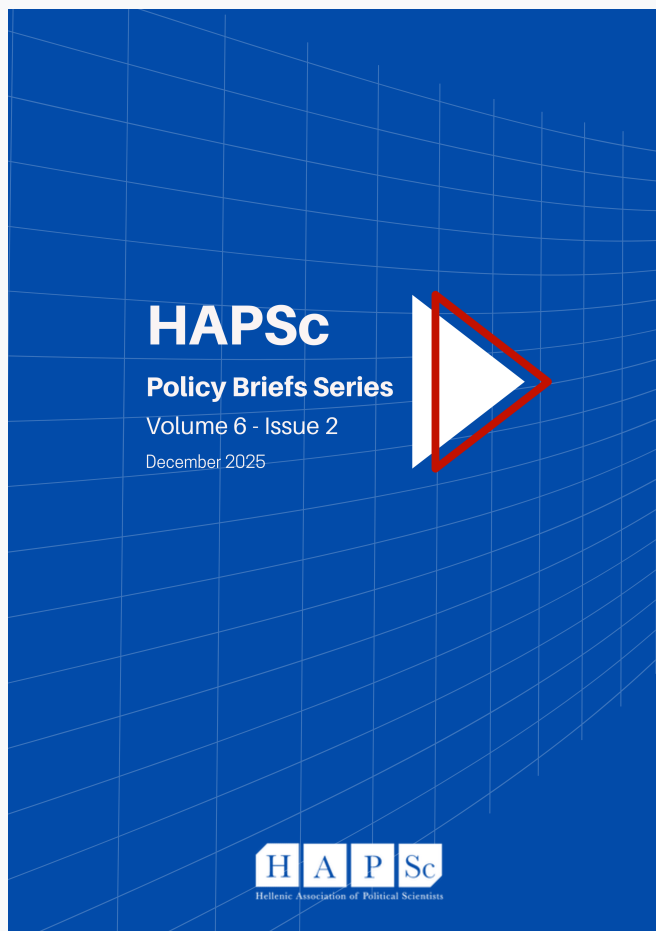


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The Nuclear Arms Race: Strategic Stability under Question and the Shifting Balance of Power¹

Themistoklis Zanidis²

Abstract

Today it is no longer possible to perceive nuclear weapons as a background issue in international security. After a long period in which arms reductions and relatively stable deterrence frameworks shaped nuclear relations, major powers are again placing nuclear forces at the core of their strategic planning. Nuclear weapons are not viewed simply as a last-resort safeguard, but as tools that actively influence signaling, bargaining, and military balance. This shift is closely tied to the deterioration of relations among the United States, Russia, and China, the steady erosion of arms control agreements, and the growing influence of new military technologies that complicate deterrence and escalation dynamics. This policy brief examines how the contemporary nuclear arms race is unfolding by tracing the way in which the three major nuclear powers are adjusting their strategies. Additionally, it considers the destabilizing influence of smaller but strategically important cases, especially North Korea and Iran. This analysis focuses on the rapid expansion of the Chinese strategic arsenal and the increasingly fragile state of U.S.–Russia arms control under the START framework, as those developments have a major impact on strategic stability. The current nuclear arms race is not the repetition of the Cold War rivalry between the U.S. and Russia because today’s strategic environment is less regulated, harder to predict, and more tightly connected to a broader great power competition, which increases the risk that crises could escalate through misperception (Kristensen & Korda, 2024).

Keywords: US, China, AI, New Technologies, Superpowers

Introduction

For over seven decades, nuclear weapons have shaped the way states understand power and security. During the Cold War, nuclear competition was concentrated in a bipolar rivalry between the United States and the Soviet Union. The rivalry was dangerous, due to the catastrophic power of the weapons themselves, however it was structured. Over time, both Washington and Moscow developed de-escalation mechanisms, red lines, and a basic sense of what actions were likely to trigger total disaster which was obviously unacceptable. Thus, arms control agreements mattered, but so did experience, repetition, and the memory of how close previous crises had come to going wrong (Sagan & Waltz, 2012). When the Cold War ended, many assumed this central role of nuclear weapons would slowly diminish, as arsenals were cut back and cooperation replaced confrontation.

Today, it is clear that those assumptions do not hold. Once again, nuclear weapons are treated not as

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a declining legacy issue but as part of day-to-day strategic calculation. The relationship between the United States and Russia has seriously deteriorated, to the point where most of the arms control structures that once helped manage nuclear risk has either collapsed or been hollowed out, and mutual trust is minimal at best (Arms Control Association, 2024). At the same time, China is carrying out the largest nuclear buildup in its history, while long-standing nuclear problems in East Asia and the Middle East remain unresolved and continue to shape regional security thinking.

This policy brief considers the contemporary nuclear arms race as a connected system rather than a set of separate national choices. We examine the ways the major nuclear powers are deploying their strategies, how smaller nuclear and near-nuclear states complicate that picture, and what this means for overall strategic stability and the balance of power. Consequently, the nuclear environment has changed as it is no longer focused on a single rivalry, it is less constrained by arms control, and it leaves far more room for misjudgment and uncontrolled escalation.

The United States and Russia: The Unstructured Strategic Rivalry

The U.S. and Russia remain today the most powerful nuclear states in the international system as they hold the bulk of the global nuclear arsenal, and capable platform to launch them on the ground, sea and air (nuclear triad). The relationship between Washington and Moscow still sets the limits of nuclear stability at a global level. For decades, strategic arms control agreements helped manage that rivalry. Those agreements included limitation of deployed nuclear warheads, verification measures and the establishment of regular/direct communication channels aiming to reduce uncertainty and thus discouraging planning based on worst-case scenarios/assumptions (Pifer, 2023).

In 2026, the established mechanisms to deescalation which shaped U.S.–Russia nuclear relations for decades will be abandoned. One arms control agreement after another fell apart earlier in the century, removing limits that had helped keep nuclear and missile deployments predictable. New START is now the last bilateral framework still standing between Washington and Moscow (U.S. Department of State, 2024). It still places caps on deployed strategic forces and offers a basic level of transparency, but its reach is limited. It does not refer to non-strategic nuclear weapons and while leaves out many of the technologies that increasingly determine deterrence and escalation. As a result, nuclear competition between the U.S. and Russia is no longer managed through a shared set of rules, but through parallel modernization programs carried out in an atmosphere of hostility, suspicion and uncertainty.

Both sides are updating their nuclear arsenals, but they are doing it in different ways and for different reasons. In the United States, modernization is mostly about replacing systems that are old and

increasingly unreliable. Much of the nuclear triad still rests on Cold War-era platforms, and Washington sees replacement as unavoidable. Russia's approach has been more selective. Instead of simply replacing existing systems, it has put political and strategic emphasis on new delivery vehicles that are meant to get around missile defenses and signal that deterrence cannot be neutralized (U.S. Department of Defense, 2022). While each side insists these programs are defensive, in practice, they deepen mistrust and make restraint harder, because both governments plan against what the other might do next rather than what it says it intends.

To make matters worse, the New START agreement is set to expire amid the broader deterioration of the relations between the U.S. and Russia due to the war in Ukraine. Nonetheless, both governments have shown some willingness to keep the New START agreement active for as long as possible mainly because there is a common understanding that a fully unconstrained nuclear competition would be far more dangerous for everyone involved, including the two powers (Arms Control Association, 2022).

As mentioned above, the New START treaty is set to expire in February 2026, thus the future of strategic arms control remains unclear. New START is the last active agreement that sets the limits on the American and Russian strategic forces, capping deployed nuclear warheads as well delivery platforms. In other words, the agreement provides a basic level of arms control, a much-needed transparency between the U.S. and Russia, via data exchange and mutual inspections (U.S. Department of State, 2024). Even though Washington and Moscow continue to set limits on their deployed strategic warheads, their total arsenal number around 5,000 each (Kristensen & Korda, 2024). If the New START expires without a replacement, which is very possible, the limits will eventually disappear leaving the two largest nuclear powers without any active agreement for the first time in decades. This development should relate to the ongoing Chinese nuclear buildup and the increased uncertainty. That said, Beijing's current arsenal is significantly lower than the American and Russian, approximately 600 warheads, but it is suggested that it will expand to 1,000 by 2030. This shift could change the global strategic balance (Office of the Secretary of Defense, 2024). Together, the erosion of U.S.–Russia nuclear arms control and the Chinese rapid buildup suggest a nuclear landscape which is becoming less regulated and more openly competitive.

China's Nuclear Expansion: The End of Minimum Deterrence

For decades, the Chinese nuclear arsenal was kept deliberately small. Beijing did not attempt to compete with the extended American and Russian nuclear arsenals. Instead, China relied on a limited nuclear deterrence which was backed by the no-first-use pledge. This approach kept China largely

outside the core arms control relationship that developed between Washington and Moscow, and it suited a period in which China's had totally different strategic priorities (Lewis, 2023).

However, China has decided to expand rapidly its nuclear arsenal aiming for 1,000 warheads by 2030. China has been building new missile silos, has been developing more capable long-range missiles. Additionally, China has been developing its nuclear triad emphasizing in its sea-based nuclear forces, suggesting long-term planning rather than symbolic signaling (Office of the Secretary of Defense, 2024). The Chinese nuclear buildup results not only in a larger force, but reflects the broader Chinese ambitions to compete directly the U.S.

From Beijing's perspective, this nuclear buildup is about reducing exposure, not chasing parity. A small nuclear force only works if it is clearly survivable, and Chinese strategic planners have growing doubts about whether that is still the case especially since the U.S. and Russia are modernizing their nuclear capabilities, defensive and offensive. Moreover, tensions over Taiwan have sharpened those concerns, reinforcing the belief that nuclear forces must function as a dependable backstop if escalation cannot be contained (Kristensen et al., 2023).

The broader effect of the Chinese nuclear buildup is destabilization, even if it is explained from the Chinese side. Thus, a larger and more capable Chinese nuclear arsenal introduces a level of uncertainty into a system that was never built to accommodate three major nuclear competitors operating at the same time. The rules/mechanisms, and assumptions that helped manage U.S.–Russian nuclear relations do not automatically translate to a triangular setting, especially when one side remains largely opaque.

Beijing's ongoing denial to engage in formal arms control, with Washington and Moscow, results in more uncertainty regarding nuclear weapons. The absence of agreed frameworks, regular exchanges and shared definitions of what restraint is, leave other powers to interpret the Chinese intentions as aggressive and destabilizing. That creates space for misreading signals and for assuming worst-case scenarios, particularly during periods of crisis.

As a result, strategic stability becomes more fragile because the risk does not stem simply from the size of China's arsenal, but from the absence of mechanisms that help translate capability into predictability. Fewer rules, fewer routines, and fewer shared expectations mean that escalation control depends increasingly on judgment and luck rather than on established constraints.

Other Nuclear and Near-Nuclear Powers: The Cases of North Korea and Iran

Besides the U.S., Russia and China, other regional powers have invested heavily in acquiring a

nuclear arsenal contributing significantly to regional and global instability. North Korea has consolidated its status as a de facto nuclear armed state as it possesses a limited nuclear arsenal while it has been improving its delivery platforms (ODNI, 2025). In this case, a small nuclear arsenal serves as a deterrent securing the survivability of North Korea's regime. However, North Korea's nuclear ambitions complicate deterrence dynamics in the Indo-Pacific region while it raises concerns regarding escalation and proliferation. This also suggests a direct challenge to the U.S. forces in the region and Washington's closest allies, South Korea and Japan.

Iran, by contrast, presents a different kind of problem. Tehran officially does not possess nuclear weapons until today, but its nuclear program has reached a level where intentions are equally threatening as actual capabilities. After the Israeli Iranian war and the American airstrikes to Iran nuclear facilities, Tehran has intentionally limited its cooperation with the international community while it is widely believed that it has not abandoned its nuclear program.

Taken together, the cases of North Korea and Iran show that contemporary nuclear risk, in a fragmented international system which is characterized by the strategic competition between the U.S. and China, is not limited to rivalry among major powers. Regional conflicts, unresolved security dilemmas, and the weakening of international norms all contribute to a nuclear environment that is more fragmented and harder to manage than in the past.

Implications for Strategic Stability and the Global Balance of Power

The current nuclear arms race has profound implications for strategic stability. Unlike the Cold War era, today's nuclear environment tends to become multipolar, technologically complex and more significantly less regulated. Additionally, advances in missile defense technology, the development of hypersonic missiles, cyber operation and advanced space systems have affected nuclear command and control, shortening decision-making time (Acton, 2022).

Nuclear arsenals have crucial impact on the balance of power at a global level. Nonetheless, their stabilizing effects, through Mutual Assured Destruction (MAD), are increasingly conditional in a fragmented international system. Consequently, as arms control erodes and competition intensifies, the possibility for a miscalculation can lead to a disaster, grow.

Conclusion

To conclude, it is evident that the nuclear arms race is about to enter a different phase in 2026 as Great-power competition is shaped by the strategic rivalry between the U.S. and China but also by competition in every domain and level. In this context, arms control is weaker than it has been in

decades, and uncertainty is growing across the international system. Managing nuclear risk under these conditions is harder, not easier, and it will require political attention and consensus that has been largely absent in recent years.

The relationship between the United States and Russia still matters more than any other, as far as the nuclear weapons are concerned. Preserving what remains of arms control between them should be a priority, even if progress is limited. Agreements do not need to be ambitious to be useful. Even narrow arrangements help maintain transparency, reduce worst-case assumptions, and keep communication channels open. At the same time, some form of sustained strategic dialogue with China is increasingly unavoidable. Without regular engagement, misperception becomes more likely as China's nuclear forces continue to grow.

Moreover, regional nuclear ambitions put more pressure on the fragile system adding to the possibility of nuclear escalation. In this regard, North Korea and Iran challenge the international stability in different ways but in both cases, nuclear issues cannot be separated from wider security concerns. Risk of nuclear escalation is not reduced by just focusing on technical limits or verification measures. What really matters is whether the underlying political tensions can be managed at the same time as deterrence is maintained. If states fail to adjust to this reality, the danger is not an immediate breakdown but instead a slow slide toward unconstrained competition. Over time, as limits erode and expectation disappears, escalation becomes harder to control, and mistakes become far more costly for global peace and security.

References

- Acton, J. M. (2022). Escalation through entanglement: How the vulnerability of command-and-control systems raises the risks of an inadvertent nuclear war. *International Security*, 43(1), 56–99. https://doi.org/10.1162/isec_a_00320
- Arms Control Association. (2022). *U.S. – Russian nuclear arms control at a glance*. Available at: <https://www.armscontrol.org/factsheets/us-russian-nuclear-arms-control-agreements-glance>
- International Institute for Strategic Studies. (2025). *The military balance 2025*. Routledge.
- Kristensen, H. M., & Korda, M. (2024). World nuclear forces. In *SIPRI yearbook 2024: Armaments, disarmament and international security*. Stockholm International Peace Research Institute.
- Kristensen, H. M., Korda, M., & Reynolds, E. (2023). Chinese nuclear weapons, 2023. *Bulletin of the Atomic Scientists*, 79(2), 108–133. <https://doi.org/10.1080/00963402.2023.2178713>
- Lewis, J. G. (2023). *China's strategic trajectory and nuclear decision-making*. Center for International Security and Cooperation, Stanford University.

- Office of the Director of National Intelligence. (2025). *Annual threat assessment of the U.S. intelligence community*. Available at: <https://www.dni.gov/index.php/newsroom/reports-publications/reports-publications-2025/4058-2025-annual-threat-assessment>
- Office of the Secretary of Defense. (2024). *Military and security developments involving the People's Republic of China*. U.S. Department of Defense.
- Pifer, S. (2023). *Next steps in U.S.–Russia arms control*. Brookings Institution.
- Sagan, S. D., & Waltz, K. N. (2012). *The spread of nuclear weapons: An enduring debate* (3rd ed.). W. W. Norton.
- U.S. Department of Defense. (2022). *2022 Nuclear posture review*. Available at: <https://www.congress.gov/crs-product/IF12266>
- U.S. Department of State. (2024). *New START Treaty: Fact Sheets*. Available at: <https://www.state.gov/new-start-treaty-fact-sheets>