainly includes its threats to destroy Israel, and its firing of missiles into Saudi Arabia and the United Arab Emirates. It also includes threats to international shipping and ... destructive cyberattacks.<sup>243</sup>

To give Iran incentives to engage in discussions that might result in such a deal, the nuclear sanctions that President Obama had lifted were promptly restored, and a whole campaign of additional pressures was developed, all under the rubric of what came to be known as the Trump administration's "maximum pressure" campaign.

Between 2018 and 2021, the Trump administration imposed more than 1,500 sanctions on Iran or on foreign companies or individuals who did business with Iran. They targeted big institutions, such as the supreme leader's office, the Revolutionary Guards and the Central Bank, as well as individuals. Among those sanctions were government and judicial officials, members of the military and proxy militias, scientists and manufacturers of military equipment, banks and businesses, foundations, and shipping and trading companies.<sup>244</sup>

Not surprisingly, in addition to inflicting considerable harm and pain upon its Iranian targets, this campaign was enormously aggravating and frustrating to the EU-3

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243 Secretary of State Michael Pompeo, "After the Deal: A New Iran Strategy," remarks at the Heritage Foundation (May 21, 2018). <https://www.heritage.org/defense/event/after-the-deal-new-iran-strategy>. Accessed September 18, 2024.

244 Andrew Hanna, "Sanctions 5: Trump's 'Maximum Pressure' Targets," U.S. Institute of Peace: The Iran Primer (March 3, 2021). <https://iranprimer.usip.org/blog/2021/mar/03/sanctions-5-trumps-maximum-pressure-targets>. Accessed September 18, 2024.

governments, which now had to endure not merely Washington's repudiation of their prized JCPOA but also the hardships of restricting their own commercial and financial dealings with Iran to stay clear of U.S. sanctions penalties. In an effort to get around this latter problem, several European governments<sup>245</sup> tried to establish a mechanism for trade between Europe and Iran that was not subject to restriction by U.S. sanctions.

This Instrument in Support of Trade Exchanges (INSTEX)<sup>246</sup> aimed to create an alternative commercial mechanism based around non-dollar-denominated transactions.<sup>247</sup> Conducted entirely independently of the U.S.-dominated hub-and-spoke global financial system, these INSTEX transactions—e.g., in the form of commodity barter arrangements—would in principle be immune to American sanctions pressures, which have broad reach because so much of the activity of the international financial system involves, passes through, or in some other way touches U.S. banking institutions.

INSTEX was not a success, however, as its European architects had underestimated the degree to which it was at that point even *possible* for Iranians both to (a) conduct trade in ways that did not touch any institution subject to U.S. Treasury Department jurisdiction and (b) to do so with a European partner which itself had no *other* financial interests or activity that did so.

As it turned out ... the topography of that U.S.-dominated financial network was so compelling that it was very hard to find European companies willing to participate. Even though their specific transactions with Iran might not *themselves* involve U.S. dollars or pathways through U.S. banks, European firms could only truly immunize themselves against potential U.S. sanctions for trading with Iran by entirely severing *all* their ties to *all* U.S. financial networks or anyone who used them—and this was something that no sane European company was willing to do.<sup>248</sup>

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245 See, e.g., "Six New European Nations Join Iran Barter System Opposed by U.S.," Radio Free Europe/Radio Liberty (December 1, 2019). <https://www.rferl.org/a/european-allies-join-instex-iran-barter-system-us-sanctions/30301213.html>. Accessed September 18, 2024.

246 E3 Foreign Ministers, "Joint statement on the creation of INSTEX, the special purpose vehicle aimed at facilitating legitimate trade with Iran in the framework of the efforts to preserve the Joint Comprehensive Plan of Action (JCPOA)" (January 31, 2019). [https://www.diplomatie.gouv.fr/IMG/pdf/19\\_01\\_31\\_joint\\_statement\\_e3\\_cle0d129c.pdf](https://www.diplomatie.gouv.fr/IMG/pdf/19_01_31_joint_statement_e3_cle0d129c.pdf). Accessed September 18, 2024.

247 See, e.g., Chase Winter, "What is the EU-Iran payment vehicle INSTEX?" *DW* (January 1, 2019). <https://www.dw.com/en/what-is-the-eu-iran-payment-vehicle-instex/a-47306401>. Accessed September 18, 2024.

248 Christopher A. Ford, "Weaponized Interdependence, U.S. Economic Statecraft, and Chinese Grand Strategy," remarks at Columbia University's School of International and Public Affairs (February 8, 2024). <https://www.newparadigmsforum.com/weaponized-interdependence-u-s-economic-statecraft-and-chinese-grand-strategy>. Accessed September 18, 2024.

Accordingly, Iran bristled at the Europeans' inability to offer more than merely humanitarian goods<sup>249</sup>—which the Americans were expressly willing to permit,<sup>250</sup> and transactions for which were thus not subject to U.S. sanctions in the first place. INSTEX was eventually disbanded after having processed only one single transaction.<sup>251</sup>

Meanwhile, the Trump maximum pressure campaign produced very real pain in its Iranian targets, resulting in the clerical regime cutting back some of the financial support it had previously been giving to terrorists and other proxy groups in the Middle East during the period of Obama sanctions relief. As *The New York Times* recounted nearly a year into the U.S. campaign,

Syrian militiamen paid by Iran have seen their salaries slashed. Projects Iran promised to help Syria's ailing economy have stalled. Even employees of Hezbollah, the Lebanese group that has long served as Iran's closest Arab ally, say they have missed paychecks and lost other perks.

Iran's financial crisis, exacerbated by American sanctions, appears to be undermining its support for militant groups and political allies who bolster Iranian influence in Iraq, Syria, Lebanon, and elsewhere.

"The golden days are gone and will never return," said a fighter with an Iranian-backed militia in Syria who recently lost a third of his salary and other benefits. "Iran doesn't have enough money to give us."<sup>252</sup>

The maximum pressure campaign did not dissuade Iran from its nuclear ambitions—and indeed by at least mid-2019, Tehran had begun to violate the terms of the JCPOA by beginning to exceed limits on the size of Iran's enriched uranium stockpile and the purity of the enriched uranium it possessed.<sup>253</sup> Nevertheless, the campaign clearly did have an effect upon Iran's efforts to destabilize the Middle East. Adding to Iran's pain, moreover, a U.S. airstrike in early 2020 killed Qasem Soleimani, the feared

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249 See, e.g., "Europe dissolves Iran trade system that never took off," *Associated Press* (March 9, 2023). <https://apnews.com/article/europe-iran-trade-system-nuclear-deal-e250566e291e5aa4a70515c5414ac510>. Accessed September 18, 2024.

250 See, e.g., Tim Ahmann, "U.S. grants sanctions waiver to ease humanitarian trade to Iran via Swiss channel," *Reuters* (February 27, 2020). <https://www.reuters.com/article/idUSKCN20L28Z/>. Accessed September 18, 2024.

251 See, e.g., "Europe Dissolves INSTEX Mechanism For Trade With Iran," *Iran International* (March 10, 2023). <https://www.iranintl.com/en/202303104230>. Accessed September 18, 2024.

252 See, e.g., Ben Hubbard, "Iran's Allies Feel the Pain of American Sanctions," *The New York Times* (March 28, 2019). <https://www.nytimes.com/2019/03/28/world/middleeast/iran-sanctions-arab-allies.html>. Accessed September 18, 2024.

253 See, e.g., Kelsey Davenport, "The Impact: Iran Breaches the Deal," *U.S. Institute of Peace: The Iran Primer* (July 8, 2019). <https://iranprimer.usip.org/blog/2019/jul/08/impact-iran-breaches-nuclear-deal>. Accessed September 18, 2024.

head of the Iranian Revolutionary Guard Corps (IRGC) Qods Force, which for years had supported and sponsored radical foreign militias and terrorist groups in the region.<sup>254</sup>

Less successfully, the United States also attempted to step up international pressures on Iran in 2020 by invoking the abovementioned snapback provisions of UNSCR 2231,<sup>255</sup> thereafter claiming that all UN sanctions on Iran—specifically, UNSCRs 1696 (2006), 1737 (2006), 1747 (2007), 1803 (2008), 1835 (2008), 1929 (2010), and 2224 (2015)<sup>256</sup>—had been reinstated. In the heat of foreign diplomatic irritation with President Trump for pulling out of the JCPOA, however, most countries refused to acknowledge the legitimacy of this move, arguing that because the Americans had pulled out of the JCPOA, the United States no longer had the right as a participant State under UNSCR 2231 to invoke snapback.

In this debate, the Trump administration probably had the stronger legal argument, for UNSCR 2231 had expressly defined the JCPOA participants as “China, France, Germany, the Russian Federation, the United Kingdom, the United States, the European Union, and Iran” without any other qualification, and no alteration to the text of that Resolution had subsequently occurred.<sup>257</sup> Yet the international politics of the moment ran very much against Washington, and no other major powers joined the United States in viewing UNSC sanctions against Iran as having been restored.<sup>258</sup> This was where things lay when Donald Trump lost the 2020 election and Joe Biden succeeded him as president.

## **The Current Stalemate—and a Possible Way Forward**

The Biden administration came into office eager to restart negotiations with Iran<sup>259</sup> to restore the JCPOA and perhaps to layer some additional new agreement on top of it. Unfortunately, however, the Biden administration’s engagement with the Iran nuclear

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254 See Lyse Doucet, “Qasem Soleimani: US kills top Iranian general in Baghdad air strike,” BBC (January 3, 2020). <https://www.bbc.co.uk/news/world-middle-east-50979463>. Accessed September 18, 2024.

255 See, e.g., Carol Morello and Karen DeYoung, “U.S. officially moves to trigger sanctions ‘snapback’ against Iran despite opposition at U.N.,” *The Washington Post* (August 20, 2020). [https://www.washingtonpost.com/national-security/us-officially-moves-to-trigger-sanctions-snapback-against-iran/2020/08/20/3a9e6148-e317-11ea-ade1-28daf1a5e919\\_story.html](https://www.washingtonpost.com/national-security/us-officially-moves-to-trigger-sanctions-snapback-against-iran/2020/08/20/3a9e6148-e317-11ea-ade1-28daf1a5e919_story.html). Accessed September 18, 2024.

256 UN Security Council, “Resolution 2231 (2015),” pp. 3, 7.

257 *Ibid.*, pp. 4, 10.

258 See Matthew Lee, “US says all UN sanctions on Iran restored, but world yawns,” AP (September 20, 2020). <https://apnews.com/article/iran-iran-nuclear-united-nations-general-assembly-united-nations-mike-pompeo-8fe3bff342135cb4817629499e59964a>. Accessed September 18, 2024.

259 See, e.g., Natasha Tura, “Biden team takes a major step in offering to start talks with Iran as Tehran’s sanctions deadline approaches,” CNBC (February 19, 2021). <https://www.cnbc.com/2021/02/19/jcpoa-bidens-return-to-the-iran-nuclear-deal-is-getting-harder.html>. Accessed September 18, 2024.



issue resulted only in a litany of continued Iranian nuclear expansion, mutually-unacceptable demands, and worsening regional provocations by Tehran.<sup>260</sup> As of the time of writing, things thus still remain in an ugly stalemate, with Iran steadily increasing its nuclear capabilities, as noted earlier. By early 2023, in fact, U.S. officials believed Tehran's breakout time had shrunk to "about 12 days."<sup>261</sup>

That said, all may not yet be lost, for there remains at least one diplomatic gambit that has still to be tried, and which might perhaps offer the basis for a viable way forward. The following pages will explain this approach, which for now, relies upon the continued availability of a full restoration of international sanctions against Iran under UNSCR 2231.

## **The Critical Year of 2025**

The opportunity in question, however, has its own form of sunset, as UNSCR 2231 will expire on October 18, 2025.<sup>262</sup> When it does, so also will the UN sanctions "snapback" mechanism for re-imposing global, legally-binding sanctions on Iran pursuant to the seven UNSCRs passed between 2006 and 2015. After that,

...the only way to place further UN sanctions pressures on Iran to restrain or punish its behavior would be through an entirely new Security Council vote—passage of which would all but inevitably be vetoed by the now essentially pro-proliferation revisionist regimes of Russia and China. That means Iran has only to wait a bit longer until it is given a sort of "get out of jail free card" from the United Nations, pretty much no matter what it does in building up its nuclear program.<sup>263</sup>

Nonetheless, the impending Termination Day deadline also means that at least a little time still remains in which to use the threat of snapback—or, more likely, the actual *imposition* of restored international sanctions—to catalyze agreement upon new and more enduring restrictions on Iran's nuclear program.

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260 Making matters worse, and certainly embarrassing the White House, the Special Envoy for Iran, who the Biden administration had hoped would revive diplomacy with Iran, soon found himself under criminal investigation for allegedly mishandling classified information. See, e.g., Nahal Toosi and Joe Gould, "FBI probes whether Iran envoy Malley committed crimes in handling of classified info," Politico (May 10, 2024). <https://www.politico.com/news/2024/05/10/fbi-probes-iran-envoy-malley-classified-info-00157321>. Accessed September 18, 2024.

261 See Luis Martinez, "Iran can make enough material for nuclear device in 'about 12 days,' U.S. official says" (quoting Under Secretary of Defense for Policy Colin Kahl to this effect).

262 UN Security Council, "Resolution 2231 (2015)," pp. 3, 8. (Deciding that "on the date ten years after the JCPOA Adoption Day, as defined in the JCPOA, all the provisions of this resolution shall be terminated.")

263 Christopher A. Ford, "New Old Wisdom on a Nuclear Deal with Iran."

## Implications of the JCPOA “Sunsets”

As the reader will recall, the sunset provisions of the JCPOA begin to expire in 2025, and most of them are to disappear by 2030. As described above, the JCPOA thus condoned the eventual emergence of Iran as a sort of virtual nuclear weapons state—one able, *in complete conformity with the JCPOA*, to employ as many sophisticated centrifuges at it desires, to enrich uranium to whatever level it wants, and to hold as large a stockpile of enriched uranium it wishes. There is nothing good about that scenario, and it is certainly the case that President Trump’s withdrawal from the deal has forced us to confront an Iran that possesses a large and rapidly expanding fissile material program much sooner than would have been the case under the JCPOA.

Yet precisely because of this accelerated timetable, the international community faces this nuclear Iran while snapback sanctions still remain available as a diplomatic tool. Had everyone complied with the JCPOA, Iran would only have begun building nuclear capacity as it is currently doing long after Termination Day, and hence long *after* the UN sanctions snapback provisions of UNSCR 2231 had also evaporated. Moreover, continued adherence to the JCPOA would have prevented either the United States or European countries from employing their own national sanctions to put extra pressure on Tehran, for under that deal they had forsworn imposing any more nuclear sanctions on Iran.

As it is, however, the early U.S. withdrawal allows us a powerful tool that we would not otherwise have had under the JCPOA when faced with an expanding nuclear Iran. As this author put it in remarks in May 2024 at Lawrence Livermore National Laboratory (LLNL), “since this is 2024 and not 2035, the responsible countries of the world still have options—and *better* options than we would have had if the United States had not pulled out and it were today 2035.”<sup>264</sup>

## The Snapback Option that Still Remains

What might such a snapback-based approach look like? The basic idea would be fairly simple. The United States and the EU-3 countries—joined by the EU itself, which is also defined as a JCPOA participant State by UNSCR 2231—would propose the substantive framework for a JCPOA successor deal and give Iran the chance either to accept it or to face the resumption of full UN sanctions.

With a good deal of luck, Iran would accept this proposal, and a successor agreement would be worked out and brought into force—backed by a UNSCR—prior to October

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264 Ibid.

18, 2025. (This might even take the form of a legally-binding treaty, subject in the United States to Senate advice and consent.) Much more likely, however, one or more of these elements would not occur in time. Iran might well reject such a deal, for instance, and even if a framework agreement were reached, a fully fleshed-out replacement agreement might not be ready in time. (Such an approach might also face a veto at the UNSC from the increasingly truculent and disruptive Russian and Chinese regimes.) In such circumstances, however, one or more of the EU-3 states, or the EU itself, would invoke snapback pursuant to the terms of UNSCR 2231, thereby restoring full pre-JCPOA, UN sanctions on Iran.

The point of these sanctions would not be to punish Iran per se, at least not initially, but rather to create an incentive structure conducive to successful diplomacy. The United States and its European partners would seek to continue negotiations with Iran, and were Tehran to approach such talks constructively and accept reasonable terms, those Western states would move to ensure appropriate sanctions relief at the UNSC. (Sanctions *relief* for Iran, at least, would be unlikely to face a Russian or Chinese veto!) To be sure, “this relief would have to be bargained for and win support of the Security Council” and would thus “need to be earned on the merits of a new agreement.”<sup>265</sup> But that is precisely what diplomacy is for.

If Iran remained intransigent, of course, no such relief from snapped-back UN sanctions would be sought, and such sanctions would therefore remain in place indefinitely. In that eventuality, the purpose of these sanctions would expand to include outright punishment, for the objective would then be to replicate (or to exceed) the pressure Iran faced from the Trump administration, in order to cut back the resources that would thereafter be available to the regime in Tehran for its nuclear program, its development of long-range missile and drone capabilities, and its sponsorship of terrorism and proxy militias in the Middle East and farther afield. Not incidentally, moreover, such pressures would send a powerful signal to other would-be nuclear weapons-seekers and violators of international law that such destabilizing misbehavior entails tremendous costs and risks, thus helping buttress the tottering global nuclear nonproliferation regime and helping deter such actions elsewhere.

## **The Europeans Begin to See the Light?**

Notably, it is the *Europeans* who control the most important diplomatic tool. As described earlier, the United States has *already* invoked UNSCR 2231 snapback—thus, in theory, UN sanctions are *already* back in place. Since the world largely ignores that or pretends otherwise, however, the crucial step now will have to be the

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265 Ibid.

invocation of snapback by one or more of the JCPOA's European participants. If they are willing to take this step, diplomacy still has at least some opportunity to try to negotiate a solution to the Iranian nuclear crisis.

And, promisingly, there may in fact be some chance of them doing so. Given the continuing massive expansion of Iran's fissile material program and its obstruction of IAEA inspection activities—as well as Tehran's reckless and destabilizing support for proxy Shi'ite militias in Iraq, its alliance with the brutal Assad regime in Damascus, its continued sponsorship of Hezbollah terrorists in Lebanon, its encouragement of genocidal Hamas violence against Israel, its supply of drones and cruise and ballistic missiles that Houthi forces in Yemen have been using against international shipping, and its direct use of long-range missiles and drones against Israel—it is perhaps not surprising that European officials now look upon diplomatic engagement with Iran through more jaundiced eyes than they did some years ago. Indeed, as this author has pointed out, European diplomats today are starting to say things that sound remarkably like the talking points that U.S. officials made to *them* back in 2017-18.<sup>266</sup>

Specifically, European officials involved in the Iran matter seem to be starting to recognize several critical things about the Iran problem today that they refused to acknowledge before:

- First, they now increasingly understand that we must avoid squandering the opportunity to use sanctions to pressure Iran to limit its nuclear program. Back then, that meant *not* sticking to the JCPOA's forswearing of all such sanctions into the future. Today, it means not letting October 2025 pass without triggering UN sanctions snapback in the event that there's not a new and better deal with Iran in place by that point.
- Second, the Europeans seem increasingly now to understand that it really does make no sense to try to isolate the "Iran nuclear file" from other hugely problematic aspects of Iran's behavior, such as its continuing missile provocations, its destabilization of its neighbors, and its penchant for conducting subversive operations on foreign soil, even in Europe.
- Third, the Europeans seem to understand that we need to replace and extend the JCPOA sunset clauses with more enduring limitations on Iranian nuclear capabilities. They didn't seem to care much back in 2017 that key JCPOA restrictions would

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266 Ibid.

evaporate eventually, but they apparently care now—and they realize that it’s actually a *terrible* idea to condone, as the JCPOA did, eventually allowing Iran to enrich as much weapons-grade uranium as it wants.

- Fourth and finally, in order to achieve the abovementioned objectives, the Europeans also now seem to understand that the international community needs to increase pressure on Iran as quickly as possible.<sup>267</sup>

One can only regret that it took seven years for European diplomats to come to these realizations, but it does appear that at least *some* consideration is being given to invocation of the snapback remedy. The British ambassador to the United Nations, for instance, said recently that “we will continue to keep all diplomatic options on the table, including triggering UN snapback before October 2025, if necessary.”<sup>268</sup>

## Conclusion

This paper has outlined the basis of a new diplomatic and sanctions push to negotiate an end to the Iranian nuclear crisis. It may, in fact, be the only real chance that remains.

The author, of course, makes no claim that such a snapback-based effort would be any kind of a miracle cure. There are, as the old English proverb has it, many possible “slips ‘twixt the cup and the lip,” and recognizing the need for such an approach is not the same thing as being able to adopt one. Nor is adopting such an approach the same thing as getting Iran to agree to a new deal, nor ensuring that implementation of a new agreement is sustained and successful. The recent slippage of both China and (especially) Russia into a more “pro-proliferation” modes,<sup>269</sup> not least as supporters

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267 Ibid.

268 JC Reporter, “UK, Germany and France prepared to apply ‘snapback’ sanctions to Iran,” *The Jewish Chronicle* (June 25, 2024), <https://www.thejc.com/news/uk-germany-and-france-prepared-to-apply-snapback-sanctions-to-iran-ndku2gny>. Accessed September 18, 2024.

269 China, of course, has done much to assist North Korea with evading international nonproliferation sanctions, and has helped support the Iranian regime through large-scale oil purchases for many years. See generally, e.g., Michelle Nichols, “Exclusive: G7, others ask China to stop North Korea sanctions evasion in its waters,” *Reuters* (July 21, 2023), <https://www.reuters.com/world/asia-pacific/g7-others-ask-china-stop-north-korea-sanctions-evasion-its-waters-2023-07-21/> (accessed September 18, 2024); the Kremlin’s turn in favor of nuclear weapons proliferators is even more dramatic, with Russia now openly engaged in arms transactions with Iran—in apparent violation of the UN arms embargo that remains for now in place—to support its war of aggression against Ukraine. In addition, Russia is now openly in a military alliance with North Korea. See, e.g., “Iran & Russia: Burgeoning Military Ties,” U.S. Institute of Peace: The Iran Primer (September 5, 2023), <https://iranprimer.usip.org/blog/2023/may/18/iran-russia-burgeoning-military-ties> (accessed September 18, 2024); Victor Cha and Ellen Kim, *The New Russia-North Korea Security Alliance*, Center for Strategic and International Studies (June 20, 2024), <https://www.csis.org/analysis/new-russia-north-korea-security-alliance> (accessed September 18, 2024).

and—in Russia’s case—quasi-allies of the Iranian regime, also lessens the odds of success, both by making UNSC cooperation less likely and by surely making Iran more inclined toward defiance.

Indeed, in Western diplomatic terms, judging from recent reports that Biden administration officials attempted to persuade Europe *not* to censure Iran at the IAEA Board of Governors,<sup>270</sup> it may be that in a historic role reversal, the Americans may under the Biden administration have been a bigger obstacle to diplomatic effectiveness right now than the Europeans. Donald Trump’s return to office in 2025 will confront his administration with the challenge of reconciling his legacy of “maximum pressure” on Iran with his desire as a dealmaker to work out a negotiated solution to the nuclear problem. Crucially, however, these are not incompatible, and a new diplomatic push underpinned by snapback-based pressures may indeed provide a crucial opportunity to help address the Iranian crisis and improve international peace and security in the Middle East.

If officials can bring themselves to act before the snapback opportunity *itself* sunsets in October 2025, there remains a chance that a bold new Euro-American initiative can use UNSCR 2231 as a tool to restrain Iran.

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270 See Laurence Norman, “Biden Administration Presses Allies Not to Confront Iran on Nuclear Program,” *The Wall Street Journal* (May 27, 2024). <https://www.wsj.com/world/middle-east/u-s-opposes-european-plan-to-censure-iran-over-nuclear-work-85ad7fc6>. Accessed September 18, 2024.

# Chapter 10: Can the U.S. Still Prevent a Nuclear-Armed Iran? Testing Old Policies Against New Realities

Eric Brewer

## Introduction

The United States has been intently focused on the Iranian nuclear challenge for nearly 25 years. By one metric, U.S. policy has succeeded: Iran does not possess nuclear weapons. But by almost any other metric, U.S. policy has failed. Iran is the closest to nuclear weapons today than ever, and the prospects for significant rollback have never been more bleak. Tehran can produce enough nuclear material for a bomb within days, and enough material for additional bombs shortly thereafter.<sup>271</sup> Iran's mastery of advanced centrifuges and production of highly enriched uranium has provided Iran with technical knowledge that cannot be unlearned. It is building new facilities even deeper underground, making it more difficult to set the program back via a military strike.<sup>272</sup> International monitoring of Iran's program is a fraction of what it once was, raising the worrying possibility that Iran could break out or divert material to a covert program without prompt detection.<sup>273</sup>

Equally problematic—but less often recognized—is the changed geopolitical environment in which Washington's Iran policy must operate. Russia, once aligned with the West in trying to isolate Tehran and rein in Iran's nuclear program, is now deepening its economic and security partnership with Iran. China is purchasing large amounts of sanctioned Iranian oil. Both Beijing and Moscow are defending Iran and its nuclear provocations in international forums. Relatedly, in contrast to a decade ago, managing competition with China and countering Russia's war in Ukraine are now top U.S. national security priorities. This has knock-on effects for the tools available for U.S. Iran policy, the amount of attention Washington is willing to invest in the Iran problem, and the amount of risk it is willing to accept. In the Middle East, Tehran's

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271 Jennifer Hansler and Kylie Atwood, "Blinken says Iran's nuclear weapon breakout time is probably down to 1-2 weeks," CNN (July 19, 2024). <https://www.cnn.com/2024/07/19/politics/blinker-nuclear-weapon-breakout-time/index.html>. Accessed September 24, 2024.

272 Jon Gambrell, "An Iranian nuclear facility is so deep underground that U.S. airstrikes likely couldn't reach it," Associated Press (May 22, 2023). <https://apnews.com/article/iran-nuclear-natanz-uranium-enrichment-underground-project-04dae673fc937af04e62b65dd78db2e0>. Accessed September 24, 2024.

273 IAEA Board of Governors, *Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council resolution 2231 (2015)*, GOV/2024/4 (August 29, 2024). <https://www.iaea.org/sites/default/files/documents/gov2024-41.pdf>. Accessed September 12, 2024.

support to non-state groups has broadened and deepened, enhancing Iran's influence throughout the region. This has driven Israel and Arab states closer together. The ongoing, slow-boil regional war involving Israel, Iran, Iranian proxy groups, and at times the United States—which erupted in the wake of the October 7, 2023 Hamas attacks against Israel—has shaped, and almost certainly will continue to shape, Iran's decisions on its nuclear program.

While the technical and geopolitical realities have evolved, U.S. ideas about how to prevent an Iranian bomb mostly have not.<sup>274</sup> That's a problem. These changes call into question the fundamental premises and assumptions that underpin preferred U.S. policy options, but there is little recognition of that fact in Washington policy debates on Iran. This problem is not confined to one particular viewpoint or political party. For example, both Republicans and Democrats believe that Washington must have leverage over Iran to secure a deal. But it is an open question whether adequately dialing up the pressure is possible and, even if it were, whether it would result in the desired outcome.

It's time for a serious reexamination of U.S. policy options. A useful way to evaluate whether current policy approaches to preventing a nuclear-armed Iran are fit for the current strategic context is by articulating and rigorously testing their theories of success.<sup>275</sup> That is, an explainable and plausible causal chain for how the United States gets from where it is today to its strategic objective. Theory of success gauges, and is explicit about, how U.S. efforts will “add up” to create the desired change in Iranian behavior. The premises and assumptions in that causal chain must stand up to scrutiny. If we want to prevent a nuclear-armed Iran, then the United States needs to develop a theory of success that can operate within current realities. Before evaluating U.S. theories of success, however, it's important to first understand Iran's objectives and its theory of success.

## **Iran's Theory of Success: What Does It Want?**

A viable U.S. plan for succeeding must take into account Iran's strategic objectives and its theory of how to achieve them. Why is Iran pursuing a nuclear program, and how does that program fit into Tehran's broader strategic objectives?

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274 For an example of a rare departure from this status-quo debate, see Michael Eisenstadt, “America's Failing Iran Nuclear Policy: Time for a Course Adjustment,” *War on the Rocks* (October 20, 2023). <https://warontherocks.com/2023/10/americas-failing-iran-nuclear-policy-time-for-a-course-adjustment/>. Accessed September 1, 2024.

275 For more on the role of theories of success in strategy, see Frank Hoffman, “The Missing Element in Crafting National Strategy: A Theory of Success,” *Joint Forces Quarterly* 97, no. 2 (2020), pp. 55-64. <https://apps.dtic.mil/sti/pdfs/AD1099488.pdf>. Accessed September 20, 2024.



Tehran's nuclear program serves its larger strategic goals of security and deterrence, regional dominance, and global influence. Iran also believes its mastery of advanced nuclear technologies confers a degree of prestige and independence. That Iran has developed an expansive nuclear program despite the dogged determination of the West to deny Iran these capabilities simply proves, in the eyes of the regime, that Iran is powerful and capable of defying its enemies. Iran also believes that building up its nuclear capabilities can strengthen its hand at the negotiating table with the West. An important question is whether Iran believes it needs nuclear weapons to achieve its strategic goals. If Iran intended to develop a nuclear bomb today, it would likely demand a different theory of success from an Iran that hasn't decided to build nuclear weapons but might in the future. While it is impossible to know what goal resides in the mind of Supreme Leader Ali Khamenei, Iran's final decisionmaker, the best publicly available information suggests that Iran is not going all out for the bomb today and hasn't been for the past 20 years.<sup>276</sup> Rather, it is pursuing what's known as a nuclear hedging strategy: developing nuclear capabilities to have an ability to build a nuclear bomb, rather than the bomb itself.

How close to a bomb does Iran intend to get? And what factors influence Tehran's decisions on whether, when, and how to advance its program? If Iran resembles other nuclear proliferators, its desired nuclear end-state is probably not a settled issue.<sup>277</sup> It is probably more implicit than explicit and can change depending on a range of factors. As the U.S. Intelligence Community has stated, "Iran's nuclear decisionmaking is guided by a cost-benefit approach...Iranian leaders undoubtedly consider Iran's security, prestige, and influence, as well as the international political and security environment, when making decisions about its nuclear program."<sup>278</sup> Iran's capabilities have undoubtedly progressed, but Tehran has also at times paused or rolled back these capabilities, suggesting Iran is willing to delay reaching its nuclear end-point for other interests. The fact that Iran also uses nuclear advances to strengthen its negotiating hand further blurs the line when trying to determine Tehran's motive behind certain actions. Is Iran's production of 60% enriched uranium an attempt to force a deal with the United States on terms favorable to Iran or to improve Iran's ability to produce weapons in the future, should it need to do so? The answer is likely both.

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276 Sophia Barkoff, "CIA director: Iran's nuclear program advancing at 'worrisome pace,'" CBS News (February 26, 2023). <https://www.cbsnews.com/news/william-burns-cia-director-iran-nuclear-program-face-the-nation-interview/>. Accessed September 24, 2024.

277 Evidence suggests other countries that explored or pursued nuclear weapons lacked a clearly defined end goal. For example, see Målfrid Braut-Hegghammer, "Cheater's Dilemma: Iraq, Weapons of Mass Destruction, and the Path to War," *International Security* 45, iss. 1. (2020), pp. 51–89; George Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation*, (Berkeley, CA: University of California, 1999); William C., Djuro Miljanic, and Ivo Slaus, "Tito's Nuclear Legacy," *The Bulletin of the Atomic Scientists* 56, no. 2 (2000), pp. 63-70, <https://journals.sagepub.com/doi/pdf/10.2968/056002016> (accessed September 24, 2024).

278 Director of National Intelligence, *Statement for the Record on the World Wide Threat Assessment of the U.S. Intelligence Community for the Senate Committee on Armed Services* (March 10, 2011), p. 5. [https://www.dni.gov/files/documents/Newsroom/Testimonies/20110310\\_testimony\\_clapper.pdf](https://www.dni.gov/files/documents/Newsroom/Testimonies/20110310_testimony_clapper.pdf). Accessed August 30, 2024.

While the technical specifications of what Iran sees as an adequate hedge are unknown, the political and strategic benefits Tehran hopes will accompany a threshold nuclear status are easier to infer. Indeed, the degree to which Iran sees these benefits as materializing, or not, may be a bigger driver of whether and how far Tehran thinks it needs to advance its nuclear program than a particular pre-determined suite of technical capabilities. What are those benefits? First, a de facto international recognition of Iran as a nuclear threshold state capable of building the bomb. Iran is probably looking less for public verbal confirmation of its status than it is for the international community, and particularly, major powers, to abandon pressuring Iran over its program, and improve relations with Tehran on its own terms. Relatedly, Iran hopes to use that advanced nuclear status and international acceptance to erode international sanctions—the most potent form of pressure that has wreaked havoc on Iran’s economy. Finally, Iran likely wants to leverage its ability to build nuclear weapons as a deterrent. By threatening to take the final steps to cross the threshold, Tehran hopes to deter its adversaries from crossing Iranian red lines.<sup>279</sup>

What is Iran’s theory of success? That is, how does Iran believe it can achieve its strategic objectives and “win” the contest on the nuclear front against the United States? By advancing its nuclear program, Iran believes it can both strengthen its negotiating hand vis-à-vis the United States to force a deal on its terms [that is, the removal of crippling sanctions, the closure of the International Atomic Energy Agency’s (IAEA’s) investigation into its past work, and ultimately the ability to legitimately expand its nuclear program] and also be better positioned to quickly produce nuclear weapons should it need to or should that deal not materialize. To manage the risks that could come with that strategy—namely, Western pressure in the form of economic sanctions, military threats, and diplomatic pressure—Iran has developed a range of tactics, including sophisticated sanctions evasion techniques, relationships with other global powers that are willing to help it counter isolation, and the threat of further nuclear escalation and other actions (e.g., seizing oil tankers) to deter sanctions and international censures. It has also hardened its program in ways that make it less vulnerable to a military strike. Iran believes it can wear down the West, and that eventually it will lead to de facto acceptance of its threshold status—with a deal or without one.

Does Iran see itself as succeeding or failing in achieving this theory of success? On the one hand, Iran has made substantial progress toward these objectives and its geopolitical position has improved. It has strengthened diplomatic, economic, and military ties with China and Russia, both of which have helped to ease pressure on Iran. Iran’s tensions with its Gulf neighbors have been reduced. While U.S.

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279 Eric Brewer, “Iran’s New Nuclear Threat: How Tehran Has Weaponized Its Threshold Status,” *Foreign Affairs* (June 25, 2024). <https://www.foreignaffairs.com/iran/irans-new-nuclear-threat>. Accessed September 1, 2024.

sanctions remain robust on paper, Tehran is producing more oil today (an estimated 3.2 million barrels per day as of August 2024) than it has since 2018, thanks to elaborate workarounds and lighter sanctions enforcement which provides Iran with tens of billions of dollars in revenue annually.<sup>280</sup> The causal linkage between these developments and Iran’s nuclear status are questionable. But perception is what matters, and it is almost certainly not lost on Iran that it accrues these benefits precisely at a moment when its nuclear program has never been more advanced.<sup>281</sup> Iran also no doubt has its eyes on October 2025 when, unless the West triggers the so-called “snapback” provision in the Joint Comprehensive Plan of Action (JCPOA), all UN sanctions on Iran will expire and Iran’s nuclear file will no longer be in front of the United Nations Security Council (UNSC). Iran sees this as an important marker in its goal of “normalizing” its nuclear program and eroding international sanctions.

Despite these geopolitical improvements, Iranian leaders almost certainly do not view their world through rose-colored glasses. Iran’s domestic situation—characterized by a moribund economy and eroding legitimacy—is a key vulnerability. There are also serious limits on Iran’s ability to repair its economy as long as U.S. unilateral sanctions remain in place. These are vulnerabilities that the regime does not have particularly good solutions for given that it has almost no appetite for reform, and concerns about regime instability will likely become more acute as Iran nears a leadership transition (the current Supreme Leader is 85 years old). In addition, despite mending fences with neighbors and some success in exploiting Israel’s war in Gaza, the growing ties between Israel and Arab countries and the prospect of a formal U.S.-Saudi defense treaty likely greatly trouble Iran, as they portend a shift in the regional balance of power and an entrenched U.S. military presence in the region. Iran’s failure to deter Israel from an aggressive campaign against Iranian proxy groups in 2024—including a strike on an Iranian consulate in Syria, the elimination of Hezbollah’s key leadership, and a bold assassination of Hamas’ political leader in Tehran during the Iranian presidential inauguration—and direct strikes within Iran proper have probably raised questions among some Iranian leaders about the adequacy of its threshold nuclear status, and whether Iran needs to build nuclear weapons.

## **Re-examining U.S. Policy Options in the Face of New Realities**

U.S. policy has generally sought to achieve two related objectives vis-à-vis Iran’s nuclear program. First, prevent Iran from acquiring a nuclear weapon, and second,

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280 Jonathan Saul and Alex Lawler, “Iran’s oil finds new destinations in Tehran export push, sources say,” Reuters (August 9, 2024). <https://www.reuters.com/business/energy/irans-oil-finds-new-destinations-tehran-export-push-sources-say-2024-08-09/>. Accessed August 15, 2025.

281 Eric Brewer and Henry Rome, “Biden’s Iran Gamble: A Risky New Strategy to Keep Tehran From Going Nuclear,” *Foreign Affairs* (June 9, 2023). <https://www.foreignaffairs.com/iran/bidens-iran-gamble>. Accessed August 15, 2024.

prevent Iran from advancing its program in ways that make it easier for Tehran to build the bomb. The reason for the first goal is obvious. The motive behind the second goal is murkier and often more implicit than explicit. It stems from the belief that the more advanced Iran's nuclear capability is, the greater the likelihood that Iran might decide to build nuclear weapons, the harder it might be to stop it, and the harder it would be to roll the program back. There is also concern that Iran might try and leverage its ability to build the bomb to deter or coerce the United States or its allies (and there's evidence that it has), and Iran's threshold status could lead other countries in the region to similarly hedge their nuclear bets, if not pursue nuclear weapons.<sup>282</sup>

There are three basic policy options offered to achieve these objectives: A deal with Iran that rolls back Iran's nuclear capabilities, a military strike on the nuclear program, and Western-aided regime collapse. Each of these options has their own internal theoretical logic—at least implicitly—about how to bring about change and success. These options have different definitions of “success,” beliefs about how permanent any success can or should be, and about how to best manage what comes next. For example, a deal mostly defines a win in terms of keeping Iran at a certain distance from a weapon and ensuring a bomb program can be detected but has little to say about the long-term solution to the nuclear challenge. On the other hand, the regime collapse theory posits a long-term solution by fundamentally changing the nature of the regime rather than the nuclear program. These theories also differ in their potential consequences and costs to other U.S. interests. For example, a diplomatic agreement will provide Tehran with sanction relief buoying the authoritarian regime, a military strike could draw the United States into a regional war, and regime change risks bringing about a non-democratic government. Whether these options seem more feasible and preferable also depends on ones underlying beliefs about Iran and its behavior.

This section will examine the causal logic of each option and its theory of how policy success comes about. Specifically, it will identify and evaluate the key premises of each option—the things that would need to be true in order for the theory to hold and generate the desired outcome— in light of new geopolitical realities and technical developments. It will focus mostly on the option of a deal, as this is the solution most widely favored in Washington and retains the most bipartisan support (though there are deep differences over what the terms of a deal should be). It is also the theory most deleteriously affected by the technical and geopolitical changes described above and is further detailed below.

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282 Eric Brewer, “Iran’s New Nuclear Threat: How Tehran Has Weaponized Its Threshold Status.”

## A Deal: New Realities to Consider

The causal logic of the “deal” theory of success is that a combination of pressure and diplomacy leads Iran to decide that it is better off accepting reductions to and limits on its nuclear program (in exchange for relief from that pressure) than it is continuing to advance its program. There are variations to this formula. For example, some emphasize the importance of so-called “maximum pressure” through a mix of heavy sanctions, military threats, and vigorous responses to provocations by Iran or its proxies.<sup>283</sup> Others believe that, while pressure is important, there is already robust pressure in place, and further steps risk Iranian counter-escalation while not producing the intended effect of bringing about a deal.<sup>284</sup> There are also differences over what a deal should contain and, therefore, what constitutes success. Some want more nuclear rollback (e.g., an end to Iranian enrichment) and for non-nuclear issues (e.g., Iran’s support to terrorist groups) to be included in a deal.<sup>285</sup> Others may be willing to settle for less rollback but more transparency and monitoring. These differences will be examined where relevant below, but for the purposes of this analysis, the fact that there is a broadly shared theory about the basic necessary ingredients for a deal is sufficient.

The JCPOA—despite its limitations—is strong evidence that the fundamental tenants of this theory has proven sound in the past. Beginning in the final years of the Bush administration, and dramatically accelerating under the Obama administration, the United States significantly expanded diplomatic and economic pressure on Iran. Washington sanctioned major Iranian banks, effectively cutting Iran off from the international financial system. It also targeted its shipping, transportation, and oil sectors, cutting into Iran’s ability to generate revenue. While many associate “maximum pressure” with the Trump administration, the reality is that the Obama administration’s push reflected a more revolutionary use of powerful economic pressure. This pressure started to bite. Iran’s economy shifted from growth to contraction, its currency depreciated, and its hard currency reserves dwindled. These effects were amplified by Iranian economic mismanagement. The regime began to conclude that the current trajectory of nuclear expansion and increasingly economic fragility was not sustainable, and a different tact was needed.<sup>286</sup>

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283 For example, see Mark Dubowitz and Benham Ben Taleblu, *Two Years On, the Trump Administration’s Iran Policy Continues to Make Sense*, Foundation For Defense of Democracies (May 7, 2020). <https://www.fdd.org/analysis/2020/05/07/trump-administration-iran-policy-still-makes-sense>. Accessed September 24, 2024.

284 Laurence Norman, “Biden Administration Presses Allies Not to Confront Iran on Nuclear Program,” *The Wall Street Journal* (May 27, 2024). <https://www.wsj.com/world/middle-east/u-s-opposes-european-plan-to-censure-iran-over-nuclear-work-85ad7fc6>. Accessed August 12, 2024.

285 Secretary Mike Pompeo, *After the Deal: A New Iran Strategy*, The Heritage Foundation (May 21, 2018). <https://www.heritage.org/defense/event/after-the-deal-new-iran-strategy>. Accessed September 20, 2024.

286 For a detailed overview of U.S. sanctions strategy and its impact on Iran during this time period, see Richard Nephew, *The Art of Sanctions* (New York, NY: Columbia University Press, 2017).

The United States ably paired that pressure with diplomacy. Backchannel talks between Iran and the United States via Oman began in 2013, and evolved into the P5+1 format that would eventually reach the Joint Plan of Action (JPOA) in November 2014, and the JCPOA in 2015. In the nuclear deal, Iran saw an opportunity to secure core objectives: sanctions relief, the ability to continue enrichment, and the chance to grow the program again a decade later, free from the stain of international illegitimacy. In return, Tehran had to significantly roll back its nuclear capabilities for a time, accept limits, and agree to robust monitoring and verification measures (some of which lasted in perpetuity). The JCPOA did not lead Iran to fundamentally change its hedging strategy. Rather, Iran was willing to accept a “lesser” hedge and strict nuclear constraints in exchange for sanctions relief and the ability to advance the program later. This highlights an important point about the deal option: U.S. success or “victory” does not—and, as part of any deal short of complete Iranian capitulation to U.S. terms, cannot—require that Iran “lose.” Indeed, the failure of the Trump administration’s maximum pressure campaign to achieve a better deal than the JCPOA is a case in point. The administration succeeded dramatically in the first part of the equation (pressure), but its demands of Iran were wildly unrealistic and would have amounted to a fundamental reorientation of Iran’s national security policy, a nonstarter in Tehran.

This theory of success perhaps also requires an additional stipulation: having a president (or if not a president, a collection of senior officials) in Tehran that is willing to do a deal and has the ability to get it done. Though debatable whether this stipulation is a requirement for success, or just enhances its odds, it flows from two realities of the Iranian decisionmaking system. First, any deal with the United States is politically risky (even more so after the U.S. withdrawal from JCPOA). Second, because of this risk and his own decisionmaking style, the Supreme Leader usually does not make major decisions without a degree of consensus among key officials.<sup>287</sup> He is mistrustful of the United States and worries any bargain with Washington is a trojan horse that will only come with more demands—something he has repeatedly highlighted in public for years.<sup>288</sup> To do a deal, he needs to be convinced, and he needs enough of the system with him. The election of Hassan Rouhani in 2013 brought to power a president who wanted sanctions relief to bolster Iran’s economy and to repair its relationship with the outside world. Rouhani was also a regime insider with decades of experience in national security policymaking. He was thus capable of convincing the system and the Supreme Leader of the case for a deal, and

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287 Ariane Tabatabai, *Nuclear Decision-Making in Iran: Implications for U.S. Nonproliferation Efforts*, Columbia Center on Energy Policy (August 2020), pp. 22-29. [https://www.energypolicy.columbia.edu/wp-content/uploads/2020/08/IranNuclear\\_CGEP-Report\\_111522.pdf](https://www.energypolicy.columbia.edu/wp-content/uploads/2020/08/IranNuclear_CGEP-Report_111522.pdf). Accessed August 2, 2024.

288 Amir Havasi, “Ahead of new government, Iran’s Khamenei warns to not trust the West,” *The Times of Israel* (July 28, 2021). <https://www.timesofisrael.com/ahead-of-new-government-irans-khamenei-warns-to-not-trust-the-west/>. Accessed September 24, 2024.

he was willing to take the political risk to do a deal—and he later paid the price for it. Although Iranian President Pezeshkian seems to want a nuclear deal that can roll back sanctions, it is an open question whether he has the ability to pull it off.

Despite the past success of the “deal” theory of success, it rests on several premises that are increasingly questionable due to technical, political, and geopolitical developments, as well as lessons that the United States and Iran have learned from their experience reaching and then losing a deal.

**Premise 1: Iran’s nuclear progress can be sufficiently rolled back and contained.**

This premise is foundational to the “deal” theory of success (and other policy options, as well). The definition of what is “sufficient” contains both technical and political elements. Given the wide variances in what might be deemed adequate by political leaders, it is worth focusing on some of the inherent technical realities.<sup>289</sup> Key steps such as the elimination of highly enriched uranium stockpiles, caps on enrichment quantities and levels, and removal of centrifuges can help extend the so-called “breakout” timeline and put time and space between Iran and the bomb. But the new reality is the nonproliferation value of those steps is less today than it was 10 years ago, due to Iran’s technical progress. Iran’s experience building and operating advanced centrifuges in larger numbers, using those machines to produce highly enriched uranium (including, briefly, 84% enriched uranium), and operating cascade designs that allows Iran to quickly switch between enrichment levels have given Iranian technicians skills and experience that cannot be unlearned. Even with JCPOA-like limits, Iran today could build back much faster than before, placing inherent limits on Washington’s ability to extend the breakout timeline. These same skill and advances also mean that a so-called “sneak out” option using covert facilities is more viable, as Iran could establish such a facility faster and the enrichment process would take less time.

Iran’s work producing small amounts of uranium metal enriched to 20% in 2021 also provided it with experience that would be useful in building nuclear weapons.<sup>290</sup> Press reports in mid-2024 allege that Iran was engaged in some R&D related to nuclear weapons, which the U.S. Intelligence Community reportedly described as efforts that

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289 For an overview of Iran’s technical progress, see Kelsey Davenport, “Constraining Iran’s Nuclear Potential in the Absence of the JCPOA,” Arms Control Association (July 2024). [https://www.armscontrol.org/sites/default/files/files/PolicyPapers/ACA\\_PolicyPaper\\_Iran\\_2024.pdf](https://www.armscontrol.org/sites/default/files/files/PolicyPapers/ACA_PolicyPaper_Iran_2024.pdf). Accessed September 20, 2024.

290 French Ministry of Foreign Affairs, *JCPoA - Statement by the Foreign ministers of France, Germany and the United Kingdom* (July 6, 2021). <https://www.diplomatie.gouv.fr/en/country-files/iran/news/article/jcpoa-statement-by-the-foreign-ministers-of-france-germany-and-the-united>. Accessed September 30, 2024.



“better positioned” Iran to build nuclear weapons, although they did not shorten the timeline to a bomb.<sup>291</sup>

In sum, Iran’s technical progress means that the nonproliferation benefits of any rollback—setting aside whether Iran will agree to it—are less than before. This is particularly true for Iran’s ability to produce weapons-grade uranium. But perhaps less true for weaponization and delivery work. This suggests that any future deal, at a minimum, will require stronger monitoring and verification measures, and a stronger focus on preventing and detecting Iranian weaponization efforts.

**Premise 2: Sufficient pressure on Iran either already exists or can be generated through U.S. action.** This is questionable for several reasons. First, the diplomatic and economic pressure facing Iran today is objectively less than in the leadup to the JCPOA, thus calling into question whether a deal like the JCPOA can be achieved. While there are more sanctions on paper, enforcement has lessened in some key areas, Iran has adapted sophisticated workarounds, and its cooperation with Russia and China provides it with more outlets to diffuse the pressure.<sup>292</sup> Notably, Iran’s oil exports have steadily climbed over the past four years, and more than tripled from their nadir of 2020.<sup>293</sup> Most of these exports are going to China, and providing Iran with billions in revenue.

Cooperation between Iran and Russia has deepened significantly in recent years.<sup>294</sup> Iran has provided Russia ammunition and suicide drones—as well as training on how to use them and technology for Russia to produce them domestically—which Russia has used against Ukrainian civilians.<sup>295</sup> In September, Iran reportedly delivered hundreds of ballistic missiles to Russia for its war in Ukraine following an extensive effort by the West to deter such a transfer.<sup>296</sup> In exchange for this assistance, Russia

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291 Laurence Norman, “Iran Is Better Positioned to Launch Nuclear-Weapons Program, New U.S. Intelligence Assessment Says,” *The Wall Street Journal* (August 9, 2020). <https://www.wsj.com/world/middle-east/iran-is-better-positioned-to-launch-nuclear-weapons-program-new-u-s-intelligence-assessment-says-e39b6c78>. Accessed September 30, 2025.

292 Kimberly Donovan and Maia Nikoladze, *The axis of evasion: Behind China’s oil trade with Iran and Russia* (March 28, 2024). <https://www.atlanticcouncil.org/blogs/new-atlanticist/the-axis-of-evasion-behind-chinas-oil-trade-with-iran-and-russia/>. Accessed September 26, 2024.

293 CEIC, “Iran Crude Oil: Exports.” <https://www.ceicdata.com/en/indicator/iran/crude-oil-exports>. Accessed August 23, 2024.

294 For an overview of these ties, see Ellie Geranmayeh and Nicole Grajewski, *Alone together: How the war in Ukraine shapes the Russian-Iranian relationship*, European Council on Foreign Relations (September 6, 2023), <https://ecfr.eu/publication/alone-together-how-the-war-in-ukraine-shapes-the-russian-iranian-relationship/> (accessed September 16, 2024); and Hanna Nottle and Jim Lamson, “The Uncomfortable Reality of Russia and Iran’s New Defense Relationship,” *War on the Rocks* (July 24, 2024), <https://warontherocks.com/2024/07/the-uncomfortable-reality-of-russia-and-irans-new-defense-relationship/> (accessed September 16, 2024).

295 Farnaz Fassihi and Julian Barnes, “The first shipment of Iranian military drones arrives in Russia,” *The New York Times* (August 29, 2022). <https://www.nytimes.com/2022/08/29/world/europe/iran-military-drones.html>. Accessed September 16, 2024.

296 Natasha Bertrand and Kylie Atwood, “Iran transfers ballistic missiles to Russia, sources say,” *CNN* (September 7, 2024). <https://www.cnn.com/2024/09/06/politics/iran-transfers-ballistic-missiles-russia/index.html>. Accessed September 30, 2024.



has provided Iran with political support and cash. Russia and China have backed Iran in key global forums such as the IAEA's Board of Governors, diminishing political pressure on Tehran over its nuclear program.<sup>297</sup> Moscow and Tehran—both of which are now subject to significant Western sanctions—are coordinating to establish mechanisms to bypass those sanctions, driving further economic ties between them.<sup>298</sup> In 2023, Iranian officials claimed Russia had become the largest foreign investor in Iran.<sup>299</sup>

That's today. Could the United States reassemble the broad coalition to increase pressure on Iran, the way it did before the JCPOA? Again, that is questionable for some of the same reasons. The relationship between the United States and Russia and the United States and China is fundamentally different today, defined more by competition than cooperation, a characterization that is unlikely to change for the foreseeable future. In a sharp departure from 2015, Russia—and perhaps China—seem more aligned with Iran than the West on the Iranian nuclear issue. For example, Russia played a key role during negotiations for the JCPOA and attempts to revive it, vocally opposing provocative Iranian nuclear activities and helping nudge Iran forward at critical moments.<sup>300</sup> Moscow is far less likely to play that role in the near term, absent a fundamental shift in U.S.-Russian relations. Russia and China will not support new UNSC resolutions, IAEA censures, or new sanctions against Iran. And they will work to dilute existing international and U.S. unilateral sanctions. In contrast to 2015, when Iran saw international ranks close and a unified position among great powers over its nuclear program, today Tehran is more likely to see divisions that it can exploit.

But multilateral pressure efforts have always had their limits, and U.S. unilateral sanctions have tended to have the greatest impact given the dominance of the U.S. financial system on the global economy. Perhaps Washington could sufficiently up the pressure on its own. It's possible in theory. For example, Washington could work with Europe to trigger the automatic “snapback” provision in the JCPOA that reimposes all UNSC sanctions on Iran that were lifted as part of the deal. The United States could also threaten to sanction entities in China and elsewhere involved in purchasing and

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297 The Ministry of Foreign Affairs of the Russian Federation, *Joint Statement on behalf of the People's Republic of China, the Islamic Republic of Iran and the Russian Federation under the agenda item 6 of the session of the IAEA Board of Governors* (June 6, 2024). [https://mid.ru/en/foreign\\_policy/news/1954844/](https://mid.ru/en/foreign_policy/news/1954844/). Accessed September 29, 2024.

298 “Iran, Russia link banking systems amid Western sanction,” Reuters (January 30, 2023). <https://www.reuters.com/business/finance/iran-russia-link-banking-systems-amid-western-sanction-2023-01-30/>. Accessed September 17, 2024.

299 “Iran's finance minister highlights surge in investment from Russia,” *Financial Times* (May 22, 2023) (<https://www.ft.com/content/c43f7f85-87c3-49f6-85cb-446d1de2bfc6>). Accessed September 17, 2024.

300 Hanna Notte, “Don't Expect any More Russian Help on the Iran Nuclear Deal,” *War on the Rocks* (November 3, 2022). <https://warontherocks.com/2022/11/dont-expect-any-more-russian-help-on-the-iran-nuclear-deal/>. Accessed September 30, 2024.

importing Iranian oil, and then follow with designations if imports did not stop. It could also deploy forces to disrupt or perhaps even interdict oil shipments.

The reimposition of UN sanctions would make it easier for U.S. and allied diplomats to make the case to some countries that prohibited engagement with Iran must end. But Russia and China are unlikely to adhere to those sanctions for the same reasons outlined above. It is also questionable whether a U.S. administration would be willing to take stronger steps on unilateral sanctions. The Biden administration has opted for a different course, in part due to concerns that these measures would provoke counter-escalation from Iran at a time when there are a number of other pressing national security crises and priorities, such as Russia's invasion of Ukraine, managing competition with China, and most recently the war in Gaza. President Trump—anticipated to be more hawkish on both Iran and China—might be more willing to do so. But it is worth recalling that the Trump administration previously refrained from targeting Chinese banks during his North Korea maximum pressure campaign. Historically, the United States has proceeded cautiously when it comes to sanctions against China. Washington also has a long list of issues that dominate its conversations with Beijing. Is there adequate room for Iran on that list? Moreover, much of what makes “maximum pressure” strategies effective is a political decision at the highest levels to prioritize that policy, and to orient U.S. resources and bureaucratic missions to that task. Today, Washington has more sanctions priorities than in the leadup to the JCPOA or during the Trump maximum pressure campaign, with Russia top among them.<sup>301</sup> The United States simply cannot run two truly maximum pressure strategies simultaneously.

Of course, even with gaps in sanctions and growing ties with other global powers, Iran's economy remains in tatters and likely will for the foreseeable future. As long as U.S. unilateral sanctions remain in place, there are limits to the benefits Iran can derive from relationships with countries such as Russia and China. The fact that President Pezeshkian and his administration have prioritized the removal of sanctions demonstrates that these measures continue to have impact and could open space for a deal, even absent the type of pressure that led to the JCPOA. What capabilities he might be willing to trade away for that sanctions relief, and whether the Supreme Leader shares his views and prioritization, is unclear, but ultimately critical. Still, there are reasons to doubt whether Washington can substantially increase pressure on Iran, and thus any U.S. theory of success that aims for a JCPOA-like deal needs to be recalibrated.

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301 Richard Nephew, “Easier Said than Done: Renewing Maximum Pressure on Iran,” *The Jerusalem Strategic Tribune* (August 2024). <https://jstribune.com/nephew-easier-said-than-done/>. Accessed September 1, 2024.

**Premise 3: Facing such pressure, the Supreme Leader will select nuclear rollback over other options.** Even if pressure is sufficient to force an inflection point in Iran’s decisionmaking, it is more questionable today than in the past whether the Supreme Leader of Iran would opt for a deal that reduces Iran’s capabilities and imposes limits on the program as a way to relieve that pressure.

First, Khamenei may decide to do what he’s done since the U.S. withdrew from the deal in 2018: muddle through. Khamenei—and his closest advisors—believe deeply that Iran’s success does not depend on good relations with the United States or economic integration. Throughout his lifetime, he has routinely trumpeted the importance of a “resistance economy”—that is, a self-sufficient economy that can meet Iran’s needs despite Western sanctions.<sup>302</sup> If the critique of the second premise is accurate, meaning that Tehran sees a leaky sanctions regime and a blossoming relationship with Russia and China as providing new outlets for relief from international pressure, then he may be more inclined to try and press on.

Second, Iran’s nuclear program is far more advanced today than at any point in its history. That fact can manifest in ways that undercut the chances for a deal. Politically, it is harder for Iran to give up more of its nuclear program. At a minimum, Tehran will likely want more in return. To the degree Iran sees itself as having achieved its goal of a threshold nuclear capability—or for those within Iran who might desire nuclear weapons—giving up that status, even temporarily, could be seen as having greater security implications than Iran’s rollback under the 2015 JCPOA. Moreover, if Iranian leaders conclude that Hezbollah’s and Hamas’ effectiveness has been severely undercut as a result of Israel’s operations against them since October 7, 2023, this could lead Tehran to rely more heavily on its threshold nuclear status as a deterrent and be less likely to roll back its nuclear program.

Finally, because of Iran’s more advanced nuclear capability, Khamenei may see more value in pressing ahead in the face of growing Western pressure rather than giving in. He could decide, for example, to produce weapons-grade uranium or even try to cross the nuclear threshold by quickly building a gun-type device. The U.S. Intelligence Community has highlighted this former risk, noting in 2024 that Iran “will probably consider...enriching uranium up to 90%in response to additional sanctions, attacks, or censure against its nuclear program.”<sup>303</sup>

Simply put, Iran has options today that it did not have in 2015. As a result, any good U.S. theory of success must grapple with and have a solution to this counter-escalation

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302 “Ayatollah Khamenei chides government’s economic record,” Al Jazeera (March 20, 2017). <https://www.aljazeera.com/economy/2017/3/20/ayatollah-khamenei-chides-governments-economic-record>. Accessed September 30, 2024.

303 Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community* (February 5, 2024), p. 19. <https://www.dni.gov/files/ODNI/documents/assessments/ATA-2024-Unclassified-Report.pdf>. Accessed September 12, 2024.

problem. Khamenei might be particularly inclined toward this option if he and his senior advisors saw no credible diplomatic off ramp that would provide adequate benefits to Iran and warrant nuclear concessions—the focus of the fourth premise.

**Premise 4: The Supreme Leader believes that nuclear rollback will result in sanctions relief, and that such relief will yield sufficient economic benefits.**

On the surface, this seems like a safe conclusion. Yet Iran’s experience with the JCPOA and the U.S. withdrawal and subsequent maximum pressure campaign have given Iran reason to question whether meaningful benefits can be accrued. Thus, the viability of a diplomatic off ramp is in question. Even when the JCPOA was being implemented by all parties, Iranian officials lamented that the economic benefits were not as robust as they expected.<sup>304</sup> This was largely because Iran is not a hospitable investment environment and to gain domestic acceptance of the deal some Iranian officials exaggerated its economic benefits. This was compounded by the realization after Trump’s withdrawal that the United States could reimpose sanctions quickly and easily. Comparatively, Iran needed longer to rebuild its nuclear program. This vindicated and reinforced the concerns of the Supreme Leader and hard line officials that Washington could not be trusted to keep its commitments and that the deal was not worth it.

The risk that Iran might not see the full benefits of an implemented deal and that the United States could leave the deal at any moment and impose sanctions were central issues for Iranian negotiators during talks to revive the JCPOA. Because the United States could not guarantee a future president would remain in the deal, Iran sought “technical guarantees” that would allow it to more quickly reconstitute its nuclear program should the U.S. withdraw.<sup>305</sup> Although Iranian and U.S. negotiators were able to develop mutually agreeable solutions to many of these challenges as part of the effort to revive the JCPOA, ultimately—for reasons that are not entirely clear—Iranian leaders in Tehran rejected the terms of the draft text and imposed new demands.

It is unclear how much work remains to be done to assure Iran that it can benefit from any deal. It’s also unclear what new issues may have arisen in the intervening years. The problem of providing meaningful sanctions relief is arguably made harder by the fact that Iranian entities are cooperating with Russia in ways that violate U.S. sanctions on Russia that have been imposed over Moscow’s war in Ukraine.<sup>306</sup> Iran’s assistance to Russia’s war, its continued human rights abuses, and its support for militias, terrorist groups, and other non-state actors across the region—made visible

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304 “Iran’s Khamenei renews criticism of nuclear deal,” Reuters (August 1, 2016). <https://www.reuters.com/article/world/iran-s-khamenei-renews-criticism-of-nuclear-deal-idUSKCN10C2LH/>. Accessed September 30, 2024.

305 “Russia’s demand for guarantees highlights U.S. irresponsibility,” *Tehran Times* (March 6, 2022). <https://www.tehrantimes.com/news/470772/Russia-s-demand-for-guarantees-highlights-U-S-irresponsibility>. Accessed October 1, 2024.

306 U.S. Department of the Treasury, *Treasury Designates Actors Facilitating Iran’s Transfer of Lethal Aid to Russia* (September 10, 2024). <https://home.treasury.gov/news/press-releases/jy2570>. Accessed September 30, 2024.

once again by those groups' attacks against U.S. forces and Israel after October 7<sup>th</sup>—also makes a JCPOA-like deal that provides significant sanctions relief less popular in Washington. In sum, any realistic U.S. theory of success must grapple with challenges—practical and political—of convincing Iran that it can benefit from a deal.

## **A Military Strike: Old and New Problems**

This theory posits that a U.S. military strike against key elements of Iran's program prevents Iran from building a nuclear weapon now and lengthens the amount of time Iran would need to develop nuclear weapons. Such a strike could be triggered by a particular Iranian action—such as the production of weapons grade uranium—or not. Proponents of a strike argue that Iran can be deterred from building the program back by threats of additional military action, and should that fail, additional strikes can be carried out as needed to “mow the grass.” The premises underpinning this theory, however, are questionable and getting them wrong would entail significant risks for other U.S. interests.

**Premise 1: A strike will be successful and sufficiently set back Iran's nuclear capabilities.** Evaluating specific military options and their feasibility is beyond the scope of this paper (and the author's expertise), but suffice to say there are good reasons to believe the United States could successfully carry out an attack on Iran's program, and that attack could set the program back. But by how much? It stands to reason that any attack today is likely to have less of an effect than an attack 10, or even five years ago, given Iran's nuclear progress. As of August 2024, Iran had over 10,000 advanced centrifuges installed—about 10 times the amount than just prior to the 2015 Iran nuclear deal—and almost certainly has more, perhaps substantially more, in storage.<sup>307</sup> If these centrifuges and the capability to manufacture them are not destroyed, Iran could more quickly reconstitute its capabilities. Iran also has the knowledge and experience of building and operating advanced centrifuges enriching near weapons-grade uranium. That experience can't be destroyed militarily, enabling Iran to build back faster than in the past. Iran is also building a new centrifuge assembly site—and possibly an enrichment facility—even deeper underground than its Fordow enrichment facility, further limiting the effectiveness of any strike.<sup>308</sup> In short, a strike might disrupt a breakout and set Iran's program back, but that setback will be less than in years past, even under the most optimum conditions.

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307 David Albright, Spencer Faragasso, and Andrea Stricker, *Analysis of IAEA Verification and Monitoring Report—August 2024*, Institute for Science and International Security (September 9, 2024), p. 2, [https://isis-online.org/uploads/isis-reports/documents/Analysis\\_of\\_August\\_2024\\_IAEA\\_Iran\\_Verification\\_Report\\_sept\\_9\\_2024\\_FINAL.pdf](https://isis-online.org/uploads/isis-reports/documents/Analysis_of_August_2024_IAEA_Iran_Verification_Report_sept_9_2024_FINAL.pdf) (accessed September 30, 2024); Jeffrey Lewis, *Visualizing Centrifuge Limits Under the Iran Deal*, Nuclear Threat Initiative (June 24, 2015), <https://www.nti.org/analysis/articles/visualizing-centrifuge-limits-under-iran-deal/> (accessed September 30, 2024).

308 Jon Gambrell, “An Iranian nuclear facility is so deep underground that U.S. airstrikes likely couldn't reach it.”

**Premise 2: Iran's military response will be tolerable and/or escalation risks can be successfully managed.** Whether this premise is correct is fundamentally unknowable, but recent events suggest it is plausible. The simmering regional crisis that has followed Hamas' October 7<sup>th</sup> attack and Israel's subsequent invasion of Gaza has demonstrated that Israel, Iran, and the United States share a strong desire to avoid a regional war. Iran's retaliatory actions against U.S. forces in Iraq in 2020 and Israel in 2024—following the U.S. assassination of Soleimani, then commander of Iran's Quds Force, in January 2020 and Israel's strike against Iran's consulate in Syria in April 2024—did not result in any deaths, due to a combination of Iranian calibration and warning, and Western preparation. In addition, Israel's sustained campaign targeting the leadership and capabilities of Hamas and Hezbollah may have significantly degraded, at least in the short term, the role that these groups could play in any retaliation against a strike on Iran's nuclear program.<sup>309</sup>

But Iran still has other retaliatory options, and there is no guarantee that Tehran's calibrated responses—designed to avoid triggering a massive retaliation by Israel or the United States—would continue following a U.S. strike on Iran's program, which would be larger in scale than any attacks by Israel within Iran to date. Indeed, Iran apparently has ongoing efforts to assassinate former senior U.S. officials, showing significant appetite for risk.<sup>310</sup> This premise is thus uncertain, dependent on a range of factors that are hard to predict and influence, and the consequences of it being wrong would be significant for U.S. interests.

**Premise 3: Iran can be deterred from rebuilding the program with the goal of producing nuclear weapons or, should such deterrence fail, additional military strikes can eliminate a new program.** This premise is required as there is a very high likelihood that a strike would lead Iran to decide to build nuclear weapons if it hadn't already—perhaps withdrawing from the Nuclear Nonproliferation Treaty (NPT) and removing IAEA inspectors. This is probably the weakest premise in this theory. Iran would not need to reconstitute the entire nuclear program, but rather could dedicate its resources toward producing weapons-grade uranium as quickly as possible. In the past, the notion that Iran might have required years to reconstitute the program following a strike, and that interdictions, sanctions, and export controls could slow, frustrate, and dissuade Iran from going down the nuclear weapons pathway no longer holds true today. Iran's knowledge and experience enables a much faster buildback.

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309 Barak Ravid, "One year after Oct. 7 attacks, Netanyahu is on a winning streak," *Axios* (October 6, 2024). <https://www.axios.com/2024/10/06/netanyahu-israel-political-strategy>. Accessed October 6, 2024.

310 David Klepper and Aamer Madhani, "Intelligence Officials Have Briefed the Trump Campaign on Iranian Threats. A Look at What's Known," *Associated Press* (September 25, 2024). <https://apnews.com/article/trump-iran-assassination-election-harris-09648f806d7a7f52965782e0edc67e96>. Accessed September 30, 2024.

China, and especially Russia, would also likely insulate Iran from international pressure during this period, and perhaps even Russia may even aid Iran's efforts to reconstitute the program.

Deterring Iranian leadership from rebuilding nuclear weapons after a strike also requires either threatening to escalate and strike non-nuclear targets, or convincing Iran that the United States can promptly detect attempts by Iran to reconstitute its program. The first is questionable even under the best circumstances, as it presumes a U.S. administration that is willing to carry out robust strikes against Iranian conventional military or leadership targets, both of which would entail added risks of Iranian retaliation, further escalation, and war. The second is questionable given that Iran is likely to reconstitute its program in a more deeply buried location that is harder to penetrate, and presumably would not provide the IAEA with access, denying the United States and others crucial information necessary to understand the status of that program and target it. In other words, a strategy that relies on "mowing the grass" makes the likely poor assumption that the United States will know where to mow.

### **Regime Change: Gambling on the Islamic Republic's Fragility**

The causal logic of this theory holds that the United States can work to induce the collapse of the current regime in Iran and give rise to a new government more amenable to Western interests. That government would either curb the most worrying parts of the nuclear program, and/or that the program itself would be less of a concern because the regime would be aligned with the West.

**Premise 1: The U.S. can successfully induce the collapse of the regime.** The theory requires that the United States could, through a range of steps including overt and covert support to Iranians who oppose the regime—along with massive economic, political, and military pressure—exacerbate the internal tensions within the regime and speed its collapse.<sup>311</sup> There is no doubt that the legitimacy of the regime is at its lowest point in its history, and Iranian leaders remain unwilling to make the necessary reforms to fundamentally change that. As a result, protests and opposition are likely to continue periodically. Yet there is no clear articulation about precisely how U.S. policy efforts would translate into the overthrow of the current regime, including how that approach would overcome Iran's demonstrated willingness to violently crush opposition. (Indeed, open U.S. support would enhance Iran's ability to label any dissent as Western-backed.) U.S. efforts at aiding opposition groups and fostering internal regime change

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311 For an example of this approach, see Behnam Ben Taleblu, Saeed Ghasseminejad, Cameron Khansarinia, and Andrew Ghalili, *Maximum Support: A New Strategic Direction for U.S. Iran Policy*, Foundation for Defense of Democracies and the National Union for Democracy in Iran (May 23, 2024). <https://www.fdd.org/wp-content/uploads/2024/05/fdd-memo-maximum-support-a-new-strategic-direction-for-u.s.-iran-policy.pdf>. Accessed September 17, 2024.



have a checkered historical record at best, raising doubts about Washington's ability to complete this in Iran. While Tehran already believes Washington is working to weaken and eventually usher in the regime's demise, a more robust and forceful approach would surely be noticed by Iranian leaders. If Tehran feared for its survival, that could move it to produce nuclear weapons.

**Premise 2: A more moderate, Western-friendly government will come to power following the ouster of the Islamic Republic.** It's a safe assumption that at least one of the factions vying for power following the collapse of the regime will profess values and governing philosophies that share similarities with the United States and the West, but it is far from clear whether that faction will come out on top. History is rife with examples, including in Iran, of revolutions and the fall of governments that play out in unpredictable ways, and it is common that the group that ultimately takes power is not the same group or coalition of actors that brought the revolution about. Indeed, while the legitimacy of the regime may be near rock bottom, the security apparatus and Islamic Revolutionary Guard Corps (IRGC) are stronger and have more influence within the system than perhaps ever before. As a result, they are likely to be significant players in determining what government comes next, which could lead to a military-led government. There is also likely little that the United States can do to shape the power struggles that would likely take place after the fall of the Islamic Republic, and U.S. support for any particular party could backfire, given sensitivities to U.S. interference in Iranian domestic affairs.

**Premise 3: The new government in Iran significantly curtails or ends the nuclear program.** The end of the Islamic Republic would no doubt serve as a critical inflection point for Iran's nuclear program. But the history of nuclear rollback and Iran's own motives suggest Iran is unlikely to completely abandon its nuclear program, even if it takes steps to rein it in and provide additional transparency. Major governance transformations in South Korea, Taiwan, Brazil, Argentina, and South Africa show that new leaders and democratic governments might abandon the weapons ambitions of their authoritarian predecessors, but they also tend to hang on to at least some of the old regime's nuclear capabilities.<sup>312</sup> Iran's nuclear achievements are symbols of national pride and are popular among Iranians. Indeed, ambitions to develop a nuclear program and the concept of nuclear hedging pre-date the Islamic Republic; the Shah had similar motives.<sup>313</sup> For a new and potentially weak Iranian government, keeping the nuclear program or deferring a decision on it could be an easy way to demonstrate nationalist bona fides.

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312 Mark Fitzpatrick, *Asia's Latent Nuclear Powers: Japan, South Korea, and Taiwan* (London: Routledge, 2016), p. 21; David Albright and Andrea Stricker, *Taiwan's Former Nuclear Weapons Program: Nuclear Weapons On-Demand* (Washington, DC: Institute for Science and International Security, 2018), pp. 180-183; 189-190; Mitchell Reiss, *Bridled Ambition: Why Countries Constrain Their Nuclear Capabilities* (Washington, DC: Woodrow Wilson Center Press, 1995), pp. 54-60.

313 Ariane Tabatabai, "Nuclear Decision-Making in Iran: Implications for U.S. Nonproliferation Efforts," p. 13.



## Conclusion: Adapting U.S. Policy Options to the New Realities

The preceding scorecard for U.S. policy options to prevent a nuclear-armed Iran does not leave much room for optimism. The premises that underpin the deal and military strike options have gotten weaker because of Iran's technical advances; greater alignment between Iran, Russia, and China; a fuller U.S. national security agenda; and learned experience in Tehran. This raises significant questions about whether these options, as typically conceived, are viable. The U.S.-enabled regime change option, though perhaps aided by growing dissatisfaction with the regime, suffers from longstanding theoretical and practical policy gaps and a failure to credibly link how U.S. actions can bring about the desired result. Given a generally weak menu of options, and the prospect that Iranian leaders may see "success" as becoming more likely, how should the United States adapt?

It is useful to return to the twin U.S. policy goals of preventing a nuclear-armed Iran and denying Iran a viable nuclear weapons option. On the one hand, Khamenei hasn't decided to build nuclear weapons. While easier said than done, Washington should work to understand the reasons why he's held off and reinforce them. One of those reasons is probably the belief by senior Iranian leaders that attempting to build nuclear weapons will be detected and that Iran will face a serious, probably military, response. If one of Iran's main goals remains ejecting the United States from the region, the United States should also make clear that, to the contrary, an Iranian nuclear weapon would entrench and enhance the United States' military presence.

But dissuading Khamenei from initiating a bomb program is insufficient for success. There's a risk those efforts could fail. He could change his mind, or a future Supreme Leader might be more risk-acceptant than Khamenei. More importantly, it is increasingly unclear what sets of nuclear activities are "off limits" under the current Iranian nuclear strategy, and the distinction between a status of "bomb program" and "no bomb program" is increasingly blurry.<sup>314</sup> This has endangered—and perhaps made impossible—the U.S. goal of preventing a nuclear weapons-capable Iran.

Given the significant risks and uncertainties surrounding a military strike and attempting to foment regime change, a deal remains the best option—if one can be achieved at an acceptable price. But Iran's new technical baselines and the challenges for the United States of successfully mounting a new "maximum pressure" campaign mean that the old playbook won't work; a new formula is needed. Washington needs to adjust the other side of the equation—that is, lower its sights on what a deal could achieve. A future nuclear agreement would need to focus more on transparency and monitoring than on nuclear rollback, and more on limiting potential weaponization work rather than the fuel cycle. It would also mean

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314 Laurence Norman, "Iran Is Better Positioned to Launch Nuclear-Weapons Program, New U.S. Intelligence Assessment Says."

an agreement that is more transactional than transformational. Finally, getting a nuclear deal probably now also requires containing—if not resolving—the current conflict in the Middle East.

At its core, any U.S. theory of success that seeks to convince Iran to roll back its program to reduce the proliferation threat must convince Iran that its current strategy will not yield the benefits it expects and will be damaging to Iran's long-term interests. That is, the United States needs to convince Iran that an advanced threshold capability will not bring security and a withering and eventual collapse of international pressure. Instead, it will bring the opposite: continued Western sanctions, a stagnating economy, regime fragility, and closer collaboration between the United States, Israel, and Gulf states. That theory must also have a credible plan for managing the risks of counter-escalation by Iran which, if carried out, could push Iran over the threshold, thereby defeating U.S. policy aims. Importantly, it must contend with the inherent limits of increasing pressure on Iran—especially pressure that would require cooperation from Russia and China—as well as the challenges of convincing Iran that it stands to benefit from any deal, and that such a deal can serve its interests. A U.S. theory of success must also confront the reality that, because of Iranian advances, there are limits to what a rollback—either through a deal or a military strike—can achieve.

That is a challenging set of tasks for U.S. policy. It requires accepting a degree of risk and prioritizing the Iranian nuclear issue on the foreign policy agenda. And there is a good chance it might fail. Additional geopolitical and technical changes in the coming years are also likely to shape the environment—for better or worse—in which U.S. policy must operate. To help guide its approach and adapt to such shifts, policymakers should think concretely about how potential developments—especially technical developments on Iran's program—could affect U.S. interests and the feasibility of various policy approaches. For example, Washington should develop a list of Iranian nuclear actions that could improve its ability to build nuclear weapons (either faster, more easily, or that give it additional pathways), make the program harder to roll back either because it is more survivable or through the development of knowledge that cannot be unlearned, is harder to detect potential advances, or moves to weaponization. Such a list can inform which activities to worry about most, allowing the United States to calibrate its responses appropriately. It can also inform what to prioritize as part of any future deal to maximize its nonproliferation value. And finally, it can inform a U.S. decision if and when to shift to alternative policies, including containment and deterrence.

Finally, in evaluating where the Iran nuclear issue ranks on an already crowded national security agenda, the next administration should consider not just the potential risks, costs, and implications of trying to prevent a nuclear-armed Iran today, but the potential risks, costs, and consequences of having to contend with a nuclear-armed Iran tomorrow. What new policy questions, challenges, and dilemmas might a nuclear-armed Iran pose? How might potential U.S. responses bear on other national security priorities? As challenging as the journey for U.S.-Iran policy has been over the past 25 years, a nuclear-armed Iran would undoubtedly introduce greater challenges.

# Chapter 11: The Potential Challenges of Detering a Nuclear Iran

Behnam Ben Taleblu

Unpacking the importance of deterrence to Iranian security policy can help the United States and others to devise strategies aimed at having a deterrent effect on Tehran. Deterrence is an obsession for the Islamic Republic's national security elite, one which stems from their experience during the 1980-1988 Iran-Iraq War, a conflict which constitutes the regime's "never again" moment and continues to have implications for its security policy today.<sup>315</sup>

Iranian officials and media outlets have not been shy about stressing the imperative of deterrence.<sup>316</sup> According to Amir-Ali Hajizadeh, commander of Iran's Islamic Revolutionary Guard Corps Aerospace Force (IRGC-AF) and the man overseeing the largest ballistic missile arsenal in the Middle East, deterrence is viewed as a continuous action, akin to the physics of riding a bicycle. "While riding a bicycle, if we do not pedal, we will capsize. Our movement towards strengthening our deterrent power must be continuous because the malice of the enemy continues," Hajizadeh said.<sup>317</sup>

This paper will explore the challenges inherent in deterring Iran by nesting that discussion around a larger conversation about Iranian national security behavior, cases of past successes deterring Iran, and the lessons they offer. Lastly, the paper will identify obstacles to deterring both a still-nuclearizing Iran and a nuclear-armed Iran in the future while considering the implications of the fast-changing present in the Middle East.

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315 Nearly every security challenge facing U.S. interests and those of its allies and partners in the Middle East from Tehran today stems from the threats developed or accentuated during the 1980-1988 Iran-Iraq War. This includes ballistic missiles, drones, maritime harassment, and transnational proxy warfare and terrorism. For more on the war and its impact, see Behnam Ben Taleblu, "The Long Shadow of the Iran-Iraq War," *The National Interest* (October 23, 2014). <https://nationalinterest.org/feature/the-long-shadow-the-iran-iraq-war-11535?nopaging=1>. Accessed November 4, 2024.

316 See, for example, "ناری ایگدن رانزاب ترندق," *Etemad Newspaper* (May 7, 2024). <https://www.etemadnewspaper.ir/fa/main/print/216605> (accessed November 4, 2024); "تسا هدی سر ناهج رد ایگدن رانزاب ترندق هب ناریا," *Mehr News Agency* (June 13, 2023), [mehrnews.com/x32pth](https://mehrnews.com/x32pth) (accessed November 4, 2024); "اینام یلس رادرس," *Tasnim News Agency* (November 5, 2023), <https://tn.ai/2988869> (accessed November 4, 2024).

317 "مدروآرد ایپ زا یعونصم شوه اب ار نمشد: هدازی اجاح," *Asr Iran* (September 7, 2022). [asriran.com/003ayB](https://asriran.com/003ayB). Accessed November 4, 2024.

## Towards an Understanding of Iranian National Security Behavior

The Islamic Republic has a narrow conceptualization of state interest. The state's interest is viewed as what benefits the regime rather than what might be more traditionally categorized as the state's interest or public good.<sup>318</sup> In the same vein, the regime's preoccupation with deterrence is a function of its imperative to survive, while also feeding into its narrative that it is a victim of foreign powers hostile to its identity. The regime's perception that it is vulnerable is magnified by a sense of conventional military inferiority<sup>319</sup> when compared to its adversaries abroad.

Confronted with such deep-seated vulnerabilities, "normal" governments might opt to stop pursuing any policy that promotes or provokes conflict. At the very least, they might find political means to reassure<sup>320</sup> or assuage their adversaries' concerns. But that has not been the case when it comes to the Islamic Republic.

Many of Tehran's national security crises stem from its ideational understanding of "interest," which results in conflicts of choice with its adversaries who often possess both the capability and intent to use force against the regime.<sup>321</sup> For example, the Islamic Republic's conflict with Israel stems from the anti-Semitic worldview of the regime's founders, which was put into practice after 1979. Thus, Iran's conflict with Israel is by choice, not necessity. As a result of the conflicts that Iran has initiated and perpetuated, the regime has focused on the acquisition of hard power tools to bolster deterrence and even the playing field.

Though plentiful, there are three main hard power tools. The first is proxy warfare, or more aptly, the ability to create or co-opt militias that can target adversaries with deniable attacks from third party jurisdictions.<sup>322</sup> The second are long-range strike capabilities like drones and ballistic missiles, the latter of which Iran has the largest inventory of in the region and can be used to deliver both conventional and nonconventional payloads. The third—and of greatest relevance to this paper—is the regime's nuclear program.

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318 For more, see Karim Sadjadpour and Behnam Ben Taleblu, *Iran in the Middle East: Leveraging Chaos*, FRIDE (May 2015). [https://www.files.ethz.ch/isn/191161/Iran%20in%20the%20Middle%20East\\_%20leveraging%20chao.pdf](https://www.files.ethz.ch/isn/191161/Iran%20in%20the%20Middle%20East_%20leveraging%20chao.pdf). Accessed November 4, 2024.

319 For more, see Shahram Chubin, "Is Iran a Military Threat?" *Survival* 56, no. 2 (2014). <https://doi.org/10.1080/00396338.2014.901733>. Accessed November 4, 2024.

320 For example, see the case of the rise of Prussia and ontological and political strategies it leveraged amid conflict: Stacie Goddard, "When Right Makes Might: How Prussia Overturned the European Balance of Power," *International Security* 33, no. 3 (2009). <https://doi.org/10.1162/isec.2009.33.3.110>. Accessed November 4, 2024.

321 For example, provoking war with neighboring Iraq in the 1980s or embarking on a longstanding ideational conflict with Israel. Over the past year, Iran's conflict with Israel has quickly moved out of the shadows into an outright conventional shooting war.

322 Consider this the militarized version of the "export of the Islamic Revolution," a foundational Iranian foreign policy objective. For example: "جہاں جاک جاہاں گن زبا بالقرن رونص" Aparat. <https://www.aparat.com/v/n84t5m0>. Accessed November 1, 2024.

In 2024, Iran's nuclear-saber rattling grew to heights to include braggadocio about having the capability to make a bomb<sup>323</sup> or change its nuclear doctrine.<sup>324</sup> However, well before 2024, Iranian statements about its nuclear program were aimed at having its adversaries draw conclusions about its capabilities to bolster deterrence through inference. Former Iranian President Ali-Akbar Hashemi Rafsanjani declared in 2005 that, so “long as we can enrich uranium and master the [nuclear] fuel cycle, we don't need anything else... Our neighbors will be able to draw the proper conclusions.”<sup>325</sup> But Iran's atomic infrastructure and domestic fuel-cycle capabilities have drastically expanded since then. When paired with a strategy of increased political hedging and technical latency,<sup>326</sup> this has given Iran a near “threshold” nuclear status<sup>327</sup> and an ability to reap deterrent dividends traditionally associated with states possessing nuclear weapons.

Taken together, these capabilities contribute to an enhanced deterrent posture enabling the Islamic Republic to engage in strategic competition with militarily superior adversaries while shielding itself from reprisal. Therefore, despite these capabilities leading to greater multilateral pressure and sanctions, it is believed to be adding to, rather than detracting from, regime security.

Obstinacy in pursuit of these capabilities is not meant to imply the Islamic Republic isn't rational or sensitive to cost and risk. In some instances, Iran can and has swiftly altered its behavior when presented with significant costs to staying the course. In other cases, depending on the perceived value of what is at stake, Tehran settles in for longer-term contests oscillating between escalation spirals and pauses.

Even in 2012, at the height of the presidency of the ultra-hardline and Holocaust-denying Iranian President Mahmoud Ahmadinejad, former chief of the Israeli Mossad Meir Dagan

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323 “Iran Signals It Is Closer To Building Nuclear Weapons,” Iran International (February 12, 2024). <https://www.iranintl.com/en/202402123916>. Accessed November 4, 2024.

324 “Iran adviser hints at expansion of missile range, nuclear doctrine review after Israel strikes,” Reuters (November 1, 2024). <https://www.reuters.com/world/middle-east/iran-adviser-hints-expansion-missile-range-nuclear-doctrine-review-after-israel-2024-11-01/>. Accessed November 4, 2024.

325 Peter Baker and Dafna Linzer, “How a special search for Iran's nuclear arms program turned up nothing,” *The Seattle Times* (December 10, 2007). <https://www.seattletimes.com/nation-world/how-a-special-search-for-irans-nuclear-arms-program-turned-up-nothing/>. Accessed November 4, 2024.

326 I discussed this thesis at length with Chen Zak Kane in-person in London (February 2024), Rome (May 2024), and Washington DC (May/June 2024). For how states more broadly exploit latency, be they U.S. allies or U.S. adversaries, see Tristan Volpe, “Playing With Proliferation: How South Korea and Saudi Arabia Leverage the Prospect of Going Nuclear,” The Carnegie Endowment for International Peace (March 19, 2024). <https://carnegieendowment.org/research/2024/03/playing-with-proliferation-how-south-korea-and-saudi-arabia-leverage-the-prospect-of-going-nuclear?lang=en>. Accessed November 4, 2024.

327 For more on the threshold, see Andrea Stricker and Anthony Ruggiero, *Iran Approaches the Nuclear Threshold: Washington's Narrowing Policy Options*, Foundation for Defense of Democracies (March 3, 2022), <https://www.fdd.org/wp-content/uploads/2022/03/fdd-memo-iran-approaches-the-nuclear-threshold.pdf> (accessed November 4, 2024); Toby Dalton and Ariel (Eli) Levite, “Iran's Nuclear Threshold Challenge,” War on the Rocks (May 23, 2024), <https://warontherocks.com/2024/05/irans-nuclear-threshold-challenge/> (accessed November 4, 2024).

declared that “the regime in Iran is a very rational regime” and that “...the Iranian regime is maybe not exactly rational based on what I call Western thinking, but no doubt they are considering all the implications of their actions.”<sup>328</sup>

Inherent in this assessment is the postulation of a bounded or instrumental rationality<sup>329</sup> that Iranian leaders, who despite harboring strong conspiratorial and ideological views,<sup>330</sup> have and continue to draw on in order to ensure regime survival. Indeed, the Islamic Republic’s near half-century existence is a testament to the shrewd manipulation of even religious precepts to further its political survival. For example, there is a saying by the founding father of the Islamic Republic, Ayatollah Ruhollah Khomeini, which frames the pursuit of regime survival as a form of religious devotion and sacrifice. “Preserving the Islamic Republic is more important than preserving one person, even if he is the Imam of the Age,<sup>331</sup> because the Imam of the Age also sacrifices himself for Islam,” said Khomeini.<sup>332</sup> Put differently, protecting the Islamic Republic is akin to protecting Islam itself. Consider this the Islamist version of “the ends justify the means.”

It is imperative that Washington and other actors seeking to deter Tehran or influence its national security decisionmaking not treat a change in tactics as de-escalation writ large or as a shunning of what the regime previously declared as being in its interest. Rather, this recalibration often happens under the guise of what is termed “expediency.”<sup>333</sup> While this word may at face value imply the abdication of principle, when used by regime officials it represents the prioritization of the ultimate principle—the survival of the Islamic Republic. To that end, Iran’s current Supreme Leader Ayatollah Ali Khamenei has said, “Expediency means finding a way to overcome difficult obstacles and continue on the way to reach[ing] the goal.”<sup>334</sup>

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328 “Ex-Israeli spy chief: Bombing Iran a stupid idea,” CBS News (March 8, 2012). <https://www.cbsnews.com/news/ex-israeli-spy-chief-bombing-iran-a-stupid-idea/>. Accessed November 4, 2024.

329 For a critical discussion on rationality, see Stephen Kalberg, “Max Weber’s Types of Rationality: Cornerstones for the Analysis of Rationalization Processes in History,” *The American Journal of Sociology* 85, no. 5 (March 1980). <https://www.bu.edu/sociology/files/2010/03/Weberstypes.pdf>. Accessed November 4, 2024.

330 See, for example, against Israel: Behnam Ben Taleblu, “When Iran Says ‘Death to Israel,’ It Means It,” *The Atlantic* (July 15, 2022). <https://www.theatlantic.com/ideas/archive/2022/07/joe-biden-middle-east-israel-iran/670530/>. Accessed November 4, 2024.

331 The “Imam of the Age” is often a reference to the 12th Imam (a descendant of the Prophet Muhammad through the marriage of his cousin Ali with his daughter Fatima) in Shi’ism that adherents to this branch of Islam believed to be in occultation. The conception of government, political order, and theory of legitimacy in Iran today as established by Ayatollah Khomeini called “Guardianship of the Jurist” is a theocratic form of government created for the faithful that is supposed to rule until the return of this Imam.

332 “بالتسار رستم نامز امام ناچ زا ماظن ظفح ارچ,” Jahan News (December 10, 2022). <https://jahannews.com/vdcfmydcvw6d0ca.igiw.html>. Accessed November 4, 2024.

333 For more on this element in Iranian national security thinking, see Orde F. Kittrie, Bradley Bowman, and Behnam Ben Taleblu, *Deterring Iran’s Dash to the Bomb*, Foundation for Defense of Democracies (August 2024). <https://www.fdd.org/wp-content/uploads/2024/08/fdd-monograph-deterring-irans-dash-to-the-bomb.pdf>. Accessed November 4, 2024.

334 “بالتسار رستم نامز امام ناچ زا ماظن ظفح ارچ,” Khamenei’s website (May 20, 2023). <https://farsi.khamenei.ir/news-content?id=52860>. Accessed November 4, 2024.

## Re-upping Past Deterrence Successes and Lessons with Iran

While there may be only a handful of times when the Islamic Republic has clearly backed down or settled for an outcome it initially derided, none appear to be divorced from the use or threat of military force. Iran's willingness to back down in these situations, however, represents the regime's cognizance of their inability to use existing tools to deter adversaries as well as a cognizance of an adversary's capability, resolve, and interest to escalate or see a conflict through. Taken together, they imply an understanding of thresholds and tradeoffs.

When backing down, Iran may opt for one final but lower-level round of escalation to ensure a face-saving line of retreat.<sup>335</sup> Iranian officials are also likely to employ honor-imbued language to justify their move. As exemplified by Ayatollah Khomeini when accepting a United Nations Security Council ceasefire resolution previously shunned to end the Iran-Iraq War (1980-1988), Khomeini said that "the approval of the UN resolution does not mean that the problem of the war has been solved."<sup>336</sup> Nonetheless, he likened the decision to being "worse than drinking poison"<sup>337</sup> but one that was "based only on the interest of the Islamic Republic."<sup>338</sup>

Elsewhere in the Iran-Iraq War, for example, Tehran adjusted its battle tactics in the face of Iraqi and other battlefield moves to avoid incurring additional costs that if not addressed, could have had ramifications for regime survival. These were plainly deterrence successes for Iraq, Saudi Arabia, and the United States against the Islamic Republic.

For example, halfway through the Iran-Iraq War in 1984, Saudi Arabia established the King Fahd line, another name for the Air Defense Interception Zone (ADIZ) in the upper environs of the Persian Gulf. The goal of the zone was to protect Saudi shipping and oil interests from a widening radius of Iranian harassment. In June 1984, two Iranian F-4 jets ventured past the ADIZ. Despite a warning from two Saudi F-15s, the Iranian F-4s did not change their course. In response, Saudi Arabia fired on an F-4.<sup>339</sup>

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335 J. Matthew McInnis, *The Future of Iran's Security Policy: Inside Iran's Strategic Thinking*, American Enterprise Institute (May 2017), p. 63. <https://www.aei.org/research-products/report/the-future-of-irans-security-policy/>. Accessed November 4, 2024.

336 "'It's Worse Than Poison,' Khomeini Says of Truce: Prodded by Aides, He Agreed to It," Associated Press (July 20, 1988). <https://www.latimes.com/archives/la-xpm-1988-07-20-mn-6124-story.html>. Accessed November 4, 2024.

337 Ibid.

338 Edward Cody, "Khomeini Says Cease-Fire Decision His," *The Washington Post* (July 20, 1988). <https://www.washingtonpost.com/archive/politics/1988/07/21/khomeini-says-cease-fire-decision-his/f3ba713a-4347-4b5b-a0b9-def7ba2a62ee/>. Accessed November 4, 2024.

339 Adapted from: David Crist, *The Twilight War: The Secret History of America's Thirty-Year War With Iran* (New York: The Penguin Press, 2012), p. 162; Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War Volume II: The Iran-Iraq War* (Boulder: Westview Press, 1990), p. 195.



While both sides scrambled fighters, Iran backed down. When presented with air superiority that followed a willingness to use force by Saudi Arabia, Tehran assessed high degrees of capability, resolve, and interest to defend Saudi airspace. Accordingly, Iran never tested the ADIZ for the duration of the war.<sup>340</sup> As noted by then Saudi Ambassador to Washington in conversation with the then U.S. Secretary of Defense, “Resolution prevailed against the Iranian bully!”<sup>341</sup>

Later in the same conflict, although then-Iraqi President Saddam Hussein was responsible for initially broadening the war to include attacks on Persian Gulf shipping (popularly called the Tanker War),<sup>342</sup> Iran’s eventual targeting of Arab and international shipping changed the region in profound ways. Even after a U.S. reflagging operation (codenamed Operation Earnest Will) was undertaken in 1987 to protect Kuwaiti vessels from Iranian missiles and mines,<sup>343</sup> Iran continued to engage in maritime harassment operations.<sup>344</sup> On several occasions in the fall of 1987, the United States fired on IRGC Navy (IRGC-N) small boats and a logistics ship called the Iran Ajr.<sup>345</sup> Also in October 1987, an Iranian Silkworm missile struck a Kuwaiti boat named Sea Isle City.<sup>346</sup> That same month, the U.S. Navy responded with Operation Nimble Archer,<sup>347</sup> a calibrated and retaliatory attack against Iranian oil platforms in the Persian Gulf.<sup>348</sup> Then in April 1988, the USS Samuel B. Roberts was hit by an Iranian mine.<sup>349</sup> In response, the U.S. Navy enacted Operation Praying Mantis.<sup>350</sup> During that operation, the U.S. Navy attacked additional oil platforms<sup>351</sup> and fended off (and even sunk) an

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340 Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War Volume II: The Iran-Iraq War* (Boulder: Westview Press, 1990), p. 195.

341 David Crist, *The Twilight War: The Secret History of America’s Thirty-Year War With Iran* (New York: The Penguin Press, 2012), p. 162.

342 *Ibid.*, pp. 159-161.

343 David Crist, *A Gulf of Conflict: A History of U.S.-Iranian Confrontation at Sea*, The Washington Institute for Near East Policy (June 2009), pp. 2-3. <https://www.washingtoninstitute.org/sites/default/files/pdf/PolicyFocus95.pdf>. Accessed November 4, 2024.

344 *Ibid.*, p. 27.

345 *Ibid.*, p. 6.

346 Bradley Peniston, “Operation Nimble Archer,” Navy Book, <http://www.navybook.com/no-higher-honor/timeline/operation-nimble-archer/> (accessed November 1, 2024); R.K. Ramazani, “Iran’s Resistance to U.S. Intervention in The Persian Gulf,” in Nikki R. Keddie and Mark Gasiorowski, eds., *Neither East Nor West: Iran, The Soviet Union, and The United States*, (New York: Yale University, 1990), p. 43.

347 Bradley Peniston, “Operation Nimble Archer,” Navy Book. <http://www.navybook.com/no-higher-honor/timeline/operation-nimble-archer/>. Accessed November 1, 2024.

348 *Ibid.*; R.K. Ramazani, “Iran’s Resistance to U.S. Intervention in The Persian Gulf,” in Nikki R. Keddie and Mark Gasiorowski, eds., *Neither East Nor West: Iran, The Soviet Union, and The United States* (New York: Yale University, 1990), p. 43.

349 Bradley Peniston, “Operation Praying Mantis,” Navy Book. <http://www.navybook.com/no-higher-honor/timeline/operation-nimble-archer/>. Accessed November 1, 2024.

350 *Ibid.*

351 For rationale behind these targets, see Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War, Volume II: The Iran-Iraq War* (Boulder, CO: Westview Press, 1990), p. 376.



Iranian Frigate (the Sahand), numerous speed-boats/fast-attack craft, a warship (the Joshan), and significantly damaged another Frigate (the Sabalan).<sup>352</sup>

According to historian David Crist, because of the success of Operations Earnest Will and Praying Mantis, “Iran backed off from engaging the U.S. military. Having lost its most capable ships, the Islamic Republic of Iran Navy kept its remaining combatants in port for most of the remainder of the Iran-Iraq War.”<sup>353</sup> While the U.S. Navy’s military pushback clearly threatened the regime and was one of several elements that helped to bring about the end to the Iran-Iraq War, the long-run lesson was that military superiority can contribute to deterrence, but deterrence is not permanent.

Indeed, continuing with Hajizadeh’s aforementioned likening of deterrence to riding a bicycle, “...deterrence does not mean that you reach a certain point, and then you frame it, put it in some corner, and say that you have deterrence. No. You have to preserve it,” he said.<sup>354</sup>

Iranian harassment of international shipping and even U.S. vessels has since resumed, but in a less head-on form. For example, Iran’s IRGC-N harassed U.S. vessels 22 times in 2015, 36 times in 2016, and 17 times in 2017.<sup>355</sup> According to an Axios report from 2020, the Trump administration’s defense department reportedly refused to carry out the White House’s orders to target Iranian fast attack craft harassing U.S. vessels throughout 2017.<sup>356</sup> Though it is unclear on what basis those orders were refused, Iran appears to have used the opportunity to change the nature of its maritime harassment, moving from using fast-attack craft to drones,<sup>357</sup> likely assuming unmanned assets would be an easier tool to manage escalation. However, Iran continued maritime attacks, and from 2021 to mid-2023, it harassed or attacked

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352 Ibid., pp. 376-379; Bradley Peniston, “Operation Praying Mantis,” Navy Book, <http://www.navybook.com/no-higher-honor/timeline/operation-nimble-archer/> (accessed November 1, 2024); Kenneth Pollack, *The Persian Puzzle: The Conflict Between Iran and America* (New York: Random House, 2005), pp. 229, 231.

353 David Crist, *A Gulf of Conflict: A History of U.S.-Iranian Confrontation at Sea*, The Washington Institute for Near East Policy (June 2009), p. 9.

354 Middle East Media Research Institute, “IRGC Aerospace Force Commander General Amir-Ali Hajizadeh: We Do Not Need To Build Missiles That Can Reach U.S. Soil Because There Are Numerous American Assets In The Region; Today’s Iranian Youth Will Live To See The Annihilation Of The Zionist Regime,” Special Dispatch No. 9650 (November 21, 2021). <https://www.memri.org/reports/irgc-aerospace-force-commander-general-amir-ali-hajizadeh-we-do-not-need-build-missiles-can>. Accessed November 4, 2024.

355 Daniel Coats, *Worldwide Threat Assessment of the U.S. Intelligence Community*, Director of National Intelligence (February 13, 2018), p. 20. <https://www.dni.gov/files/documents/Newsroom/Testimonies/2018-ATA---Unclassified-SSCI.pdf>. Accessed November 4, 2024.

356 Jonathan Swan, “Inside Trump’s obsession with Iranian gunboats,” Axios (April 24, 2020). <https://www.axios.com/2020/04/24/trump-iran-gunboats>. Accessed November 4, 2024.

357 Jonathan Swan, “Inside the Oval: How Trump tormented Mattis,” Axios (January 13, 2019). <https://www.axios.com/2019/01/13/donald-trump-jim-mattis-sink-iranian-boats>. Accessed November 4, 2024.

international shipping up to 20 times.<sup>358</sup> And following Hamas's October 7<sup>th</sup> terrorist attack against Israel, Iran-backed Houthi rebels in Yemen used Iran-provided anti-ship weapons to harass international maritime traffic in the Red Sea, Gulf of Aden, and Bab al-Mandeb Strait,<sup>359</sup> which impacted global trade.

Further proof of the Islamic Republic being deterred and making calibrations in its security policy can be found outside the context of the Iran-Iraq War as well. For example, in response to increasing oil sanctions pressure in late 2011 to early 2012<sup>360</sup>—which followed a comprehensive International Atomic Energy Agency (IAEA) report detailing past nuclear weapons-related work by Tehran—numerous Iranian political and security officials began to threaten<sup>361</sup> the closure of the strategic Strait of Hormuz. Then-U.S. Secretary of Defense Leon Panetta's public message that "the United States will not tolerate blocking the Strait of Hormuz"<sup>362</sup> was privately reinforced by a communique to Iran about keeping open the Strait.<sup>363</sup> As oil prices spiked in early January 2012,<sup>364</sup> the United States considered its options. On January 22, 2012, the United States sent the USS Abraham Lincoln carrier, along with a strike group joined by a French and British naval vessel,<sup>365</sup> through the Strait of Hormuz as a show of force. Despite grandstanding about closing the Strait, "Iranian vessels shadowed the carrier group... but stayed within Iranian waters or airspace, and none took action against our fleet," noted Secretary Panetta in his memoirs.<sup>366</sup>

More recently, Iran reportedly ordered a "pause" on attacks against American interests in Iraq and Syria in early 2024 after Iran-backed Shiite Milita Groups (SMGs) in the region killed a U.S. serviceperson via drone attack in Jordan in late January

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358 "U.S. Prevents Iran from Seizing Two Merchant Tankers in Gulf of Oman," U.S. Navy (July 5, 2023). <https://www.navy.mil/Press-Office/News-Stories/Article/3448330/us-prevents-iran-from-seizing-two-merchant-tankers-in-gulf-of-oman/>. Accessed November 4, 2024.

359 For example, "Houthi Kill Innocent Civilians with Missile Attack," CENTCOM (March 6, 2024). <https://www.centcom.mil/MEDIA/PRESS-RELEASES/Press-Release-View/Article/3698591/houthi-kill-innocent-civilians-with-missile-attack/>. Accessed November 4, 2024.

360 Julian Borger, "EU agrees Iran oil embargo," *The Guardian* (January 4, 2012). <https://www.theguardian.com/world/2012/jan/04/eu-iran-oil-embargo-ban>. Accessed November 4, 2024.

361 Ramin Mostafavi, "Iran threatens to stop Gulf oil if sanctions widened," Reuters (December 27, 2011). <http://www.reuters.com/article/us-iran-oil-hormuz-idUSTRE7BQ0I320111227>. Accessed November 4, 2024.

362 "Op-Ed: With Iran, Give Diplomacy A Chance," NPR (January 16, 2012). <https://www.npr.org/2012/01/16/145305296/op-ed-with-iran-give-diplomacy-a-chance>. Accessed January 17, 2025.

363 David Ignatius, "Getting Iran to back down," *The Washington Post* (February 22, 2012). [https://www.washingtonpost.com/opinions/getting-iran-to-back-down/2012/02/21/gIQAMhf8TR\\_story.html?utm\\_term=.41115e4e7d5d](https://www.washingtonpost.com/opinions/getting-iran-to-back-down/2012/02/21/gIQAMhf8TR_story.html?utm_term=.41115e4e7d5d). Accessed November 4, 2024.

364 "Oil prices soar as Iran warns U.S. aircraft carrier away from Persian Gulf," *The Guardian* (January 3, 2012). <https://www.theguardian.com/world/2012/jan/03/oil-prices-up-iran-america-tensions>. Accessed November 4, 2024.

365 "After Iran threat, U.S. aircraft carrier goes through Strait of Hormuz without incident," CNN (January 24, 2012). <http://www.cnn.com/2012/01/22/world/meast/us-iran-aircraft-carrier/index.html>. Accessed November 4, 2024.

366 Leon Panetta, *Worthy Fights: A Memoir of Leadership in War and Peace* (New York: Penguin Books, 2014), p. 405.

2024.<sup>367</sup> The United States responded to the attack in two waves of strikes, one against a reported 85 positions related to SMGs and the IRGC in Iraq and Syria,<sup>368</sup> and the other by targeting a senior SMG leader in Iraq.<sup>369</sup> The “pause” on attacks, as reported by the U.S. Director of National Intelligence (DNI),<sup>370</sup> followed over 160 SMG attacks on U.S. positions between October 2023 and February 2024,<sup>371</sup> and earned a near 20-plus week break in attacks on U.S. positions in the region.

There are also examples of military force deterring Iran’s nuclear progress. Despite political issues surrounding the U.S. invasion of Iraq in 2003, it is clear that the impact of U.S. military success against Ba’athist Iraq—which Iran had fought to a draw in what amounted to the longest conventional conflict of the 20<sup>th</sup> century—weighed heavily on Iran’s thinking.<sup>372</sup> With the revelation of undeclared Iranian nuclear facilities a year earlier, the threat of the use of military force as a tool of counterproliferation by Washington seemed all too real. Indeed, the initial rationale for the U.S. invasion of Iraq was to disarm Saddam Hussein. While a 2007 National Intelligence Estimate (NIE) addressing Iran’s nuclear program remains controversial,<sup>373</sup> it offers a timeline suggesting a correlation between the U.S. invasion and an alleged “halt” order for Iranian weapons activities. This halt order also closely followed exposure of and pressure against the Iranian nuclear program by the international community.<sup>374</sup>

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367 Haley Britzky, Natasha Bertrand, and Oren Liebermann, “Three U.S. troops killed in drone attack in Jordan, more than 30 injured,” CNN (January 29, 2024). <https://www.cnn.com/2024/01/28/politics/us-troops-drone-attack-jordan/index.html>. Accessed November 4, 2024.

368 Oren Liebermann and Natasha Bertrand, “U.S. destroyed or damaged 84 of 85 targets in Iraq and Syria, officials say; no indications of Iranian casualties,” CNN (February 4, 2024). <https://www.cnn.com/2024/02/04/politics/us-damage-assessment-syria-iraq/index.html>. Accessed November 4, 2024.

369 Ahmed Rasheed and Timour Azhari, “Kataib Hezbollah commander killed in Baghdad in U.S. strike,” Reuters (February 9, 2024). <https://www.reuters.com/world/middle-east/sound-loud-blasts-heard-iraqs-baghdad-reuters-witness-2024-02-07/>. Accessed November 4, 2024.

370 “Drone, rocket attacks targeted U.S. forces in Iraq, U.S. officials say,” Reuters (April 22, 2024). <https://www.reuters.com/world/middle-east/drone-rocket-attacks-targeted-us-forces-iraq-us-officials-say-2024-04-22/>. Accessed November 4, 2024.

371 See timeline in Cameron McMillan and Brad Bowman, “American Forces Under Attack by Iran and its Proxies,” Foundation for Defense of Democracies (October 29, 2024). <https://www.fdd.org/iranattacksusforces/>. Accessed November 4, 2024.

372 Paul K. Kerr, *Iran’s Nuclear Program: Status*, Congressional Research Service, RL34544 (December 20, 2019). <https://crsreports.congress.gov/product/pdf/RL/RL34544>. Accessed November 4, 2024.

373 Especially given the way Tehran has been able to continue elements of its weaponization program in an “unstructured” fashion. For more on issues in U.S. intelligence reporting on Iran’s nuclear program over time, see Andrea Stricker and Behnam Ben Taleblu, “Washington Fails—Again—To Gauge Iran’s Nuclear Threat,” Foundation for Defense of Democracies (March 28, 2024). <https://www.fdd.org/analysis/2024/03/28/washington-fails-again-to-gauge-irans-nuclear-threat/>. Accessed November 4, 2024.

374 National Intelligence Estimate, *Iran: Nuclear Intentions and Capabilities*, Office of the Director of National Intelligence (November 2007). [https://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/20071203\\_release.pdf](https://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/20071203_release.pdf). Accessed November 4, 2024.

While proponents of nuclear diplomacy with the Islamic Republic may be able to point to talking to Tehran to achieve the 2013 interim and 2015 final nuclear deals, the Supreme Leader's greenlighting of negotiations in 2013 under the auspices of "heroic flexibility"<sup>375</sup> brings to the fore the regime's expediency principle of altering means to achieve the same strategic ends.

According to Khamenei in 2013, "Flexibility is necessary in many areas... But the wrestler who is wrestling against his opponent and who shows flexibility for technical reasons should not forget who his opponent is and what he is doing. This is the main condition. Our politicians too should know what they are doing, who they are faced with, who their opponent is and which area the opposing side wants to attack. They should pay attention to this point."<sup>376</sup> As a reminder, talks, as well as the deals that talks later begot, did not do away with domestic enrichment in Iran and over time permitted the legal expansion of Iran's nuclear program.

At his core, Iran's Supreme Leader remains skeptical of letting the West use diplomacy to disarm him. Sharing his perspective about what happened in Libya with respect to denuclearization, Khamenei said, "In Libya the people saw their government officials get rid of all their nuclear facilities in the face of western threats, or what they call 'western incentives.' Just the way you give a lollipop to a child, westerners gave 'incentives' to them and they gave up everything" in 2011.<sup>377</sup> It is therefore much more likely that the combination of escalating multilateral sanctions pressure (from the UN, U.S., and EU), Israeli military threats,<sup>378</sup> and potentially even cyber operations<sup>379</sup> had a greater role in shaping Khamenei's nuclear calculus.

In sum, a credible threat and occasionally use of force appears to be the long pole in the tent of examples proving past deterrent successes against the Islamic Republic. But military capability alone is unlikely to succeed the more the matter is deemed to be a core interest to the regime—or if Iranian officials sense from the adversary a lack of political will to use this capability, which has been the case most recently.

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375 "Leader's Speech in Meeting with Commanders of Islamic Revolutionary Guards Corps," Khamenei website (September 17, 2013). <https://english.khamenei.ir/news/1827/Leader-s-Speech-in-Meeting-with-Commanders-of-Islamic-Revolutionary>. Accessed November 4, 2024.

376 Ibid.

377 "Leader's Public Address in Mashhad," Khamenei website (March 21, 2011). <https://english.khamenei.ir/news/1434/Leader-s-Public-Address-in-Mashhad>. Accessed November 4, 2024.

378 Joel Greenberg and Joby Warrick, "U.S. officials concerned by Israel statements on Iran threat, possible strike," *The Washington Post* (February 2, 2012), [https://www.washingtonpost.com/world/national-security/us-officials-concerned-by-israel-statements-on-iran-threat-possible-strike/2012/02/02/gIQA9gpfiQ\\_story.html](https://www.washingtonpost.com/world/national-security/us-officials-concerned-by-israel-statements-on-iran-threat-possible-strike/2012/02/02/gIQA9gpfiQ_story.html) (accessed November 4, 2024); Ronen Bergman, "Will Israel Attack Iran?" *The New York Times* (January 25, 2012), <https://www.nytimes.com/2012/01/29/magazine/will-israel-attack-iran.html> (accessed November 4, 2024).

379 For background on Stuxnet, see David Kushner, "The Real Story of Stuxnet," *Spectrum* (May 24, 2024). <https://spectrum.ieee.org/the-real-story-of-stuxnet>. Accessed November 4, 2024.

The matter of will or resolve for purposes of effective deterrence is of increasing strategic importance in the discourse of Iran's political and military elite. In a documentary for Iranian state television, Hajizadeh highlighted America's lack of will as being central to why the United States was forced to absorb rather than respond to an Iranian ballistic missile attack on American bases in Iraq in 2020.<sup>380</sup> "We learned that power alone is insufficient... Power is one thing. But the will to use it is something else... We don't believe ourselves to be on their level... But in reality this will of the Islamic Republic caused them to step back."<sup>381</sup> Elsewhere, Hajizadeh highlighted this theme by referencing both capability and resolve, declaring, "We have both power and the will to use [this] power."<sup>382</sup>

Generally, things like troop and military deployments, solo and partner drills and exercises, overflights, force-rotations, and other publicly observable military phenomena can help Washington more credibly signal resolve for a kinetic option against Tehran.

But if things weren't complex enough, there is also the chance that Iran may temper America's will to show or use force with Iran's own assessment of its ability to engage in deterrence by punishment. To that end, in 2023 Hajizadeh proclaimed that

...we in the Aerospace Force [have] sought to make the capabilities and war machine of the Americans ineffective; the Americans have a number of superiority [creating] forces that we have either struck or rendered ineffective... It used to be said that [when] this [American] fleet moved towards a country, the ruler of that country would fall. We are now able, by God's grace, to hit American ships up to 2,000 kilometers away.<sup>383</sup>

As Washington devises deterrent strategies for the future, it should be wary of blindly copying everything which was successful in the past. Context and capabilities change, and so should U.S. strategy. That which was a deterrent for the regime against military action or further escalation yesterday may be an incentive for escalation today given changing risk tolerance and evolving military capabilities.

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380 This attack remains the largest ballistic missile attack against U.S. forces in history. See David Martin and Mary Walsh, "Who would live and who would die: The inside story of the Iranian attack on Al Asad Airbase," CBS News, (August 8, 2021). <https://www.cbsnews.com/news/iranian-attack-al-asad-air-base-60-minutes-2021-08-08/>. Accessed November 4, 2024.

381 See comments by Hajizadeh in: « مدن رادزاب » دن نئسم - « ناری ای کشوم نردق - « مدن رادزاب » دن نئسم » Aparat. <https://www.aparat.com/v/a883scu>. Accessed November 1, 2024.

382 « میراد ار نردق یری گراکعب هدارا مه و میراد نردق مه: هداز ی جاح رادرس » Jamaran (August 7, 2021). <https://www.jamaran.news/fa/tiny/news-1520452>. Accessed November 1, 2024.

383 See comments by Hajizadeh in "هواپ زورک کشوم زا ایام نور زا هداز ی جاح رادرس مهم ربخ," Donya-e Eqtesad (February 24, 2024). <https://donya-e-eqtesad.com/fa/tiny/news-3947149>. Accessed November 1, 2024.

## Impediments to Deterrence

A primary impediment to acting on the lessons from the above cases, however, pertains to the language used in the title of this paper. Namely, the strategy may change if one is forecasting deterrence issues against a nuclear-armed Islamic Republic or against a still-nuclearizing Islamic Republic. Assuming the question pertains to a nuclear-armed Islamic Republic, one would have to conceptually square the circle on two fronts.

First, given that U.S. policy under at least four consecutive presidents across both political parties has been to prevent Iran from getting a nuclear weapon,<sup>384</sup> any deterrent effort by Washington following Tehran's acquisition of nuclear weapons will inherently be less effective in shaping the regime's nuclear thinking. Specifically, given the inability or unwillingness of Washington to have used (under this scenario) the military option against Iran as a non-nuclear-weapons state, the necessary credibility and conventional deterrence needed to box in Tehran afterwards will have taken a beating. Moreover, lessons pertaining to deterrence successes against Iran, which may have existed in the pre-nuclear era, now have to be filtered through the status boon that Iran's national security elite would be experiencing for having bested the core element of America's Iran policy for the past two decades.

As a corollary, Iran's newfound nuclear status would have rendered bare the "all options on the table" rhetoric employed by U.S. leaders as cheap talk. This can profoundly complicate the necessary diplomacy and messaging needed with allies and partners in the region following the change in Iran's nuclear status. It can also cast a long shadow over existing U.S. security assurances and military commitments with partners in the region with whom Washington has bilateral defense relationships that includes basing, arms sales, training, and more.

The second matter is more conceptual. Namely, in a situation under which the Islamic Republic would have crossed the nuclear threshold, what was the reason that forced it to abandon its previous nuclear posture? Unpacking this matter can help practitioners make sense of the inputs in Iranian thinking that moved the regime back onto its pre-2002 track that aimed to present the world with an atomic *fait accompli*. Here, causality matters for purposes of being able to influence and deter future Iranian

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384 Most recently by President Joe Biden, see "The Jerusalem U.S.-Israel Strategic Partnership Joint Declaration," The White House (July 14, 2022). <https://www.whitehouse.gov/briefing-room/statements-releases/2022/07/14/the-jerusalem-u-s-israel-strategic-partnership-joint-declaration/>. Accessed November 4, 2024.

drivers of escalation. As Director of National Intelligence James Clapper said in 2012, “Iran’s nuclear decisionmaking is guided by a cost-benefit approach.”<sup>385</sup>

At the time of this writing, there are at least four reasons why Tehran may have decided to continue its hedging strategy and not cross the threshold of acquiring nuclear weapons. They are:

- **Safer succession:** Iran’s supreme leader may believe that after his death, securing his regime, his legacy, and the life of his most politicized son, Mojtaba Khamenei (who is assumed by many to be a contender to succeed him<sup>386</sup>) may require making sure that the most important decision remains in the hands of civilians/clerics and not taken by the military or scientific community. Deferring crossing the weaponization Rubicon until after his death may provide a nascent (and blood-related) successor with leverage to offset the increasing and institutionalized power of Iran’s military and security establishment.
- **Avoiding a cascade of proliferation:** Rival states developing nuclear weapons of their own to establish parity with Iran’s nascent nuclear arsenal would likely rob the regime of some of the status and security dividends of its decades-long atomic quest. Moreover, the Islamic Republic’s unconventional and asymmetrical military doctrine and capabilities emerged in large part because, unlike its neighbors, it did not have access to Western conventional arms markets. Oil-rich states politically aligned with Washington that are equipped with advanced conventional weapons and—at the very least, a nuclear capability—would significantly increase the security challenges Tehran already faces from the pro-American order in the region. Driving this point home in a sharper way for Iran was Saudi Crown Prince Mohammad Bin Salman, who said in a 2018 interview<sup>387</sup> (and confirmed again in 2023<sup>388</sup>) that if Tehran went nuclear, Riyadh would have no choice but to follow suit.
- **Avoiding deterrence by detection:** Although the historical detection, monitoring,

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385 James Clapper, “Unclassified Statement for the Record on the Worldwide Threat Assessment of the U.S. Intelligence Community for the Senate Committee on Armed Services,” Director of National Intelligence (February 16, 2012), p. 6. [https://www.dni.gov/files/documents/Newsroom/Testimonies/20120216\\_SASC%20Final%20Unclassified%20-%202012%20ATA%20SFR.pdf](https://www.dni.gov/files/documents/Newsroom/Testimonies/20120216_SASC%20Final%20Unclassified%20-%202012%20ATA%20SFR.pdf). Accessed November 4, 2024.

386 For more on Mojtaba and succession, see Saeed Ghasseminejad and Behnam Ben Taleblu, “Reading the Tea Leaves on Iran’s Other ‘Election,’” *The National Interest* (April 1, 2024). <https://nationalinterest.org/feature/reading-tea-leaves-iran%E2%80%99s-other-%E2%80%9Celection%E2%80%9D-210344>. Accessed November 4, 2024.

387 “Saudi Arabia pledges to create a nuclear bomb if Iran does,” BBC News (March 15, 2018). <https://www.bbc.com/news/world-middle-east-43419673>. Accessed November 4, 2024.

388 Julian Borger, “Crown prince confirms Saudi Arabia will seek nuclear arsenal if Iran develops one,” *The Guardian* (September 21, 2023). <https://www.theguardian.com/world/2023/sep/21/crown-prince-confirms-saudi-arabia-seek-nuclear-arsenal-iran-develops-one>. Accessed November 4, 2024.



and verification<sup>389</sup> track record of the U.S. intelligence community with respect to global nuclear weapons programs leaves something to be desired, a combination of U.S. and Israeli detection efforts through assumedly national technical means and various intelligence methods has been able to, over the past two decades, enable a political spotlight<sup>390</sup> to impede Iran's nuclear progress or make efforts at justifying this progress by Tehran harder.<sup>391</sup> Earlier this summer, for example, both the United States and Israel detected activity in Iran "that could be used for the production of a nuclear weapon." Washington reportedly cited this in a private message it sent to Tehran.<sup>392</sup> Coupling this with Israel's 2018 theft of Tehran's "atomic archive" and comments by former officials in the Islamic Republic about the level of Mossad penetration in their country,<sup>393</sup> one reason for Tehran not crossing the finish line may be, quite frankly, due to fears of getting caught.

- **Avoiding punishment:** A corollary to fears by regime elites of getting caught might be fearing the consequences of getting caught and not being able to withstand the costs. If Iran's entire obsession with deterrence is rooted in a desire for regime survival, then bringing a hot war onto Iranian territory would be the most dangerous thing for Tehran's theocrats. While talk of the military option remains politicized in Washington, this may not necessarily be how the Islamic Republic's conspiratorial nature treats the matter. Tehran may still assess that Washington would resort to using force against its program, either alone or in concert with Israel, if detected as dashing for the bomb.

None of this is to imply that deterring a nuclearizing Iran with said hedging strategy has been easy. Over the last two decades, the regime has intensified the threats it poses to international peace and security and only on select occasions paid a high

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389 U.S. Department of Defense, *Task Force Report: Assessment of Nuclear Monitoring and Verification Technologies*, Defense Science Board (January 2014), p. 2, <https://dsb.cto.mil/wp-content/uploads/reports/2010s/NuclearMonitoringAndVerificationTechnologies.pdf> (accessed November 4, 2024); Alexander H. Montgomery and Adam Mount, "Misestimation: Explaining U.S. Failures to Predict Nuclear Weapons Programs," *Intelligence and National Security* 29, no. 3 (2014), <https://doi.org/10.1080/02684527.2014.895593> (accessed November 4, 2024).

390 For example, in 2002, an Iranian opposition group revealed the site of an Iranian enrichment facility at Natanz showing satellite imagery but came in possession of the imagery via an intelligence leak. See Jeffrey Lewis, "NCRI Did Not Discover Natanz," *Arms Control Wonk* (October 28, 2006). <https://www.armscontrolwonk.com/archive/201274/ncri-did-not-discover-natanz/>. Accessed November 4, 2024.

391 For more on the case of the United States and its European partners exposing Iran's subterranean Fordow facility in 2009, see "Statements By President Obama French President Sarkozy And British Prime Minister Brown On Iranian Nuclear Facility," *The White House* (September 25, 2009). <https://obamawhitehouse.archives.gov/the-press-office/2009/09/25/statements-president-obama-french-president-sarkozy-and-british-prime-mi>. Accessed November 4, 2024.

392 Barak Ravid, "Scoop: U.S. privately warned Iran over suspicious nuclear activities," *Axios* (July 17, 2024). <https://www.axios.com/2024/07/17/iran-nuclear-program-research-warning>. Accessed November 4, 2024.

393 See comments by former President Ahmadinejad and former Intelligence Minister Ali Younesi in, respectively, "Head of Iranian unit countering Mossad was Israeli agent, says ex-president Ahmadinejad," *The Times of Israel* (October 1, 2024). <https://www.timesofisrael.com/head-of-iranian-unit-countering-mossad-was-israeli-agent-says-ex-president-ahmadinejad/> (accessed November 4, 2024); "Ex-Intelligence Minister Says Iran Officials Should Fear Mossad," *Iran International* (June 29, 2021), <https://old.iranintl.com/en/world/ex-intelligence-minister-says-iran-officials-should-fear-mossad> (accessed November 4, 2024).



price for these transgressions. The consistency seen in Iranian foreign and security policy in the face of an inconsistent American approach means that Tehran is unlikely to be compelled to abandon course in the short run. Iranian decisionmakers are also taking proactive steps to shape, limit, and undermine future American efforts to contain or roll back its regional influence and nuclear program. In the regime's assessment, "the America of today is not the America of the past 10, 20, or 30 years,"<sup>394</sup> declared IRGC Chief Hossein Salami one month after the U.S. withdrawal from Afghanistan in 2021. The ability of Tehran to enact policies free from meaningful pushback exposes a credibility gap at the heart of U.S. policy, a policy that has failed to deny the Islamic Republic the benefits of its current course.

In the region, Iranian leaders benefit from the fact that they can exploit or "manage" chaos better than most of their adversaries and often only need to threaten to make a situation worse in order to force adversaries to accommodate to its position. And on the nuclear front, Iran has been able to effectively wield horizontal and vertical escalation, often in conjunction with efforts to limit international monitoring and verification. Taken together, the increasing nuclear facts on the ground and lessened visibility into these facts creates angst over future moves, which the regime is then able to politically and diplomatically weaponize for concessions or use to blunt meaningful pressure.

For example, on the nuclear front, Iran has been enriching and stockpiling highly enriched uranium at the 60% purity level since April 2021.<sup>395</sup> The threat to enrich to this level was made over a decade ago by regime officials.<sup>396</sup> But Iran had likely assumed then that doing so would have been sufficient to trigger military action or at the very least significant economic pressure. However, faced with a different international environment in 2021—and up until the present day—the move failed to spur the United States and its European partners to snap back<sup>397</sup> and restore UN sanctions on Iran (as of November 2024). The same can be said for Iran's provision of drones to Russia for use against Ukraine starting in 2022, as well as Iran's transfer of ballistic missiles to Russia in 2024, a move which marked the furthest Iranian proliferation of ballistic missiles to another state in history.

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394 See comment by Salami in "بئس اهدرك رىى غت تردق نزاوت/دوب هئ احضتفم نائسن اغفا زا اكىرم آ جورخ: ىمالس رادرس" Iranian Students News Agency (September 22, 2021). <https://www.isna.ir/news/1400063123361/بئس-ا-اكىرم-آ-جورخ-ىمالس-رادرس>. Accessed November 1, 2024.

395 Jon Gambrell, "Iran starts enriching uranium to 60%, its highest level ever," Associated Press (April 17, 2021). <https://apnews.com/article/iran-uranium-enrichment-60-percent-ed89e322595004fddc65fd4e31c1131b>. Accessed November 4, 2024.

396 Olli Heinonen, "Nuclear Submarine Program Surfaces in Iran," Belfer Center for Science and International Affairs (July 23, 2012). <https://www.belfercenter.org/publication/nuclear-submarine-program-surfaces-iran>. Accessed November 4, 2024.

397 Richard Goldberg, "FAQ: The 'Snapback' of UN Sanctions on Iran," Foundation for Defense of Democracies (July 9, 2020). <https://www.fdd.org/wp-content/uploads/2020/07/fdd-backgrounder-faq-the-snapback-of-un-sanctions-on-iran.pdf>. Accessed November 4, 2024.

Iran also benefits from an increased military capacity which stems from a coalition of terror militias and proxy armies across the Middle East that it terms “the Axis of Resistance,” as well as from a large inventory of mortars, rockets, drones, cruise missiles, ballistic missiles, and anti-ship weapons. Both serve to increase the costs of conflict for an increasingly risk-averse United States—a country whose “image”<sup>398</sup> of war with the Islamic Republic is expensive, uncertain, and protracted. Tehran’s bolstering of its proxy and long-range strike capabilities has given it a limited-military option while simultaneously denying such an option for its adversaries.<sup>399</sup>

Iran’s nuclear escalation and support for mounting regional instability are, therefore, akin to dials which can be turned up to threaten, coerce, deter, or punish adversaries. The logic of imposing costs to bolster deterrence against the regime is to get the leadership to see that it has more to lose by even incrementally turning up the dial, and conversely, could feel safer by turning the dial back. Washington’s inability (or unwillingness) to affect a new political consensus to better deter Iran as a non-nuclear weapons state does not bode well for it to be able to do so in the face of a nuclear-armed Islamic Republic.

Here, one need not imagine the Islamic Republic and the risks it might take when in possession of weapons of mass destruction (WMD) as this already happened when the Islamic Republic previously used WMD of a different kind amid its bloody war with Iraq in the 1980s. Iran had “responded in kind”<sup>400</sup> to several rounds of Iraqi chemical attacks against Iranian positions and after having developed a chemical weapons program in 1983, Iran first employed use of the weapon in 1987.<sup>401</sup> Also in 1987, Iran transferred chemical weapons as part of a larger deal with Muammar al-Ghaddafi’s Libya amid his war with Chad. Iran’s undeclared transfer to date is what puts it in noncompliance with the Chemical Weapons Convention (CWC).<sup>402</sup>

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398 Adapted the concept of the “image” of war from Alexander L. George, *Forceful Persuasion: Coercive Diplomacy as an Alternative to War* (Washington, DC: United States Institute for Peace, 1991), pp. 35-37.

399 This is a part of deterrence by punishment. For more, see Shahram Chubin, *Command and Control in a Nuclear-Armed Iran*, The Institut Français des Relations Internationales, Proliferation Papers 45 (2013), p. 15. [https://www.ifri.org/sites/default/files/migrated\\_files/documents/atoms/files/pp45chubin.pdf](https://www.ifri.org/sites/default/files/migrated_files/documents/atoms/files/pp45chubin.pdf). Accessed November 4, 2024.

400 For more on how Iran employed this philosophy when fighting during the Iran-Iraq War, see Behnam Ben Taleblu, *Arsenal: Assessing the Islamic Republic of Iran’s Ballistic Missile Program*, Foundation for Defense of Democracies (February 2023). <https://www.fdd.org/wp-content/uploads/2023/02/fdd-monograph-arsenal-assessing-iran-ballistic-missile-program.pdf>. Accessed November 4, 2024.

401 Director of Central Intelligence, “Impact and Implications of Chemical Weapons Use in The Iran-Iraq War,” Interagency Intelligence Memorandum (April 1988), p. 13. [https://www.cia.gov/readingroom/docs/DOC\\_0001030207.pdf](https://www.cia.gov/readingroom/docs/DOC_0001030207.pdf). Accessed November 4, 2024.

402 U.S. Department of State, *2020 Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments (Compliance Report)*, Bureau of Arms Control, Verification and Compliance (2020). [https://2017-2021.state.gov/2020-adherence-to-and-compliance-with-arms-control-nonproliferation-and-disarmament-agreements-and-commitments-compliance-report-2/#\\_Toc43298164](https://2017-2021.state.gov/2020-adherence-to-and-compliance-with-arms-control-nonproliferation-and-disarmament-agreements-and-commitments-compliance-report-2/#_Toc43298164). Accessed November 1, 2024.

That history alone means that there is a chance that the Islamic Republic might be willing, under certain conditions, to potentially use or transfer other forms of WMD as well. As the U.S. intelligence community cautioned after the Iran-Iraq War, the “moral and possibly religious”<sup>403</sup> prohibitions the regime harbored were lifted when faced with changing wartime considerations, leading to chemical weapons use. The same could happen in the various Middle Eastern conflicts of today with respect to the regime’s nuclear program.<sup>404</sup>

Worryingly, this record heightens the concern over existing deterrence failures that would be accentuated should the regime be in possession of a nuclear arsenal. Take, for example, Iran’s April 2024 and October 2024 missile strikes against Israel. While historic, and also largely intercepted, thanks to U.S. and Israeli air and missile defenses, at least five missiles made their way through Israeli defenses in April,<sup>405</sup> and at least 30 struck an airbase in October.<sup>406</sup>

Lest we forget, the projectiles Iran fired were medium-range ballistic missiles (MRBMs) with reported ranges and warhead weights that exceed the Missile Technology Control Regime’s thresholds of a strategic or nuclear-capable system.<sup>407</sup> As the U.S. intelligence community assessed in 2012, “Iran would likely choose missile delivery as its preferred method of delivering a nuclear weapon” and that many of its ballistic missiles are “inherently capable of carrying a nuclear payload.”<sup>408</sup> Seen in this light, Iran may have been signaling the potential to carry out a nuclear first strike against Israel. Couple this signaling with the litany of comments from Iranian officials over the years threatening to destroy Israel—such as Rafsanjani who said that “the use of one

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403 Director of Central Intelligence, “Impact and Implications of Chemical Weapons Use in The Iran-Iraq War,” Interagency Intelligence Memorandum (April 1988), p. 13. [https://www.cia.gov/readingroom/docs/DOC\\_0001030207.pdf](https://www.cia.gov/readingroom/docs/DOC_0001030207.pdf). Accessed November 4, 2024.

404 Behnam Ben Taleblu, “Israel’s strike has Iran facing a stark nuclear option,” *The Hill* (November 2, 2024). <https://thehill.com/opinion/4966725-israel-strikes-iran-missile-production/>. Accessed November 4, 2024.

405 Haley Ott, “What Iran launched at Israel in its unprecedented attack, and what made it through the air defenses,” *CBS News* (April 16, 2024). <https://www.cbsnews.com/news/iran-israel-attack-what-weapons-launched-how-air-defenses-worked/>. Accessed November 4, 2024.

406 Geoff Brumfiel, “Satellite images show dozens of Iranian missiles struck near Israeli air base,” *NPR* (October 4, 2024). <https://www.npr.org/2024/10/04/nx-s1-5140058/satellite-images-dozens-iranian-missiles-struck-near-israeli-air-base>. Accessed November 4, 2024.

407 “The Missile Technology Control Regime,” *Arms Control Association*. <https://www.armscontrol.org/specialprojects/nnp/MTCR>. Accessed November 4, 2024.

408 James Clapper, “Unclassified Statement for the Record on the Worldwide Threat Assessment of the U.S. Intelligence Community for the Senate Committee on Armed Services,” Director of National Intelligence (February 16, 2012), p. 6. [https://www.dni.gov/files/documents/Newsroom/Testimonies/20120216\\_SASC%20Final%20Unclassified%20-%202012%20ATA%20SFR.pdf](https://www.dni.gov/files/documents/Newsroom/Testimonies/20120216_SASC%20Final%20Unclassified%20-%202012%20ATA%20SFR.pdf). Accessed November 4, 2024.

atomic bomb in Israel leaves nothing left,”<sup>409</sup> or Khamenei who has called Israel “a cancerous tumor” that “will undoubtedly be uprooted and destroyed”<sup>410</sup>—and the logic underwriting deterrence against the Islamic Republic begins to wane.

Detering a nuclear-armed Islamic Republic would heighten the extant tensions in the Middle East in profound ways. For example, prudence would require every missile launch to be assessed as a nuclear one, something which would introduce extraordinary risks and would strain America’s existing conventional apparatus of deterrence by denial in the region. Amid all the permutations that could result from such a deterrence failure, however, a sense of emboldenment from Iran will be the most challenging to deal with.

Abroad, Tehran could be more inclined to bolster the position and capabilities of its proxy forces, using the region to counter efforts by America to constrain its nuclear options. The Islamic Republic has a history of being able to both engage in, as well as manage, cross-domain escalation. Additionally, Iran’s newfound nuclear status might lead to more local initiatives by proxy forces against the United States and its regional allies to perpetuate a crisis in the hopes of having their patron now settle scores on their behalf.

Similarly, the thinking that the Islamic Republic would rest on its laurels after attaining a small nuclear arsenal to merely secure its regime are torpedoed by the activities it undertook—as well as Washington’s failures to deter it—over the past decade. During that time, Iran benefited from a cocktail of proxies and projectiles that effectively functioned as a conventional deterrent capable of capping the escalation ladder and limiting the prospects for direct retaliation against Iranian territory when confronted with nuclear escalation or Iran-backed terrorism. Conversely, this feeling of security led to an intensification of all the threat vectors, be it nuclear, missile, military, or cyber, that we now face from the Islamic Republic rather than a more restrained regime.

Internally, the challenges inherent in deterring a nuclear-armed Islamic Republic would be magnified by the ascendance of an increasingly hardline and younger generation of Islamic Revolutionary Guards Corps (IRGC) veterans.<sup>411</sup> For these individuals, their reference point against the United States and the West would not be the Iran-Iraq War but rather the Global War on Terror, the Iraq War, and the post-Arab Spring collapse of

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409 “دناوخ رصاعم خیرات هشداخ نیرتدب ار لی یارسا عورشمان تتلود لیگشت یناجنسفر” Islamic Republic News Agency (December 14, 2001). <https://www.irna.ir/news/5618363/هشداخ-نیرتدب-ار-لی-یارسا-عورشمان-تتلود-لیگشت-یناجنسفر>. Accessed November 1, 2024.

410 Amir Vahdat And Jon Gambrell, “Iran leader says Israel a ‘cancerous tumor’ to be destroyed,” Associated Press (May 22, 2020). <https://apnews.com/article/a033042303545d9ef783a95222d51b83>. Accessed November 4, 2024.

411 Ali Alfoneh, “Generational change within IRGC adds to tensions,” The Arab Weekly (October 21, 2018). <https://theArabweekly.com/generational-change-within-irgc-adds-tensions>. Accessed November 4, 2024.

the Middle Eastern state system. As scholars tracing the evolution of messianism—or more technically correct, Mahdism—in Iran’s security forces indicate, the ideological and political indoctrination of this cadre has been significant and will have ramifications for future Iranian security policy.<sup>412</sup> This will especially ring true as they attain mid-to-higher level leadership positions and create a constituency for escalation in the hopes of achieving ideological rather than strategic aims to potentially include an apocalyptic end-of-days scenario. Recently, the chief of the Supreme Leader’s office for political-ideological affairs, when promising a third Iranian missile operation against Israel claimed that “the undeniable truth of our world today is that humanity is preparing for the appearance of the savior of the end of time based on Quranic sources, narratives, and objective political facts.”<sup>413</sup>

As a corollary, the ascension of this generation would make communicating red lines or engaging in signaling increasingly complex given that signaling is most successful when there is mutual intelligibility by each audience about the moves being used to convey a certain message.<sup>414</sup> A misperceived move or message by an emboldened, increasingly messianic, and zealous military cadre could easily cascade through an unclear command and control apparatus with devastating effects.

## Impact of the Present

To be clear, deterring Iran in the future will have to draw on the lessons of the present as much as the past. Currently, the Islamic Republic is making and breaking history in the Middle East amid its conflict with Israel. 2024 has seen Iran, currently a non-nuclear weapons state, thrice attack the territory of nuclear-weapons states (Pakistan once, and Israel twice) using ballistic missiles launched from its own territory. There is no precedent for such a thing in history.

This increased risktaking is not born of a vacuum, but within the shifting geopolitical sands of the region and within Iran itself. Iran resumed peacetime and overt ballistic missile operations launched from its own territory starting in 2017 after a near two-

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412 See, for example, Saeed Golkar and Kasra Aarabi, *Iran’s Revolutionary Guard and the Rising Cult of Mahdism: Missiles and Militias for the Apocalypse*, Middle East Institute (May 2022). <https://www.mei.edu/sites/default/files/2022-05/Iran%E2%80%99s%20Revolutionary%20Guard%20and%20the%20Rising%20Cult%20of%20Mahdism-%20Missiles%20and%20Militias%20for%20the%20Apocalypse%20.pdf>. Accessed November 4, 2024.

413 “بشما هار رد «۳ قداص مدعو» / ادراد رارق ینامزلارخاً طوارش رد ناهج” Defa Press (November 3, 2024). <https://dnws.ir/002wss>. Accessed November 4, 2024.

414 The most important contribution on this is Robert Jervis, *Perception and Misperception in International Politics* (Princeton, NJ: Princeton University Press, 1976).

decade hiatus.<sup>415</sup> But up until its April 2024 and October 2024 strikes against Israel, it had never fired ballistic missiles from its own territory at a defended target. Being willing to escalate a conflict from out of the shadows and below the threshold for its adversary's use of force to directly fire ballistic missiles at the country with the most robust layered air-and-missile defense architecture in the Middle East represents a geopolitical earthquake. It also continues to have real-world ramifications for deterrence because Iran does not appear to have been deterred by Israel's more precise and impactful retaliations<sup>416</sup> against military targets on Iranian territory in response to the regime's April and October attacks.<sup>417</sup>

Moreover, the inability of Iran's two direct rounds of missile attacks against Israel to create, in the words of the IRGC, a "new equation"<sup>418</sup> for deterrence is leading to increased nuclear saber rattling. Faced with a devaluing of its conventional deterrent strategy, which includes proxies and projectiles, decisionmakers in Tehran may act on the crescendo of internal voices who throughout 2024 have been calling for a change in the country's nuclear doctrine.<sup>419</sup> One parliamentarian even expressed regret for Tehran not having weaponized earlier, alleging that Tehran would have been able to extend a nuclear umbrella over its proxies to save the lives of Hamas and Hezbollah leaders targeted by Israel.<sup>420</sup>

Following this crescendo, in November 2024, Khamenei appears to have intoned a nuclear option without saying so outright. "When confronting America," he declared that "everything that should and could be done will be done for the preparation of the

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415 For more on the implications of Iran's increasing ballistic missile use, see Behnam Ben Taleblu, "Ballistic Missiles Allow Iran to Act More Boldly," *The Wall Street Journal* (March 4, 2024). <https://www.wsj.com/articles/ballistic-missiles-allow-iran-to-act-more-boldly-e3bb53a6>. Accessed November 4, 2024.

416 David Albright, Sarah Burkhard, Victoria Cheng, Spencer Faragasso, Mohammadreza Giveh, and the Good ISIS Team, "Assessment of Israeli Strike on Iran near Esfahan," Institute for Science and International Security (April 23, 2024), <https://isis-online.org/isis-reports/detail/assessment-of-israeli-strike-on-iran-near-esfahan> (accessed November 4, 2024); Susannah George and Jarrett Ley, "Iran shrugs off Israeli strikes, but says little about attack's targets," *The Washington Post* (October 26, 2024), <https://www.washingtonpost.com/world/2024/10/26/iran-israel-attack-tehran/> (accessed November 4, 2024).

417 At the time of this writing (November 2, 2024), Iran is reportedly considering responding against Israel via Iraq. See Barak Ravid, "Iran preparing major retaliatory strike from Iraq within days, Israeli intel suggests," *Axios* (October 31, 2024), <https://www.axios.com/2024/10/31/israel-iran-planning-attack-iraq> (accessed November 4, 2024); Jon Gambrell, "Iran's supreme leader threatens Israel and US with 'a crushing response' over Israeli attack," *Associated Press* (November 2, 2024), <https://apnews.com/article/iran-khamenei-israel-hamas-lebanon-war-30385c3a17d1fca9415eb37db86dc9c5#> (accessed November 4, 2024).

418 "«قدادس مدعو» زاسپ قطنم تالداغ," *Nour News* (April 15, 2024). <https://nournews.ir/n/170383>. Accessed November 4, 2024.

419 "Iran to change nuclear doctrine if existence threatened, adviser to supreme leader says," *Reuters* (May 9, 2024), <https://www.reuters.com/world/middle-east/iran-change-nuclear-doctrine-if-existence-threatened-adviser-supreme-leader-says-2024-05-09/> (accessed November 4, 2024); "Iran MPs call for nuclear deterrence amid tensions with Israel," *Iran International* (October 9, 2024), <https://www.iranintl.com/en/202410096036> (accessed November 4, 2024); Aurora Almendral, Amin Khodadadi, and Andrew Jones, "Iran says it has the capacity to make nuclear weapons; supreme leader threatens U.S. and Israel," *NBC News* (November 2, 2024), <https://www.nbcnews.com/news/world/iran-nuclear-doctrine-change-israel-hezbollah-rcna178406> (accessed November 4, 2024).

420 "نما یگدنز یارب یترورض," *Shargh Newspaper* (October 17, 2024). <https://www.sharghdaily.com/fa/tiny/news-945968>. Accessed November 1, 2024.

Iranian nation,” including “in terms of the military, or in terms of weapons.” Worryingly, he added that, “even now, thank God, officials are busy doing these things.”<sup>421</sup> This hint follows a similar context clue offered by Iran’s supreme leader in a speech following Israel’s October retaliation where he ridiculed those who have prevented for themselves “sensitive tools of power” as a way of buying safety or security from foreign powers.<sup>422</sup> Only with the benefit of hindsight will analysts be able to tell if these statements represented a critical juncture in Iran’s evolving nuclear strategy.

While this paper has not sought to provide the specific military steps needed to deter a nuclear-armed or nuclearizing Islamic Republic,<sup>423</sup> it has highlighted examples from history when Tehran was deterred using conventional means. However, Iran is significantly challenging the straightforwardness of those past deterrence successes today. A trifecta of increasing regime capabilities, an appetite for risktaking, and vulnerabilities magnified by the regional military successes of its adversaries are set to make any significant effort to deter and roll back the Iranian nuclear threat more complex.

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421 “نایوجشناد و نازومآشناد رادی رد تانایب” Khamenei website (November 1, 2024). <https://farsi.khamenei.ir/speech-content?id=58192>. Accessed November 1, 2024.

422 “تینم یادهش یاهداوناخ رادی رد تانایب” Khamenei website (October 27, 2024). <https://farsi.khamenei.ir/speech-content?id=58113>. Accessed November 1, 2024.

423 That has been done succinctly elsewhere: see Orde F. Kittrie, Bradley Bowman, and Behnam Ben Taleblu, *Deterring Iran’s Dash to the Bomb*, Foundation for Defense of Democracies (August 2024), <https://www.fdd.org/wp-content/uploads/2024/08/fdd-monograph-deterring-irans-dash-to-the-bomb.pdf> (accessed November 1, 2024); Michael Eisenstadt, *Not By Sanctions Alone: Using Military And Other Means To Bolster Nuclear Diplomacy With Iran*, The Washington Institute for Near East Policy (July 2013), [https://www.washingtoninstitute.org/sites/default/files/pdf/StrategicReport13\\_Eisenstadt2.pdf](https://www.washingtoninstitute.org/sites/default/files/pdf/StrategicReport13_Eisenstadt2.pdf) (accessed November 1, 2024).

# Chapter 12: The Limited Prospects for U.S. Extended Deterrence in the Middle East

Greg Weaver and Asmeret Asghedom<sup>424</sup>

## Introduction

There is wide consensus among experts<sup>425</sup> that Iran is probably technically capable of producing a nuclear bomb,<sup>426</sup> and the decision to do so hinges on its internal political calculations regarding the potential impacts of doing so. The combination of Iran's missile capabilities,<sup>427</sup> speculation that Iran has a covert nuclear weaponization program, and rumors of consultations with North Korea have fueled concerns for years that Iran could quickly cross the threshold and move to weaponization. However, the timeline to weaponization is uncertain, especially given recent damages to Iran's military sites, including a nuclear facility, after Israel's retaliatory attack in late October 2024.<sup>428</sup>

The real possibility that Iran can become a nuclear-armed weapons state is the principal threat in the Middle East that should prompt U.S. decisionmakers to seriously consider an expansion of its extended nuclear deterrence commitments

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424 The authors are grateful to Paige Gasser for comments and feedback on a draft of this paper.

425 David Albright, *How quickly could Iran make nuclear weapons today?*, Institute for Science and International Security (January 8, 2024), <https://isis-online.org/isis-reports/detail/how-quickly-could-iran-make-nuclear-weapons-today> (accessed October 14, 2024); "Iran's Nuclear Timetable: The Weapon Potential," Iran Watch (September 18, 2024), <https://www.iranwatch.org/our-publications/articles-reports/irans-nuclear-timetable-weapon-potential> (accessed October 14, 2024); Orde Kittrie, Bradley Bowman, and Behnam Ben Talebu, *Deterring Iran's Dash to the Bomb* (Washington, DC: FDD, 2024), <https://www.fdd.org/analysis/2024/08/29/deterring-irans-dash-to-the-bomb/> (accessed October 14, 2024).

426 Also see IAEA Director General's remarks on June 3, 2024: "Iran's stockpile of enriched uranium continues to increase, including that enriched up to 60%. The Agency has lost continuity of knowledge in relation to the production and inventory of centrifuges, rotors and bellows, heavy water and uranium ore concentrate. It has been more than three years since Iran stopped provisionally applying its Additional Protocol and therefore it is also over three years since the Agency was able to conduct complementary access in Iran." See "IAEA Director General's Introductory Statement to the Board of Governors," IAEA (June 3, 2024), <https://www.iaea.org/newscenter/statements/iaea-director-generals-introductory-statement-to-the-board-of-governors-3-june-2024>. Accessed October 14, 2024.

427 "Iran's Missiles: Infographics and Photos," U.S. Institute of Peace, *The Iran Primer* (April 12, 2024), <https://iranprimer.usip.org/blog/2021/feb/17/iran%E2%80%99s-missiles-infographics-and-photos>. Accessed October 14, 2024.

428 Israel's retaliatory attack on Iran's military sites in late October 2024 likely disrupted "Iran's ability to manufacture some advanced ballistic missiles." For more information, see Annika Ganzeveld, "The Consequences of the IDF Strikes into Iran," Institute for the Study of War (November 12, 2024), <https://www.understandingwar.org/backgroundunder/consequences-idf-strikes-iran> (accessed December 17, 2024); Barak Ravid, "Scoop: Israel destroyed active nuclear weapons research facility in Iran, officials say," *Axios* (November 15, 2024), <https://www.axios.com/2024/11/15/iran-israel-destroyed-active-nuclear-weapons-research-facility> (accessed December 17, 2024).



in the region. If Iran were to go from being a threshold to an actual nuclear-armed state, the military balance in the region would be profoundly affected. Iranian regional rivals such as Israel, Saudi Arabia, and the Gulf States would all face a fundamentally different threat than they do today and would likely take steps to counter that threat politically and militarily. A nuclear-armed Iran would also pose a qualitatively new threat to America's NATO allies, though the United States already extends nuclear deterrence to them, including Turkey. Finally, a nuclear-armed Iran would pose a potential nuclear threat to the United States itself.

Given U.S. enduring interests in the Middle East, it's important for U.S. decisionmakers to consider if the United States should extend nuclear protections to its allies and partners in the region to deter a nuclear-armed Iran and prevent a potential cascade of further nuclear proliferation in the region. In this chapter, we evaluate the feasibility of doing so if Iran were to acquire nuclear weapons. First, background on defense and security cooperation between the United States and its allies and partners in the region is provided. Next, we outline key arguments supporting and opposing extending deterrence, who might be under the umbrella, and what form such protection might take. Lastly, we assess the feasibility of the various forms of protection and provide a recommendation for the most practical option.

## Background

Today, the United States formally extends nuclear deterrence to over 30 U.S. allies and partners, via NATO (starting in 1949), bilateral mutual defense treaties with Japan (signed in 1960) and South Korea (signed in 1953), and a mutual defense pact with Australia<sup>429</sup> (signed in 1951).<sup>430</sup> Formal treaty commitments like these require consent from the U.S. Senate. While these treaties do not explicitly state that the United States will or must deploy nuclear weapons to defend or protect their allies, adversaries can surmise that if it is engaging in war with a U.S. treaty ally, U.S. nuclear weapons could come into play.

Through extended deterrence, the United States aims to deter a range of strategic threats from adversaries—primarily, Russia, China, and North Korea—that could threaten the security of its allies. The United States seeks to convince adversaries that the costs it would impose for any adversary's aggressive actions—such as

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429 The 1951 Australia, New Zealand, and United States Security (ANZUS) Treaty faced a significant development in 1986 when the United States suspended its treaty obligations to New Zealand. This suspension occurred after New Zealand declared itself a nuclear-free zone and refused to permit U.S. nuclear-powered submarines to visit its ports. For more, see U.S. Department of State, *The Australia, New Zealand and United States Security Treaty (ANZUS Treaty), 1951*, Office of the Historian, <https://history.state.gov/milestones/1945-1952/anzus>. Accessed October 14, 2024.

430 Anya Fink, *U.S. Extended Deterrence and Regional Nuclear Capabilities*, Congressional Research Service, IF12735 (August 8, 2024). <https://crsreports.congress.gov/product/pdf/IF/IF12735>. Accessed October 14, 2024.

intimidation, coercion, and attacks against U.S. allies—are too high to bear and far exceed any perceived benefits. Closely tied to extended deterrence is the concept of assurance. With assurance, the United States must convince its allies that they are protected, and thereby bolster their willingness to stand up to intimidation and aggression, and reduce allies’ desires to acquire their own nuclear capabilities.<sup>431</sup>

The United States does not have any formal extended deterrence arrangements with countries in the Middle East (except for Turkey, which is a NATO member). Instead, the United States has bilateral defense agreements with several regional allies and partners to boost defense cooperation, including Israel, Saudi Arabia, other Gulf states, Egypt, and Jordan. These agreements are not treaties, and thus can be weakened or abandoned by a new U.S. administration without Senate approval. Additionally, multiple countries in the Middle East and North Africa are among those designated by the United States as a Major Non-NATO Ally (MNNA): Bahrain, Egypt, Israel, Jordan, Kuwait, Morocco, Qatar, and Tunisia. MNNA countries are eligible for a range of privileges dealing with defense procurement, loans, and cooperation. However, MNNA designation does not include extended deterrence commitments.<sup>432</sup>

In recent years, U.S. allies and partners in the Middle East have requested additional assurances from the United States,<sup>433</sup> stemming from anxiety over aggressive behavior from Iran and its proxy groups as seen by the 2019 attack on major Saudi oil facilities<sup>434</sup> and continuous attacks on commercial shipping in the Red Sea and Gulf of Aden.<sup>435</sup> In response to threats from Iran, its proxy groups, and other terrorist groups, the United States has increased its military force posture when needed in and around the Middle East to bolster deterrence and defense in the region.

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431 Justin Anderson, Jeffrey Larsen, and Polly Holdorf, *Extended Deterrence and Allied Assurance: Key Concepts and Current Challenges for U.S. Policy*, U.S. Air Force Institute for National Security Studies, Occasional Paper no. 69 (September 2013). <https://www.usafa.edu/app/uploads/OCP69.pdf>. Accessed October 14, 2024.

432 U.S. Department of State, “Major Non-NATO Ally Status,” fact sheet (May 23, 2021). <https://www.state.gov/major-non-nato-ally-status/>. Accessed October 14, 2024.

433 Jim Garamone, “Milley Says Middle Eastern Nations Want U.S. Involved in Region,” DOD News (November 27, 2019), <https://www.defense.gov/News/News-Stories/Article/Article/2028796/milley-says-middle-eastern-nations-want-us-involved-in-region/> (accessed October 14, 2024); Nadeen Ebrahim, “Biden’s Gulf allies want an ‘ironclad’ security pact with the U.S. Here’s what it might look like,” CNN (October 10, 2023), <https://www.cnn.com/2023/10/02/middleeast/gulf-arab-states-us-security-pact-mime-intl/index.html> (accessed October 14, 2024).

434 Humeyra Pamuk, “U.S. probe of Saudi oil attack shows it came from north – report,” Reuters (December 19, 2019). <https://www.reuters.com/article/world/exclusive-us-probe-of-saudi-oil-attack-shows-it-came-from-north-report-idUSKBN1YN29E/>. Accessed October 14, 2024.

435 U.S. Department of Transportation, “Southern Red Sea, Bab el Mandeb Strait, and Gulf of Aden-Houthi Attacks on Commercial Vessels,” U.S. Maritime Advisory 2024-008 (August 16, 2024). <https://www.maritime.dot.gov/msci/2024-008-southern-red-sea-bab-el-mandeb-strait-and-gulf-aden-houthi-attacks-commercial-vessels>. Accessed October 14, 2024.

## Israel

While the United States does not have a mutual defense treaty with Israel, the United States does provide significant military assistance and support to Israel, including approximately \$3.3 billion in annual military aid, \$500 million annually for joint missile defense programs, and the “Qualitative Military Edge” guarantee.<sup>436</sup> Qualitative Military Edge (QME), a long-standing tradition exercised by the U.S. government, was enshrined into law in October 2008, guaranteeing that U.S. arms sales to the region must preserve Israel’s military edge over its neighbors.<sup>437</sup> According to the Council on Foreign Relations, “QME has also ensured that Israel is the first in the region to receive access to the most sophisticated U.S. military weapons and platforms, such as the F-35 stealth fighter, of which Israel has fifty.”<sup>438</sup>

Following Hamas’ terrorist attack in Israel on October 7, 2023, and the subsequent ongoing conflict, “Congress has enacted over \$12.6 billion in direct Department of State and Defense FY2024 regular and supplemental appropriations for Israel,” according to a July 2024 report from the Congressional Research Service.<sup>439</sup> Amid increased Iranian aggression against Israel, the United States has increased its military presence in the region in hopes of deterring or defending against an Iranian attack. As of August 2024, this included deployments of additional air and ballistic missile defense-capable cruisers and destroyers, an additional fighter squadron, the USS Georgia guided-missile submarine, and the USS Abraham Lincoln carrier strike group to the region, which was in addition to the USS Theodore Roosevelt carrier strike group in the Mediterranean.<sup>440</sup>

## Saudi Arabia

While Saudi Arabia is not under the U.S. extended deterrence umbrella, the two countries have several bilateral security agreements. Security cooperation includes U.S. arms sales to Saudi (from FY2009 through FY2020, foreign military sales

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436 Jonathan Masters and Will Merrow, “U.S. Aid to Israel in Four Charts,” Council on Foreign Relations (May 31, 2024). <https://www.cfr.org/article/us-aid-israel-four-charts>. Accessed October 14, 2024.

437 U.S. Congress, *Title II—United States Arms Exports: Assessment of Israel’s Qualitative Military Edge Over Military Threats*, Public Law 110–429, Sec 201 (October 15, 2008). <https://www.congress.gov/110/plaws/publ429/PLAW-110publ429.pdf>. Accessed October 14, 2024.

438 Jonathan Masters and Will Merrow, “U.S. Aid to Israel in Four Charts.”

439 Jim Zanotti, *Israel: Major Issues and U.S. Relations*, Congressional Research Service, R44245 (July 9, 2024). <https://crsreports.congress.gov/product/pdf/R/R44245>. Accessed October 14, 2024.

440 David Vergun, “U.S. Posturing Assets to Defend Israel, U.S. Forces in Middle East,” DOD News (August 5, 2024). <https://www.defense.gov/News/News-Stories/Article/article/3861991/us-posturing-assets-to-defend-israel-us-forces-in-middle-east/>. Accessed October 14, 2024.

agreements were worth more than \$100 billion),<sup>441</sup> U.S. military training of Saudi forces, advisory support, and intelligence sharing.<sup>442</sup>

Saudi Arabia has opposed an official U.S. military base or permanent military presence in its country out of fear of public backlash, especially from the highly influential Wahhabi religious establishment.<sup>443</sup> However, as of June 2023, about 2,700 U.S. military personnel were deployed to Saudi Arabia, part of the thousands of U.S. military personnel initially deployed there for deterrence purposes following the 2019 attack on Saudi oil facilities.<sup>444</sup>

Western press reports citing unnamed current and former U.S. officials state that Saudi Arabia and the United States are discussing the prospects of a written mutual defense agreement including extended deterrence and U.S. commitments if Saudi Arabia is attacked. The discussions are a part of broader negotiations over a possible Saudi-Israeli normalization agreement—in which Saudi Arabia's conditions for normalization are U.S. security guarantees and civil nuclear cooperation.<sup>445</sup> Saudi Arabia and the United States have not publicly disclosed the details of discussions, and thus, reports are speculative. Speculations range from “a congressionally endorsed affirmation of the U.S.-Saudi alliance” or “continued U.S. arms supplies with ‘NATO-like’ terms for the kingdom.”<sup>446</sup>

Saudi Arabia greatly depends on the United States for military weapons and equipment. According to data collected by the Stockholm International Peace Research Institute (SIPRI), from 2021 to 2023, 71% of the weapons purchased by Saudi were from the United States.<sup>447</sup> The other leading arms suppliers to Saudi are European countries, namely Spain, France, and Germany. Saudi Arabia also purchases some of its military hardware from China, such as drones, and is also domestically

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441 Christopher Blanchard, *Saudi Arabia: Background and U.S. Relations*, Congressional Research Service, RL33533 (October 2, 2023). <https://crsreports.congress.gov/product/pdf/RL/RL33533>. Accessed October 14, 2024.

442 Ibid.

443 David Ottaway, “Should the United States Provide Saudi Arabia a Security Guarantee?” Wilson Center (September 25, 2023). <https://www.wilsoncenter.org/article/should-united-states-provide-saudi-arabia-security-guarantee>. Accessed October 14, 2024.

444 Christopher Blanchard, “Saudi Arabia: Background and U.S. Relations.”

445 Robert Einhorn, *A way forward on a U.S.-Saudi civil nuclear agreement*, Brookings Institution (April 12, 2024). <https://www.brookings.edu/articles/a-way-forward-on-a-us-saudi-civil-nuclear-agreement/#a-mutually-beneficial-agreement-that-minimizes-proliferation-risks>. Accessed October 14, 2024.

446 Christopher Blanchard, “Saudi Arabia: Background and U.S. Relations.”

447 “SIPRI Arms transfers database,” Stockholm International Peace Research Institute (last updated on March 11, 2024). <https://armstransfers.sipri.org/ArmsTransfer/>. Accessed October 14, 2024.

manufacturing ballistic missiles with Chinese assistance.<sup>448</sup> Saudi Arabia has stated a goal of increasing domestic manufacturing of military equipment to make up 50% of its procurement needs by 2030.<sup>449</sup>

## Other Gulf States

The United States participates in multilateral security cooperation with the Gulf Cooperation Council (GCC), which includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates (UAE). In 2006, participating GCC states began a formal dialogue on Persian Gulf security, and in 2012, the United States and GCC partners established a Strategic Cooperation Forum to enhance cooperation on a broad set of political, economic, and military issues.<sup>450</sup> Today, cooperation between the United States and the GCC continues to focus on the integration of unmanned systems and air and missile defense; monitoring and responding to air, maritime, and counterterrorism threats; and intelligence sharing.<sup>451</sup> Moreover, U.S. military personnel are deployed in Kuwait and Qatar, and the U.S. Navy's Fifth Fleet's headquarters are based in Bahrain.<sup>452</sup>

The United States is a major arms supplier to Gulf states. Over the past three years, from 2021 to 2023, purchases of U.S. arms as a share of total arms purchases on average were 67% for UAE, 50% for Qatar, 52% for Kuwait, 98% for Bahrain, and 33% Oman, according to the SIPRI database.<sup>453</sup> Similar to Saudi Arabia, much of the remainder of Gulf states' arms imports came from European countries.

## Egypt

Egypt has been a longtime recipient of U.S. military assistance, amounting to \$50 billion in military grant aid since 1978, and the United States and Egyptian Armed

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448 Bradley Bowman, Orde Kittrie, and Ryan Brobst, *The United States and Saudi Arabia: A Possible Path Forward*, Foundation for Defense of Democracies (April 28, 2023). <https://www.fdd.org/wp-content/uploads/2023/04/fdd-memo-the-united-states-and-saudi-arabia-possible-path-forward.pdf>. Accessed October 14, 2024.

449 Christopher Blanchard, "Saudi Arabia: Background and U.S. Relations."

450 U.S. Senate Committee on Foreign Relations, *The Gulf Security Architecture: Partnership with the Gulf Cooperation Council*, Majority Staff Report, 112th Congress, Second Session (June 19, 2012), <https://www.govinfo.gov/content/pkg/CPRT-112SPRT74603/html/CPRT-112SPRT74603.htm> (accessed October 14, 2024); Mira Rapp-Hooper and Zachary K. Goldman, "Conceptualizing Containment: The Iranian Threat and the Future of Gulf Security," *Political Science Quarterly* 128, no. 4 (2013), pp. 589-616, <https://doi.org/10.1002/polq.12139> (accessed October 14, 2024).

451 Christopher Blanchard, "Saudi Arabia: Background and U.S. Relations."

452 Yair Evron, "Extended Deterrence in the Middle East," *The Nonproliferation Review* 19, no. 3 (2012), pp. 377-390. <https://doi.org/10.1080/10736700.2012.734186>. Accessed October 14, 2024.

453 Stockholm International Peace Research Institute, "SIPRI Arms transfers database."

Forces have conducted joint military exercises called “Bright Star” since 1980.<sup>454</sup> The United States has designated Egypt as a Major Non-NATO Ally (MNNA), and allocates \$1.3 billion per year of foreign military financing for Egypt.<sup>455</sup>

However, U.S.-Egypt relations have become strained since the 2011 uprising and overthrow of President Hosni Mubarak and the 2013 coup that removed elected President Mohamed Morsi. The authoritarian nature of current President Abdel Fattah El-Sisi and reported human rights abuses have led U.S. officials to periodically place restrictions on military aid and withhold advanced weapons sales to Egypt.<sup>456</sup> U.S. arms sales to Egypt as a share of Egypt’s total arms imports have fallen from a five-year average of 48% from 2010 to 2014 to 7% from 2019 to 2023. Egypt has increased arms purchases from Russia and European countries (mainly Germany, France, Italy, and the United Kingdom). In the years prior to Russia’s invasion of Ukraine, Russia was a major supplier of arms to Egypt, accounting for 49% of Egypt’s share of total arms imports from 2017 to 2020. However, from 2020 to 2023, Russia did not export arms to Egypt, according to the SIPRI database.

## Jordan

The United States has had a long history of security cooperation with Jordan going back to the 1960s, which has been enshrined in multiple agreements, including the 1996 Status of Forces Agreement, a 2006 Acquisition and Cross-Servicing Agreement, and a 2021 Defense Cooperation Agreement.<sup>457</sup> The United States designated Jordan as a MNNA in 1996, and provides foreign military financing annually to Jordan, aids the Jordanian Armed Forces, and conducts joint military exercises with it.<sup>458</sup> As of June 2024, there were about 3,800 U.S. military personnel deployed to Jordan assisting with counterterrorism operations. The U.S. military personnel have used Jordanian air bases for “intelligence, surveillance, target acquisition, and reconnaissance (ISR) missions in Syria and Iraq,” and the United States will likely seek to use Jordanian facilities to counter Iranian aggression, as it has recently done in the current conflict with Israel versus Iran and its proxies.<sup>459</sup>

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454 U.S. Embassy in Egypt, “BRIGHT STAR 23 Exercise Highlights Broad U.S.-Egypt Military Partnership and Cooperation,” News & Events (September 1, 2023), <https://eg.usembassy.gov/bright-star-23-exercise-highlights-broad-u-s-egypt-military-partnership-and-cooperation/> (accessed October 14, 2024); Jeremy Sharp, *Egypt: Background and U.S. Relations*, Congressional Research Service, RL33003 (September 12, 2024), <https://sgp.fas.org/crs/mideast/RL33003.pdf> (accessed October 14, 2024).

455 U.S. Department of State, “U.S. Relations With Egypt,” Bilateral Relations fact sheet (April 29, 2022). <https://crsreports.congress.gov/product/pdf/RL/RL33003/124>. Accessed October 14, 2024.

456 David Witty, *The U.S.-Egypt Military Relationship: Complexities, Contradictions, and Challenges*, Washington Institute for Near East Policy, Policy Focus 176 (May 23, 2022). <https://www.washingtoninstitute.org/policy-analysis/us-egypt-military-relationship-complexities-contradictions-and-challenges>. Accessed October 14, 2024.

457 U.S. Department of State, “U.S. Security Cooperation With Jordan,” fact sheet (May 21, 2021). <https://www.state.gov/u-s-security-cooperation-with-jordan/>. Accessed October 14, 2024.

458 Ibid.

459 Jeremy Sharp, “Egypt: Background and U.S. Relations.”

## The Iranian Threat

The largest threat to U.S. allies and partners in the region has been Iran and its proxies. Iran has been a destabilizing actor in the Middle East since the 1979 Iranian Revolution, and its actions in the region have become increasingly aggressive. Iran has amassed a proxy network around the region, labeled the “Axis of Resistance,” including Hamas and Palestinian Islamic Jihad in Gaza and the West Bank, Hezbollah in Lebanon, the Houthis in Yemen, and Iranian-backed militias in Syria and Iraq. Iran provides these groups monetary support, arms transfers, and assists them with adapting to various military technologies, such as drones and missiles, helping these groups to advance their battlefield sophistication.

Iran’s proxies have helped to fuel conflicts in Lebanon, Iraq, Syria, and Yemen, attacked Saudi Arabia’s largest oil facilities with drones and missiles, and continue to disrupt commercial shipping from the Red Sea to the Persian Gulf. Although Iran denies foreknowledge of the October 7, 2023 Hamas attack, there are allegations that Iran helped to plan the Hamas attack on Israel.<sup>460</sup> Since the October 2023 Hamas attack, Iranian-backed militia have conducted over 170 attacks as of late January 2024 targeting U.S. positions in the region, according to the Institute for the Study of War.<sup>461</sup> In April 2024, Iran launched its first direct attack against Israel from Iranian soil, launching over 300 drones and missiles into Israel, and Iran attacked Israel again in October 2024, with a barrage of about 200 ballistic missiles, though most were intercepted in both attacks.<sup>462</sup>

Events over the past year demonstrate Iran’s growing aggression in the region, although Iran’s proxy network and its own defenses have been weakened during its conflict with Israel. Iran’s riskier behavior was likely bolstered by the belief that its latent nuclear capabilities (including its ability to cross the threshold quickly) could help deter large-scale attacks on its homeland.<sup>463</sup> Iran is currently considered to be a nuclear latent state, meaning it has the technical capability and means (nuclear materials, technology, and know-how) to cross the nuclear threshold and become a weapons state if it so chooses to do so. That exact timeline of going from a latent to nuclear-armed state is unknown, though some speculate it could be a matter of months.

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460 Danielle Pletka, “What Is Iran’s Role in the Hamas Attack on Israel?” *Foreign Policy* (October 8, 2023). <https://foreignpolicy.com/2023/10/08/iran-irgc-role-involvement-hamas-attack-israel-gaza-war-hezbollah/>. Accessed October 14, 2024.

461 Nicholas Carl, Ashka Jhaveri, and Alexandra Braverman, *Iran Update, January 28, 2024*, Institute for the Study of War (January 28, 2024). <https://www.understandingwar.org/backgrounder/iran-update-january-28-2024>. Accessed October 14, 2024.

462 Helen Regan, “How might Israel respond to Iran’s missile barrage? Here’s what we know,” CNN (October 2, 2024). <https://www.cnn.com/2024/10/02/middleeast/iran-missile-attack-israel-explainer-intl-hnk/index.html>. Accessed October 14, 2024.

463 Eric Brewer, “Iran’s New Nuclear Threat,” *Foreign Affairs* (June 25, 2024). <https://www.foreignaffairs.com/iran/irans-new-nuclear-threat>. Accessed October 14, 2024.

Iran's acquisition of nuclear weapons would change the military balance and strategic environment in the region, forcing countries in the region that perceive Iran as a threat to make changes needed in their own capabilities to deter or defend against Iran. Iran would certainly use its possession of nuclear weapons to try to achieve its long-term goals of becoming the dominant regional power, ending U.S. presence in the region, and eliminating the state of Israel.<sup>464</sup>

## Arguments Supporting Extending Deterrence

Given the changes in the strategic environment that Iranian nuclear weapons deployment would create, there are at least four reasons that would support the United States extending deterrence to allies and partners in the region if Iran acquired nuclear weapons.

1. Deterrence of Iranian armed aggression against certain U.S. allies and partners in the Middle East
2. Preventing Iranian coercion against those same allies and partners
3. Preventing or constraining a nuclear arms race between Israel and Iran
4. Preventing further nuclear proliferation in the Middle East by states like Saudi Arabia and Egypt

**Deterrence.** A nuclear-armed Iran could be more inclined to use conventional military force against its rivals, believing that its nuclear arsenal protects it from escalation that could threaten the regime's existence. Extending U.S. nuclear deterrence to specific U.S. allies or partners could enhance deterrence against lower-level aggression by demonstrating the U.S. commitment to their security and by preventing Iran from escalating to nuclear use in the event of a failed conventional conflict.

**Preventing coercion.** A nuclear-armed Iran might seek to coerce other states in the region into accommodating its demands. Extending U.S. nuclear deterrence would arguably give such states the confidence to withstand Iranian coercive pressure if they deemed the U.S. commitment credible.

Iran already uses non-nuclear means to coerce states or groups in the region into capitulating to its demands and interests. Iran's primary coercive tactic is projecting

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464 Michael Eisenstadt, "Iran's Gray Zone Strategy: Cornerstone of its Asymmetric Way of War," *PRISM* 9, no. 2 (2021). <https://ndupress.ndu.edu/Media/News/News-Article-View/Article/2541911/irans-gray-zone-strategy-cornerstone-of-its-asymmetric-way-of-war/>. Accessed October 14, 2024.



power and force in the region via proxy groups operating in various Middle Eastern countries. For example, Iran's largest proxy militia group Hezbollah in Lebanon—a U.S.-designated terrorist group—has been able to gain parliamentary seats in the Lebanese government and “controls access to parts of Lebanon and operates inside the country with relative impunity.”<sup>465</sup> If Iran acquired nuclear weapons, it could have greater coercive power in the region, which would support its long-term goals of becoming the dominant regional power, ending U.S. presence in the region, and eliminating the state of Israel.<sup>466</sup>

**Preventing a nuclear arms race.** Iranian acquisition of a credible nuclear arsenal could spark a nuclear arms race between Israel and Iran that could increase tensions across the region. As mentioned above, one of Iran's long-term goals in the region is to eliminate the state of Israel, and multiple high-level Iranian officials have been quoted publicly stating this desire. A credible U.S. extended nuclear deterrence commitment to Israel could provide the Israelis with sufficient confidence to avoid dramatically increasing their own capabilities. However, the Israelis are unlikely to decide to rely solely on such a U.S. commitment and would almost certainly retain, if not increase, such capabilities.

**Preventing further nuclear proliferation.** Iranian acquisition of nuclear weapons would pose existential threats to non-nuclear Iranian rivals across the region. This might lead such states to seek nuclear arsenals of their own. Saudi Arabia is the most likely candidate to attempt to acquire nuclear capabilities were Iran to field a nuclear arsenal, based on statements from Saudi officials that it would acquire nuclear weapons capability if Iran did. Additionally, public polling in Saudi Arabia showed that a majority supported the country acquiring access to nuclear weapons.<sup>467</sup> A U.S. extended nuclear deterrence commitment to such states could convince them to forgo that option, depending on how credible and enduring they felt that commitment to be.

As a side note, this chapter does not consider great power competition as a rationale for U.S. extended deterrence to partners in the Middle East—specifically the notion that U.S. partners in the region might seek protection from China or Russia in the absence of U.S. assurances. While Saudi Arabia has been increasing collaboration with China on the sale and manufacturing of drones and missiles within its borders, experts believe that China “lacks both the political will and the military capability to replace the United States when it comes to countering the Iranian threat” in the region.<sup>468</sup> Additionally,

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465 Clayton Thomas and Jim Zanotti, *Lebanese Hezbollah*, Congressional Research Service, IF10703 (September 20, 2024). <https://crsreports.congress.gov/product/pdf/IF/IF10703>. Accessed October 14, 2024.

466 Michael Eisenstadt, “Iran's Gray Zone Strategy: Cornerstone of its Asymmetric Way of War.”

467 Rafael Loss, “Living in a nuclear-curious world: America's weakening grip on non-proliferation,” European Council on Foreign Relations (February 13, 2024). <https://ecfr.eu/article/living-in-a-nuclear-curious-world-americas-weakening-grip-on-non-proliferation/>. Accessed October 14, 2024.

468 Bradley Bowman, Orde Kittrie, and Ryan Brobst, “The United States and Saudi Arabia: A Possible Path Forward.”

China is a large purchaser of Iranian oil. Furthermore, Russian-Iranian military collaboration has ramped up since the start of Russia's invasion of Ukraine in 2022, and Iran now provides Russia with drones, munitions, artillery shells, and ballistic missiles.<sup>469</sup> Given its deepening military cooperation with Iran, Russian protections to counter Iran can be ruled out, at least in the near term.

## Arguments Opposing Extending Deterrence

Given that the decision to extend deterrence must consider the benefits against the costs for U.S. security and interests, along with the impact on existing U.S. extended deterrence commitments there are at least four reasons opposing extending deterrence to allies and partners in the region, even if Iran were to cross the nuclear threshold.

1. The United States would be overextended
2. Insufficient U.S. stake in the security of Middle Eastern allies and partners
3. The United States would risk entanglement
4. Lack of cultural/political affinity and like-mindedness

**Overextension.** The growing two-peer nuclear threat from Russia and China is straining the existing U.S. extended nuclear deterrence commitments in Europe and Asia.<sup>470</sup> Adding new commitments in the Middle East would only make that strain worse, further increasing U.S. nuclear force requirements at a time when the United States is struggling to meet growing future requirements. In the two-peer environment, the U.S. military must prepare for scenarios in which it will be at war with one peer adversary while having to deter opportunistic aggression from the other, or deter escalation in simultaneous conflicts in two theaters. Operational limitations already exist if there were two simultaneous conflicts involving U.S. allies in Europe and Asia:

The primary operational limitation on the ability of the United States to fight and win in both theaters simultaneously is logistics: the strategic airlift and sealift needed to get required forces where they need to be and then sustain them in combat, with sufficient stocks

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469 Patrick Wintour, "Blinken says Russia has received new ballistic missiles from Iran," *The Guardian* (September 10, 2024). <https://www.theguardian.com/world/article/2024/sep/10/antony-blinken-russia-ballistic-missiles-iran-ukraine>. Accessed October 14, 2024.

470 For more, see "Implications for Extended Deterrence," in CGSR Study Group Report, *China's Emergence as a Second Nuclear Power* (Livermore, CA: Center for Global Security Research, 2023), pp. 47-51. [https://cgsr.llnl.gov/content/assets/docs/CGSR\\_Two\\_Peer\\_230314.pdf](https://cgsr.llnl.gov/content/assets/docs/CGSR_Two_Peer_230314.pdf). Accessed October 14, 2024.

of advanced conventional munitions. There also are critical “low-density, high-demand” U.S. military capabilities that would be in short supply in a two-theater conflict, including bombers; integrated air and missile defenses (IAMD); tanker aircraft; intelligence, surveillance, and reconnaissance (ISR) capabilities; and ASW capabilities.<sup>471</sup>

Recent events in the Middle East have prompted questions about whether the United States is stretched too thin. As an example, on August 11, 2024, the U.S. Defense Secretary ordered the USS Abraham Lincoln carrier strike group to leave Guam and deploy to the Middle East to deter an Iranian large-scale retaliatory attack on Israel, leaving the Indo-Pacific without an aircraft carrier until later in 2024 when a refurbished carrier went to Japan.<sup>472</sup>

**Insufficient U.S. stake.** Another opposing argument is the United States does not have enough stake in the security of Middle Eastern allies and partners to justify extending its nuclear deterrent. The decision to extend nuclear deterrence to another country is fraught with several strategic dilemmas. A U.S. extended nuclear deterrence commitment indicates a willingness to risk nuclear attack on the United States to defend the security of an ally or a partner.

Generally, U.S. interests in the region are the security of U.S. allies and partners, limiting the proliferation of weapons of mass destruction, weakening terrorist groups that could strike the U.S. homeland, maintaining U.S. military bases in the region, and keeping access to energy resources for imports. Those who believe U.S. interests in the Middle East are not strong enough to justify extending a nuclear deterrent might argue that the nuclear proliferation risk (besides Iran) is low and that a nuclear proliferation cascade is unlikely even if Iran acquires nuclear weapons because Saudi Arabia lacks the technical know-how, materials, and equipment; Israel will look to expand nuclear capabilities regardless; Egypt does not view Iran as a significant threat to its homeland; and Turkey already has protections under NATO.

Moreover, given ongoing changes in global energy markets, the U.S. stake in the security of Saudi Arabia and the Gulf States may be insufficient to meet the high bar of extended deterrence. U.S. imports of crude oil from the Persian Gulf (Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the UAE) have dropped to 9% of total U.S. crude oil imports in 2023 from an average of 23% from 2010 to 2015. Much of the decline from the Persian

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471 Greg Weaver and Amy Woolf, *Requirements for nuclear deterrence and arms control in a two-nuclear-peer environment*, Atlantic Council (February 2, 2024). <https://www.atlanticcouncil.org/in-depth-research-reports/report/requirements-for-nuclear-deterrence-and-arms-control-in-a-two-peer-nuclear-peer-environment/#us-deterrence-requirements>. Accessed October 14, 2024.

472 For context, the United States has 11 carriers, but typically only a handful are deployed as the rest are in maintenance or returning from deployment. For more, see Ken Moriyasu, “U.S. sends another carrier from Asia to Middle East, widening Pacific gap,” *Nikkei Asia* (August 7, 2024). <https://asia.nikkei.com/Politics/International-relations/Indo-Pacific/U.S.-sends-another-carrier-from-Asia-to-Middle-East-widening-Pacific-gap>. Accessed October 14, 2024.

Gulf reflects the fall in U.S. crude oil imports from Saudi Arabia, which accounted for 5% of total U.S. crude oil imports in 2023, compared with an average of 15% from 2010 to 2015.<sup>473</sup> The United States does not import natural gas from the Middle East. That being said, it is important to note that even though U.S. oil imports from the Middle East have declined, a disruption of 9% of U.S. oil imports would have a significant impact on U.S. oil supplies and global oil prices. In addition, U.S. allies in Europe also import oil and natural gas from the Middle East, and any disruption in supplies may leave them vulnerable to having to increase imports from Russia to offset the loss.

**Risk of entanglement.** The United States might be concerned that the endemic instability of the region and the lack of reliability of some potential partners might result in the United States being drawn into a potential nuclear conflict unnecessarily. According to the 2024 Global Peace Index, “The Middle East and North Africa (MENA) remains the least peaceful region for the ninth consecutive year.”<sup>474</sup> Extending nuclear deterrence in a region characterized by frequent conflict could create a situation with high risks and low rewards. The likelihood of entanglement is substantial, while the probability of effectively deterring aggression and conflict is low due to the region’s history of conflict, deep-seated tensions, territorial disputes, and religious differences.

**Lack of cultural and political affinity.** U.S. deterrence commitments in Europe and Asia reflect in part the U.S. cultural and political affinity for like-minded democratic states. While Israel meets this test, the governments of Saudi Arabia, the Gulf States, Egypt, and Jordan do not. The Middle East is fraught with authoritarian regimes that lack basic democratic processes and individual freedoms. The only exception is Israel, which is a parliamentary democracy holding free and fair elections.<sup>475</sup> On the other hand, Saudi Arabia is a monarchy where the House of Saud has been the ruling family since the modern state was formed in 1932, maintaining an authoritarian rule over the country.<sup>476</sup>

Similar to Saudi Arabia, Oman and Qatar are absolute monarchies, Kuwait and Bahrain are constitutional monarchies, the UAE is a federation of monarchies, and Jordan is a parliamentary constitutional monarchy.<sup>477</sup> While Egypt claims it is a presidential republic with an elected head of state, it is largely considered to be an authoritarian

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473 U.S. Energy Information Administration, “U.S. Imports by Country of Origin,” Petroleum & Other Liquids. [https://www.eia.gov/dnav/pet/pet\\_move\\_impcus\\_a2\\_nus\\_epc0\\_im0\\_mbbldpd\\_a.htm](https://www.eia.gov/dnav/pet/pet_move_impcus_a2_nus_epc0_im0_mbbldpd_a.htm). Accessed October 14, 2024.

474 Institute for Economics & Peace, *Global Peace Index 2024* (June 2024). <https://www.economicsandpeace.org/wp-content/uploads/2024/06/GPI-2024-web.pdf>. Accessed October 14, 2024.

475 Freedom House, *Israel*, Freedom in the World (2024). <https://freedomhouse.org/country/israel/freedom-world/2024>. Accessed October 14, 2024.

476 CIA, “The World Factbook,” <https://www.cia.gov/the-world-factbook/>. Accessed October 14, 2024.

477 Ibid.

regime as elections are not free and fair, intimidation tactics such as imprisonment are employed against the opposition, and Egypt's current President Abdel Fatah al-Sisi initially came into power by a coup d'état in 2013. In all of these countries, imprisonment of dissidents, oppression of political opposition, the lack of religious freedom, and women's rights issues are common. It is unclear whether the U.S. Senate would consent to ratification of a treaty providing extended nuclear security guarantees to authoritarian regimes like those in the Middle East.<sup>478</sup>

Lastly, reports that some Gulf countries (either the government and/or citizens) provide support to extreme Islamist terrorist groups reflect deep differences in political and cultural affinity with the United States. For example, the Qatari government is known to provide various types of support to extremist Islamist groups like Muslim Brotherhood networks, Hamas, the Taliban, and al Qaeda.<sup>479</sup> In Kuwait, wealthy citizens are known to donate to Islamist terrorist groups.<sup>480</sup> Members of the Saudi Royal Family and various organizations in Saudi Arabia have been criticized for funding extremist groups like al-Qaeda and propagating Wahhabism domestically and abroad.<sup>481</sup>

## Who might be under the umbrella?

Given that Iran is the only threat likely to trigger U.S. deliberations over potentially extending nuclear deterrence to allies or partners in the Middle East, it is also fairly clear which states in the region might seek, and perhaps get, U.S. nuclear protection. Israel tops the list as a "major non-NATO ally" with enduring cultural and political ties to the United States and a demonstrated record of being able to defend itself conventionally. Given Israel's advanced military capabilities, however, the United States might not see a compelling need to extend nuclear deterrence to Israel in a formal way. But, as noted earlier, such a commitment could ease pressures on Israel to engage in a

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478 Asmeret Asghedom et al., "The Nuclear Future of the Middle East," Center for Global Security Research, Workshop Summary Report (May 2024). <https://cgsr.llnl.gov/content/assets/docs/2024-05-nuclear-future-of-the-middle-east-workshop-summary.pdf>. Accessed October 14, 2024.

479 Sam Moore, *An Analysis of Qatari Connections to Illicit Terror Financing and the Resulting Foreign Policy Implications*, The International Affairs Review (December 31, 2019), <https://www.iaar-gwu.org/print-archive/an-analysis-of-qatari-connections-to-illicit-terror-financing-and-the-resulting-foreign-policy-implications> (accessed October 14, 2024); Foundation for Defense of Democracies, "10 Things to Know About Hamas and Qatar," Insight (December 19, 2023), <https://www.fdd.org/analysis/2023/12/19/10-things-to-know-about-hamas-and-qatar/> (accessed October 14, 2024); Michael Rubin, "Biden Should Designate Qatar a Terror Sponsor, Not a Major Non-NATO Ally," *Washington Examiner* (February 1, 2022), <https://www.washingtonexaminer.com/opinion/2328666/biden-should-designate-qatar-a-terror-sponsor-not-a-major-non-nato-ally/> (accessed October 14, 2024).

480 Kenneth Katzman, *Kuwait: Governance, Security, and U.S. Policy*, Congressional Research Service, RS21513 (May 12, 2021). <https://crsreports.congress.gov/product/pdf/RS/RS21513/131>. Accessed October 14, 2024.

481 Matthew Levitt, "Subversion from Within: Saudi Funding of Islamic Extremist Groups Undermining U.S. Interests and the War on Terror from within the United States," Testimony before the Senate Judiciary Subcommittee on Terrorism, Technology, and Homeland (September 10, 2003), <https://www.washingtoninstitute.org/policy-analysis/subversion-within-saudi-funding-islamic-extremist-groups-undermining-us-interests> (accessed October 14, 2024); Farah Pandith, "Extremism Is Riyadh's Top Export," *Foreign Policy* (March 24, 2019), <https://foreignpolicy.com/2019/03/24/farah-pandith-saudi-how-we-win-book/> (accessed October 14, 2024).

nuclear competition with Iran. On the other hand, it is unclear if Israel would want an official, extended deterrence treaty with the United States as it could be perceived as limiting Israel's military options at a time of crisis or war.

Saudi Arabia and other GCC states would also be on the potential recipient list. Over the past few years, there have been press reports stating that Saudi Arabia and the UAE have been separately seeking security guarantees from the United States,<sup>482</sup> and that the United States has been receptive to talks on the matter.<sup>483</sup> While Saudi Arabia is not a "major non-NATO ally," the United States has an interest in maintaining global access to Saudi oil and preventing both Iranian regional dominance and Saudi nuclear proliferation. Saudi Crown Prince Mohammed bin Salman has stated his intention to seek nuclear weapons capabilities if Iran acquires a nuclear weapon.<sup>484</sup> Press reports have also indicated that Saudi Arabia is seeking assistance with its civilian nuclear program as a condition to signing a normalization agreement with Israel.<sup>485</sup>

Egypt, a major non-NATO ally in the Middle East, would also be on the potential recipient list. The primary U.S. motivation here would be to prevent Egypt from acquiring its own nuclear arsenal and avoiding a proliferation cascade. However, some experts believe Egypt does not perceive Iran to be a direct threat and does not fear a direct attack from Iran, and therefore, Iran's acquisition of a nuclear weapon would not prompt Egypt to seek the bomb.<sup>486</sup> Instead, Egypt is more concerned that Iran's acquisition of nuclear weapons will lead to intensified regional instability, along with other immediate issues impacting its security, such as Gaza, Sudan, Ethiopia, and Libya. However, if Egypt perceives a regional proliferation cascade following Iran's acquisition of nuclear weapons, it may consider pursuing its own nuclear capabilities.<sup>487</sup>

Jordan, another major non-NATO ally in the Middle East, might also be on the potential recipient list. Jordan's assistance to the United States to help counter the April 2024

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482 Nadeen Ebrahim, "Biden's Gulf allies want an 'ironclad' security pact with the U.S. Here's what it might look like."

483 Jon Hoffman, "The United States Doesn't Need to Recommit to the Middle East," *Foreign Policy* (July 11, 2022). <https://foreignpolicy.com/2022/07/11/us-uae-defense-agreement-saudi-biden-israel-security/>. Accessed October 14, 2024.

484 Kelsey Davenport, "Saudi Push for Enrichment Raises Concerns," *Arms Control Today* (November 2023). <https://www.armscontrol.org/act/2023-11/news/saudi-push-enrichment-raises-concerns>. Accessed October 14, 2024.

485 Kevin Liptak, "Saudi Arabia looks for security assurances from US as condition for normalizing ties with Israel," *CNN* (March 10, 2023). <https://www.cnn.com/2023/03/10/middleeast/saudi-israel-normalization-conditions-intl/index.html>. Accessed October 14, 2024.

486 Yair Evron, "Extended Deterrence in the Middle East."

487 Asmeret Asghedom et al., "The Nuclear Future of the Middle East."

Iranian attack against Israel has provoked the ire of Iran.<sup>488</sup> Iranian actions already risk stability in Jordan, including Iran's smuggling of "large quantities of rocket launchers, rocket-propelled grenades, sophisticated explosive charges, and other weapons from Syria to Jordan, with many of them intended for transfer to the West Bank." Additionally, Iran's local partners have established "armed cells in Jordan's Ghor Valley and certain refugee camps."<sup>489</sup> Iran and its proxies are recruiting local partners in Jordan to assist with its missions. Additionally, Iran issued a warning ahead of the April 2024 attack, stating that Jordan will be its next target if it intervenes. These actions collectively threaten the stability of Jordan. Thus, Jordan may fear that a nuclear-armed Iran would increase aggressive and coercive actions toward it, leading it to seek a U.S. extended deterrent commitment.

## What Form?

Given that U.S. interests would be threatened by Iranian nuclear proliferation, it is conceivable that a future U.S. administration might decide to extend some form of nuclear deterrence to one or more allies and partners in the region. In this case, what form might a U.S. extended nuclear deterrence commitment take for the Middle East? Generally, there are three potential approaches: bilateral commitments, multilateral commitment, or an ambiguous commitment.

**Bilateral Commitments.** The United States might choose to formally extend nuclear deterrence to one or more individual allies or partners in the region. This would require consent from the U.S. Senate to ratify a mutual defense pact treaty, similar to the Mutual Defense Treaty between the United States and Republic of Korea. Bilateral agreements at the executive level are considered a somewhat ambiguous commitment because they could be discarded by a new U.S. administration.

**Multilateral Commitment.** The United States might choose to formally extend nuclear deterrence to a group of allies or partners in the region. This could be a central element of creating a regional alliance structure, or it could take the form of a commitment to an existing multilateral regional organization, such as the GCC. This would also require consent from the U.S. Senate to ratify a treaty.

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488 David Schenker, "Iran Targets Jordan: The Kingdom Joins the Theocracy's List of Enemies," Washington Institute for New East Policy (June 5, 2024). <https://www.washingtoninstitute.org/policy-analysis/iran-targets-jordan-kingdom-joins-theocracys-list-enemies>. Accessed October 14, 2024.

489 Ehud Yaari, *Hamas and Iran Are Trying to Ignite Israel's Eastern Fronts*, Washington Institute for New East Policy, Policy Watch 3886 (June 20, 2024). <https://www.washingtoninstitute.org/policy-analysis/hamas-and-iran-are-trying-ignite-israels-eastern-fronts>. Accessed October 14, 2024.

**Ambiguous Commitment.** The United States might choose to leverage deliberate ambiguity about its willingness to use nuclear weapons in defense of allies and partners in the Middle East. A model here would be the current U.S. policy on Taiwan. The United States has neither a formal alliance with nor a formal extended nuclear deterrence commitment to Taiwan. Rather, for a number of political reasons, it maintains purposeful ambiguity about whether it would intervene should China take military action against Taiwan. And surely the Chinese recognize that if the United States did intervene, and China and the United States were engaged in a major theater war, U.S. nuclear weapons would come into play.

## **Advisability**

The bilateral and multilateral approaches present political and military challenges that put in question the advisability of formally extending U.S. deterrence to Middle East allies and partners. Concerns about overcommitment and stake, entanglement, and the political reliability of some potential recipients might overcome U.S. concerns about Iranian aggression and coercion, and a nuclear proliferation cascade. In terms of the U.S. nuclear posture, it is highly unlikely the United States would base its nuclear weapons on the territory of any Middle Eastern state. Therefore, the United States might choose to rely on purposeful ambiguity regarding whether and under what circumstances Iranian actions might elicit a U.S. nuclear response. Thus, the ambiguous approach is likely the most advisable option, especially if the planned U.S. nuclear force structure and posture are deemed sufficient to credibly support this strategy of purposeful ambiguity.

## **Bilateral Agreements: Challenges**

Deciding which allies or partners should receive a formal bilateral commitment would be a key challenge. For example, if the United States only extended this to Israel, U.S. partners in the Gulf might feel neglected. Even worse, Gulf states might seek protection elsewhere, such as from a U.S. adversary or seek to develop their own nuclear capabilities. U.S. collaboration with Gulf nations on counterterrorism efforts or intelligence sharing might be affected. On the other hand, if the United States extended separate bilateral agreements to more than one state, for example Israel and Saudi Arabia, that could introduce major complications in the event of another Arab-Israeli war in the future.

Thirdly, Israel, the U.S. top ally in the Middle East, might perceive a formal U.S. extended nuclear deterrence commitment as limiting its policy options. For example, Israel's unofficial Begin Doctrine implies that Israel will conduct a preemptive strike to prevent any country in the region that seeks to destroy Israel by acquiring nuclear



weapons.<sup>490</sup> Israel demonstrated the Begin Doctrine when it destroyed nuclear weapons-related facilities in Iraq in 1981 and in Syria in 2007. Thus, Israel might prefer not to be tied down by obligations and restrictions stemming from a U.S. nuclear deterrent. In this case, the United States would evaluate the possibility of extending a nuclear deterrent to countries like Saudi Arabia without also extending it to its key regional ally, Israel. However, this approach is inadvisable, mainly because Israel is the only democracy in the Middle East. Extending nuclear deterrence to protect authoritarian regimes while leaving the only democratic ally in the region exposed would likely result in significant political opposition in the United States.

### **Multilateral Agreement: Challenges**

Similar to the bilateral option, a key challenge with creating a formal multilateral commitment is selecting participating countries. If the United States wished to include all of its key allies and partners into one multilateral agreement, a formal recognition of Israel as a nation or bilateral normalization agreements would first have to occur before any multilateral agreement to extend deterrence was established. As of August 2024, most GCC members—Saudi Arabia, Kuwait, Oman, and Qatar—have not signed normalization agreements and do not officially recognize Israel as a nation.<sup>491</sup>

Additionally, a multilateral agreement involving Israel and select Arab nations would require a unprecedented new relationship among those states. For example, if a country is attacked (e.g., Israel), a U.S. deterrent agreement would likely require assistance from the other nations involved in the agreement to aid in U.S. operations and assist with defending the interests of that attacked country. The collaboration in April 2024 among the United States, Israel, and regional partners (including Saudi Arabia, Jordan, and UAE) to thwart the Iranian attack, which consisted of 300-plus drones and missiles propelled at Israel, demonstrates that collaboration among U.S. allies and partners is plausible in some cases. However, differences on fundamental issues, namely the details concerning the establishment of a Palestinian state, impede deep and consistent military collaboration involving Israel and Arab nations.

Lastly, as mentioned earlier, the United States has a formal, congressionally-approved mandate to ensure Israel maintains a Qualitative Military Edge (QME) over its neighbors in terms of U.S. arms sales to the region. Any formal multilateral agreement, either involving Israel or not, could complicate the U.S. commitment to Israel's QME and would require careful consideration not to undermine it. For instance, the United States' potential sale of F-35 fighter jets to the UAE, as a part of the normalization agreement

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490 Brent Talbot, "Israel's Begin Doctrine Preventive Strike Tradition and Iran's Nuclear Pursuits," *Journal of Strategic Airpower & Spacepower* 2, no. 4 (2023).

[https://www.airuniversity.af.edu/Portals/10/AEtherJournal/Journals/Volume-2\\_Number-4/Talbot.pdf](https://www.airuniversity.af.edu/Portals/10/AEtherJournal/Journals/Volume-2_Number-4/Talbot.pdf). Accessed October 14, 2024.

491 "Israel International Relations: International Recognition of Israel," Jewish Virtual Library. <https://www.jewishvirtuallibrary.org/international-recognition-of-israel>. Accessed October 14, 2024.

signed between UAE and Israel in 2020, has raised concerns that this sale could affect Israel's QME.<sup>492</sup>

### **Ambiguous Commitment: Challenges, but Likely More Advisable Option**

An ambiguous commitment is the most advisable option as it would require neither Senate consent for ratification nor a major change in U.S. policy that a formal extended deterrence commitment would require. However, new nuclear declaratory policies and statements might need to be issued, and it could also require a change in military posture, such as expanding “the capabilities of nuclear submarines and other naval delivery systems that can be readily deployed to the region. Hypothetically, the United States could deploy naval assets with a nuclear component to the Persian Gulf or Red Sea to act as a credible deterrent.”<sup>493</sup> Nuclear capabilities associated with long-range delivery systems could also add to the U.S. extended deterrence posture in the region, compensating for the lack of regional nuclear deployments.

Furthermore, while U.S. strategic nuclear systems can hold Iran at risk, extended deterrence is enhanced (and assurance of allies bolstered) by a credible regional presence and a wider range of nuclear strike options. To meet this need, the United States would require a theater nuclear system based on U.S. naval vessels that are routinely in the region anyway. The nuclear-armed sea-launched cruise missile (SLCM-N)<sup>494</sup> would be ideal, as it would be fully capable against Iran, and it is “present” even when it is not. SLCM-N, or another theater naval system like it, could serve this purpose in the Middle East if it was acquired to address threats in Europe and Asia.

While these changes in defense posture might be sufficient to deter Iranian nuclear use, they could be insufficient to assure U.S. allies and partners due to the nonbinding, ambiguous nature of the U.S. commitment. Therefore, under this ambiguous approach, the likelihood of regional nuclear proliferation is higher, as U.S. allies and partners would be unsure about both U.S. intervention and the U.S. will to use nuclear weapons in their defense.

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492 Jeremy Sharp, *Israel's Qualitative Military Edge and Possible U.S. Arms Sales to the United Arab Emirates*, Congressional Research Service, R46580 (October 26, 2020), <https://crsreports.congress.gov/product/pdf/R/R46580>. Accessed October 14, 2024.

493 Asmeret Asghedom et al., “The Nuclear Future of the Middle East.”

494 Work on SLCM-N is underway. Nuclear-armed sea-launched cruise missiles were first deployed by the U.S. Navy in the 1980s, which was a nuclear-armed version of the Tomahawk land-attack cruise missile on surface ships and attack submarines (TLAM-N). However, the U.S. Navy withdrew TLAM-N in 1992 and retired the missiles in 2013. The need for a nuclear-armed sea-launched cruise missile was reintroduced by the Trump administration in reaction to “the expansion of Russian and Chinese regional nuclear forces” that far exceeded U.S. regional nuclear capabilities. For more on SLCM-N, see Anya Fink, *Nuclear-Armed Sea-Launched Cruise Missile (SLCM-N)*, Congressional Research Service, IF12084 (July 19, 2024),

<https://crsreports.congress.gov/product/pdf/IF/IF12084> (accessed October 14, 2024); Robert Soofer, “The U.S. is building a nuclear sea-launched cruise missile. Congress must make sure it's built right,” *New Atlanticist* (April 3, 2024), <https://www.atlanticcouncil.org/blogs/new-atlanticist/the-us-is-building-a-nuclear-sea-launched-cruise-missile-congress-must-make-sure-its-built-right/> (accessed October 14, 2024).

One could argue that the United States has been conducting an ambiguous U.S. extended deterrence approach with Israel—not officially providing nuclear protection to Israel but publicly stating and signaling extensive U.S. military support to ensure Israel’s security. Israel has used this ambiguity to its advantage and embedded it into its deterrence strategy.

The IDF strategy document indicates that the strategic relationship between Israel and the United States plays an important double role in Israeli deterrence: close cooperation with Washington increases Israel’s scope for political and operational maneuvering when responding to aggression against it, and it improves Israel’s operational capabilities to harm its enemies by means of enhanced force buildup as well as by means of the threat of U.S. intervention on its behalf.<sup>495</sup>

If the United States decides to increase commitments, albeit ambiguous, to other partners in the region, they could also use U.S. declaratory statements and changes in U.S. posture to leverage and bolster their own deterrence. However, it’s important to note that even with ambiguous commitments to multiple U.S. partners in the region, challenges could arise if an Israel-Arab war breaks out in the future.

## Conclusion

The Middle East is a challenging region for the United States to extend nuclear deterrence because of its instability and historical divisions between and among U.S. allies and partners (e.g., as of August 2024, most GCC members, Saudi Arabia, Kuwait, Oman, and Qatar, do not officially recognize Israel as a nation). Additionally, the presence of the U.S. military in some states like Saudi Arabia is restricted due to local backlash. In comparison, the countries with the largest amount of stationed U.S. troops—Japan, Germany, and South Korea—are those that have a treaty-based U.S. extended nuclear deterrence commitment in place.

It’s conceivable that a U.S. administration might decide to extend a nuclear deterrent to one or more U.S. allies or partners in the region if Iran acquired nuclear weapons. But any formal treaty, especially one extending deterrence to an authoritarian regime, would unlikely obtain the necessary two-thirds majority in the U.S. Senate. Therefore, the ambiguous approach—similar to the “strategic ambiguity” approach taken with

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495 Avner Golov, *Israeli Deterrence in the 21st Century*, Institute for National Security Studies, Tel Aviv University, Memorandum, no. 155 (June 2016). <https://www.inss.org.il/he/wp-content/uploads/sites/2/systemfiles/INSSMemo155.03.1.Golov.ENG.pdf>. Accessed October 14, 2024.

Taiwan—would be the most advisable option, if the United States were to conclude that extending nuclear deterrence to one or more Middle Eastern states is necessary.

Changes to U.S. military posture in the Middle East could bolster deterrence against a nuclear-armed Iran, including the routine presence of a theater nuclear system based on U.S. naval vessels. However, this change in posture may be inadequate to reassure U.S. allies and partners. If a nuclear-armed Iran becomes even more aggressive in the region, some allies might consider developing their own nuclear capabilities. Therefore, U.S. leaders would have to routinely evaluate this strategy over time and adjust their extended deterrence approach if the risk of a nuclear proliferation cascade in the region becomes a greater possibility.

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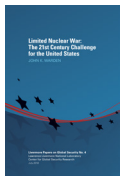
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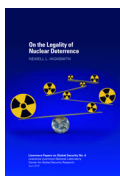
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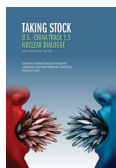
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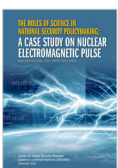
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