



Nuclear Deterrence in Foreign Policy

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Abstract: — This brief examines the evolution of nuclear deterrence from its Cold War origins to its role in contemporary foreign policy. It evaluates major theoretical frameworks, identifies emerging challenges—including multipolarity, artificial intelligence, and alliance credibility—and proposes policy options to strengthen deterrence while reducing escalation risks.

Keywords — Nuclear Deterrence, Foreign Policy, NATO, Cold War, Nuclear Arms, Nuclear Umbrella

I. INTRODUCTION

Since the initial development of nuclear weapons through the Manhattan Project during World War II, nuclear deterrence has gradually transformed into one of the most influential topics in both international relations and foreign policy. Unlike conventional weapons, nuclear weapons possess the capacity to inflict catastrophic destruction on an unprecedented scale, making their primary strategic purpose the prevention—not the conduct—of war. By threatening unacceptable retaliation against potential adversaries, nuclear deterrence aims to discourage aggression and maintain strategic stability among nations.

Throughout the Cold War, deterrence significantly shaped the relationship between the United States and the Soviet Union through doctrines such as Mutually Assured Destruction

(MAD), helping to prevent direct military conflict despite intense geopolitical rivalries. Although this framework proved remarkably durable during the bipolar Cold War order, the contemporary international system presents far more complex strategic dynamics. The global security environment has undergone several changes since then, however, nuclear deterrence remains a pivotal cornerstone of the defense policies of major powers. Currently, rising geopolitical tensions, several regional conflicts, and other exogenous factors introduce new challenges that test the efficacy and credibility of these traditional deterrence strategies.

As the system becomes more complex, policymakers must balance maintaining credible deterrence with reducing the risks of nuclear escalation and the proliferation of conflict. International alliances and arms control agreements continue to play a critical role in preserving global security while adapting to evolving threats.

II. HISTORY

Nuclear deterrence was first implemented by the US and Soviet militaries, thrusting the world into a tense Cold War. Under President Eisenhower

and Secretary of State John Dulles, the US enacted this policy in order to set the precedent that any Soviet aggression would be met with an immediate strike back. This doctrine, known as "Massive Retaliation," established that the US held the upper hand in nuclear weaponry coming out of the second World War and needed to secure their advantage. In response, the USSR shifted the nuclear narrative to brinkmanship, where the countries negotiated on the edge of declaring war. This transition escalated the Cold War efforts and, at the height, found the US in turmoil during the 1962 Cuban Missile Crisis, the closest the world has ever been to the next world war. Eventually, once both sides reached exhaustion, the notion of Mutually Assured Destruction came to the surface. Presented by US Defense Secretary Robert McNamara, neither side could attack without complete annihilation of the other facilitating a final step to gridlock the war. Eased tensions followed the policy and the global powers entered an era of stability, ushering in a new modern era of nuclear deterrence that we see present today.

III. CORE THEORETICAL FRAMEWORKS

A. Classical Deterrence Theory

Nuclear weapons possess a unique characteristic: a destructive potential that is so catastrophic that no rational actor would risk inviting their use. Consequently, the primary use of a nuclear bomb would be to prevent wars (deter) rather than fight them, unlike other forms of weapons (Brodie, 1946).

Deterrence comes in two forms: punishment and denial. Deterrence by punishment entails the threat of devastating retaliation which makes any first strike irrational, regardless of its military success; deterrence by denial convinces an adversary that an attack cannot achieve its objectives, thereby removing the incentive to strike (Snyder, 1961). Historically, deterrence by

punishment threats play a significant role in the strategies of major powers even though both approaches are deployed in practice.

However, this theory rests on a few assumptions. This includes the fact that decision-makers are rational and well-informed, that communication between adversaries is reliable, and that the threat of retaliation is credible (Jervis, 1989). Therefore, all of these assumptions can undermine the theory and its supposed success within deterrence.

B. No-First-Use Policy

The No-First-Use (NFU) policy is a pledge by states to not employ the use of nuclear weapons first, unless subjected to a nuclear attack. Notably, since its first nuclear test in 1964, China has held a long-standing NFU pledge, while India formally adopted its NFU doctrine after tests in 1998 (Narang, 2014). This policy is premised upon the belief that the potential for a retaliatory strike is sufficient in deterring first-use, thus reducing the risk of nuclear escalation.

However, the United States (U.S.) and other NATO allies have rejected the NFU policy, opting for deliberately declining to specify under what specific conditions nuclear weapons might be used. This approach is defended by claiming that it is able to extend deterrence to cover non-nuclear threats (Kristensen & Norris, 2017). This approach has raised criticism that this ambiguity will undermine arms control norms and raise the perceived risk of nuclear use (Tannenwald, 2007).

There also exists the negative security assurance (NSA), which is a pledge by states to not use or threaten to use nuclear weapons against non-nuclear-weapon states party to the Nuclear Non-Proliferation Treaty (NPT) (Acton, 2009).

C. NATO Agreements

The North Atlantic Treaty Organization serves as one of the most notable alliance frameworks in which extended deterrence operates under. Extended deterrence is a nuclear-armed state's commitment to protect allies who are non-nuclear-armed, which extends its nuclear umbrella to cover third parties (Huth, 1988).

The U.S. plays a significant role within NATO's nuclear defence approach with a combination of strategic forces and the deployment of approximately 100 B61 gravity bombs across five European member states under dual-key arrangements (Kristensen & Norris, 2017). The Nuclear Planning Group (NPG), established in 1996 following France's withdrawal from NATO's integrated military command, coordinated this doctrine which provides non-nuclear-armed NATO allies a formal consultative role in nuclear policy without independent launch authority. The 2022 Strategic Concept has reaffirmed the fact that NATO serves as a "nuclear alliance" with deterrence remaining as "the highest responsibility" (NATO, 2022).

Crucially, NATO's extended deterrence credibility depends on its capability to retaliate and the perceived willingness to do so. This is referred to as the problem of compellence and credibility, which explains the fact that a nuclear guarantee in which adversaries do not believe will be honoured would provide no actual deterrence (Schelling, 1966). In recent years, Russia's adoption of escalate-to-de-escalate postures and modernization of its non-strategic nuclear arsenal has prompted renewed debate about whether NATO's deterrence approach is still viable within the contemporary threat environment (Gerson, 2009).

D. U.S. Nuclear Umbrella and Extended Deterrence in the Indo-Pacific

The U.S. also holds bilateral extended deterrence commitments in the Indo-Pacific region, specifically Japan and South Korea. These commitments are formalized through arrangements such as the US-Japan Extended Deterrence Dialogue and the US-South Korea Extended Deterrence Strategy and Consultation Group (EDSCG). However, these arrangements have also faced increased scrutiny due to North Korea's rapid expansion of its nuclear and ballistic missile capabilities, intensifying the debate over whether the U.S. nuclear umbrella is sufficient in protecting the region and renewing domestic discussion about independent nuclear options (Narang & Panda, 2020).

This situation highlights the issue when an adversary's nuclear forces enhance capabilities, the guarantor's credibility comes into question. Specifically, questions on whether the U.S. would be deterred from retaliating by the risk to its own homeland have been raised, thereby losing the mechanism of deterrence, which is also known as a dynamic described as "decoupling" (Huth, 1988).

E. Nuclear Arms Treaties

The Treaty on the Non-Proliferation of Nuclear Weapons (NPT), effective since 1970, aims to prevent the spread of nuclear weapons and weapons technology. This is conducted through the commitment of the five recognized nuclear-weapon states (P5) to disarmament negotiations, forgoing acquisition by non-nuclear-weapon states, and access to peaceful nuclear technology for all parties (United Nations, 1970).

On the other hand, the 2017 Treaty on the Prohibition of Nuclear Weapons (TPNW) seeks

to delegitimize nuclear weapons through a comprehensive ban of nuclear weapons. None of the nuclear-armed states or their allies have signed this treaty, but this does reflect the growing normative pressure and the frustration of non-nuclear states with the perceived stagnation of disarmament (Ritchie, 2019).

IV. KEY CHALLENGES AND RISKS

A. Rise of the Personalist

Research shows that personalism is rising in today's dictatorships and democracies (Frantz et al., 2021). Several contemporary leaders controlling nuclear arsenals—including Vladimir Putin, Xi Jinping, and Kim Jong-un—surround themselves with 'yes-men' and cultivate a cult of personality that stifles not only dissent but also critical thinking (Sagan, 2023). The primary safeguard to nuclear escalation in deterrence theory is rationality in decision-making, making unconstrained leaders of nuclear powers a significant threat.

Such a threat is amplified by the fact that the United States, China, and Russia, three of the five countries with a second strike capability, are now governed by either a personalist dictatorship or aspiring personalist. President Trump has repeatedly surrounded himself with supporters and punished those who disagreed with him. The difference between the United States and others is strong institutional guardrails against executive power (Sagan, 2023). Still, the rise of the personalist has posed a key risk to nuclear stability.

To a certain extent, deterrence also requires assumption of the best. If leaders incorrectly believe that their adversary has launched a nuclear attack, causing them to launch their missiles, that is a failure of deterrence according to Chatham House (Unal et al., 2020). The incorrect

information at the center of such a mistake could only be remedied by rational caution or assumption of good faith, both unlikely in personalist decision-making.

B. Multipolarity and Nuclear Deterrence

The multipolarity of global powers also poses a source of concern for nuclear deterrence and US nuclear strategy. Both China and Russia have second strike capabilities, and the threat of two nuclear arsenals against one harms deterrence. The strategy relies on mutual destruction, but multipolarity strongly tips the advantage towards an allied China and Russia. Further, as Russian and Chinese technology continue to expand and they also gain more confidence in their own nuclear strategies, the US must strengthen its deterrence and reassure its allies (Borja et al., 2021).

C. Opportunist Aggression

Perhaps a symptom of multipolarity and various alliances, opportunistic aggression has also become a concern regarding nuclear conflict (Sagan, 2023). Opportunistic aggression refers to scenarios in which an adversary attacks you while you are busy with something or somebody else. The US is not the only nuclear power in the world, and neither is it the only country with a second strike capability. China and Russia, the US's nuclear rivals, are clearly allied. Should there be nuclear war, it becomes increasingly plausible that the nation not involved attacks the US or its allies. Existing research provides limited evidence that the US would be able to withstand two nuclear conflicts, simultaneous or sequential (Allison et al., 2024).

The Center for Strategic International Studies has pointed out four factors that influence opportunistic aggression: capability to respond to a second aggression, the will to be in a second

aggression, the strength of alliances, and strategic signaling (Allison et al., 2024). These factors raise awareness to future strategic focuses for the United States, especially in considering alliances.

D. Artificial Intelligence and the Technocrat

While the rise of artificial intelligence has been a challenge and risk in many industries and foreign policy, how AI is developed also poses a challenge to nuclear deterrence. Historically, the US government was a large spender in research and development (R&D), with just the Department of Defense controlling 36% of global R&D spending. Recently though, government R&D has dramatically fallen, with the DoD global share falling to 3%. Artificial intelligence is especially dominated by R&D from private donations by private companies. This means that the DoD will struggle to acquire the latest technology, and continuously deal with budget issues as commercial technology prices rise (Scharre and Kaspersen, 2024). Faltering in the ability of American defense to acquire frontier technology can only be described as failure in capability and further expose the US to threats of opportunistic aggression.

V. POLICY OPTIONS

The theoretical and structural vulnerabilities outlined in the preceding sections give rise to a set of pressing policy questions: how can states preserve the credibility of nuclear deterrence while reducing the risk of inadvertent escalation? The following policy options modernizing nuclear command and control systems for cyber-resilience, strengthening extended deterrence frameworks, and pursuing de-escalation through arms control, each carry distinct advantages, limitations, and feasibility considerations.

A. Modernizing Nuclear Command, Control, and Communications (NC3) for Cyber-Resilience

One of the most technically urgent reforms available to nuclear-armed states is the modernization of nuclear command, control, and communications (NC3) systems to address growing cyber vulnerabilities. Much of the existing NC3 infrastructure was designed prior to the emergence of modern cyber warfare capabilities, thereby leaving critical systems potentially exposed to adversarial intrusion, spoofing, or disruption (Futter, 2016). This policy option is premised upon the belief that a more resilient command infrastructure directly strengthens deterrence credibility, as a system vulnerable to cyberattack undermines both the assurance of retaliation and the prevention of unauthorized launch. However, the process of replacing legacy systems is technically complex and introduces transitional vulnerabilities, as old and new components may operate simultaneously before full replacement is achieved. The costs are also considerable, the Congressional Budget Office (2023) projected U.S. nuclear force expenditures at approximately \$756 billion over the next decade, with NC3 upgrades comprising a significant portion. Crucially, however, the strategic case for this reform remains among the strongest of the three options, given that cyber exposure directly threatens the foundational mechanism upon which deterrence relies.

B. Strengthening Extended Deterrence Frameworks and Alliance Commitments

A second policy option involves reinforcing the credibility of extended deterrence commitments through updated nuclear sharing arrangements, more formalized consultative mechanisms, and clearer declaratory signaling within alliances. As noted in the preceding section, the problem of “decoupling”, wherein a nuclear guarantor may itself be deterred from retaliating by the risk of

escalation to its own homeland, continues to cast doubt on the reliability of security guarantees in both Europe and the Indo-Pacific (Huth, 1988). This approach is defended by the argument that more clearly communicated deterrence commitments can make guarantees more credible without necessarily expanding them, thereby reducing allied incentives to pursue independent nuclear acquisition (Perkovich & Vaddi, 2021). However, this approach has raised concern that more explicit deterrence signaling may be interpreted by adversaries as escalatory, potentially accelerating arms competition rather than dampening it. The costs here are primarily diplomatic rather than financial, requiring sustained political investment in alliance consultation at a time when the reliability of U.S. international commitments is itself a subject of uncertainty.

C. Pursuing De-escalation Measures and New Arms Control Frameworks

The third policy option, and arguably the most structurally ambitious, involves the active pursuit of de-escalation measures and new arms control frameworks to reduce nuclear risk at the systemic level. This includes the re-establishment of crisis communication channels, pre-notification agreements on missile tests, and renewed treaty-based engagement among nuclear-armed states. Wan et al. (2024) has identified several near-term measures of this nature that do not require full disarmament commitments, thereby offering a more politically feasible entry point for engagement. However, this approach has faced considerable feasibility constraints in the current geopolitical environment: Russia's suspension of its participation in the New START Treaty and China's sustained resistance to formal arms control dialogue suggest that the major nuclear powers are presently expanding rather than constraining their arsenals (Kristensen & Korda,

2023). This situation highlights the central tension within this policy option, the trade-off between the long-term risk reduction benefits of arms control and the short-term credibility costs of pursuing mutual constraint when adversaries may not reciprocate. Pursued unilaterally, de-escalation risks creating asymmetric limitations that competitors may exploit, undermining the very stability it seeks to achieve.

VI. IMPACT ON YOUNG PEOPLE

Young people worldwide have driven nuclear disarmament initiatives. ICAN's Youth for TPNW network, the UN's Youth4Disarmament Forum, and national efforts like Canada's Youth-Parliament Nuclear Summit bring students into direct dialogue with policymakers on disarmament. The 2025 Ottawa summit convened youth, parliamentarians, and civil society leaders under the theme "Nuclear Justice," concluding with an open letter urging Canadian leadership on global disarmament (YPNS, 2025). In particular, youth in Japan are carrying forward survivor testimony, working on projects such as a mobile atomic bomb museum meant to bring the call for disarmament to communities worldwide (UN Youth Office, 2025).

VII. CONCLUSION

Nuclear deterrence has remained a foundational element of global security, successfully preventing large-scale catastrophes and conflicts. However, modern developments create instability in a once "calm" field. Leadership, communication, and commitments, which once sustained deterrence, are under threat by personalist leaders, multipolar power dynamics, and technological advancements. Simultaneously, questions around alliance credibility and the effectiveness of extended deterrence in places like Europe and the Indo-Pacific further complicate strategic calculations, while arms control frameworks

struggle to keep pace with evolving threats. As a result, the future of deterrence depends on the ability of policymakers to adapt by strengthening alliances, modernizing systems, and pursuing new risk reduction and arms controls. Ultimately, maintaining nuclear deterrence will depend not only on military capability, but equally on credible diplomacy, resilient institutions, technological adaptation, and sustained international cooperation.

VIII. ACKNOWLEDGEMENT

The Institute for Youth in Policy wishes to acknowledge Adwaya Yesare for editing this policy brief.

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