

**Escalation in the Dark: China's Nuclear Expansion
and the Collapse of Predictability**

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Abstract

The most consequential shift in China's nuclear trajectory is not quantitative, but qualitative. While much of the current debate focuses on warhead numbers and delivery systems, the more significant change lies in the conditions under which nuclear decisions are made. China's move toward a more operational nuclear posture, combined with increased centralization of decision-making and the erosion of arms control frameworks, is producing a strategic environment characterized by reduced transparency and compressed timelines. These dynamics heighten the risk of misinterpretation and unintended escalation, particularly in a Taiwan contingency, where political stakes are exceptionally high. U.S. and Chinese strategies interact within a deepening security dilemma, reinforcing uncertainty rather than stability. As a result, deterrence becomes less predictable and increasingly dependent on perception rather than control, marking a fundamental shift in the logic of nuclear escalation.

1. Introduction

For decades, nuclear deterrence relied on a core assumption: that escalation could be understood, anticipated, and ultimately controlled. Today, that assumption is eroding. Much of the current debate on China's nuclear expansion focuses on numbers such as warheads, silos, and delivery systems. But this focus risks missing the more consequential shift. What is changing is not only the size of China's arsenal, but the conditions under which nuclear decisions are made. They are becoming less transparent, more compressed, and ultimately harder to interpret in a crisis (SIPRI 2025; Zhao 2024).

This reflects a broader shift in China's nuclear posture. Moving beyond minimal deterrence, nuclear forces are increasingly embedded within military strategy as a form of strategic counterbalance, while decision-making has become more centralised and opaque (Tay 2025; Zhao 2024). At the same time, U.S. efforts to reinforce deterrence interact with these developments, reinforcing a mutual security dilemma rather than resolving it (Shullman et al. 2024).

The result is a qualitative shift in the nuclear landscape. The central challenge is no longer defined by how many weapons exist, but by growing uncertainty over how escalation might unfold, and how easily it can go wrong.

2. From Stability to Uncertainty

For much of the post Cold War period, China's nuclear strategy was defined by restraint. Its doctrine of minimal deterrence relied on a relatively small arsenal designed to ensure a credible second strike capability, rather than to support active warfighting or escalation management. Nuclear weapons functioned primarily as political instruments of deterrence, not as operational tools within military strategy (SIPRI 2023; Zhao 2024).

This logic is now shifting. In recent years, China has moved towards a more survivable and operational nuclear posture, reflecting a broader ambition to establish itself as a peer nuclear power. This shift is evident in the rapid expansion of its arsenal, the development of a full nuclear triad, and the construction of new missile silos (SIPRI, 2025; Tay, 2025). At the same time, nuclear forces are increasingly framed as a strategic counterbalance to the United States, suggesting a more integrated role within China's broader approach to great power competition (Tay, 2025; Zhao, 2024).

This shift is not only material, but institutional. Under Xi Jinping, nuclear decision making has become more centralized, while the internal constraints that previously shaped China's relatively cautious nuclear policy appear to have weakened (Zhao 2024). The result is a system that is not only more capable, but also more opaque.

These developments are unfolding in parallel with the erosion of existing arms control structures. The expiration of New START in early 2026 removes key mechanisms for transparency and verification, while no comparable framework has emerged to replace it (SIPRI 2025). At the same time, China continues to resist formal arms control arrangements, viewing transparency as a potential vulnerability rather than a stabilizing mechanism (Tay 2025).

Taken together, this points to a broader transformation. The issue is not simply that China's nuclear forces are expanding, but that the conditions that once contributed to strategic stability are weakening. Transparency is declining, institutional constraints are loosening, and the assumptions that underpin deterrence are becoming harder to sustain.

3. Escalation Under Pressure

The most consequential shift is not simply that nuclear forces are becoming more capable, but that escalation is unfolding under increasing time pressure. As nuclear postures become more operational, the window for decision making in a crisis is narrowing, placing greater strain on leaders to interpret signals quickly and accurately.

A key driver of this dynamic is China's movement towards an early warning counterstrike posture, consistent with launch on warning. Supported by advances in early warning systems, including satellite based detection, this approach is designed to enhance survivability by enabling rapid response before an incoming strike can fully materialise (SIPRI 2023; SIPRI 2025). At the same time, it compresses decision making timelines, increasing the likelihood that technical error, false alarms, or misinterpretation could trigger escalation under conditions of uncertainty (Zhao 2024).

Alongside this, the growing integration of nuclear and conventional capabilities introduces a further layer of ambiguity. Dual capable systems, such as the DF 26, can carry both conventional and nuclear warheads, making it difficult to distinguish between different types of attacks in real time (SIPRI 2025). In a crisis, this creates a situation in which a conventional strike may be interpreted as the prelude to a nuclear attack, or where nuclear signalling is misread as conventional escalation.

This blurring of boundaries reflects a broader process of entanglement between nuclear and conventional forces. As these domains become more interconnected, escalation is no longer a clearly sequenced process, but one shaped by overlapping signals, limited information, and competing interpretations (Zhao 2024).

Taken together, these developments alter the conditions under which escalation unfolds. Decisions must be made more quickly, with less clarity, and under greater pressure. The result is not only a higher risk of miscalculation, but a system in which escalation becomes faster, more ambiguous, and harder to control. These risks are further compounded by limitations in crisis communication, particularly given that the Chinese military does not always operate with full autonomy in high-level signalling, increasing reliance on political channels under time pressure (Shullman et al. 2024).

4. A Mutual Security Dilemma

These shifts cannot be understood in isolation. The emerging instability is not simply the result of China's nuclear expansion, but of the interaction between Chinese and American approaches to security. At its core lies a classic security dilemma that shapes how escalation is perceived and managed in a crisis.

From Beijing's perspective, nuclear expansion is closely tied to concerns about vulnerability. Advances in U.S. missile defence, including initiatives such as the proposed Golden Dome, as well as precision strike capabilities, and broader military integration are often interpreted as attempts to undermine China's second strike capability. In this context, efforts to expand and modernise nuclear forces are not only about increasing power, but about ensuring survivability in an increasingly uncertain strategic environment (Zhao 2024; Tay 2025).

From Washington's perspective, however, China's growing and increasingly opaque nuclear posture raises concerns about intent and credibility. The expansion of nuclear capabilities, combined with limited transparency and the erosion of arms control frameworks, is often interpreted as a sign of a more assertive strategy. In response, the United States has sought to reinforce deterrence through alliance structures, force posture, and technological advantage (Shullman et al. 2024).

The result is a self-reinforcing dynamic in which efforts to increase security on one side contribute to insecurity on the other. Measures designed to strengthen deterrence simultaneously reinforce threat perceptions, sustaining incentives for further military and nuclear development.

In such a system, stability becomes harder to sustain. As transparency declines and trust remains limited, both sides are forced to interpret each other's actions under conditions of uncertainty. The risk is not only that escalation may occur, but that it may be shaped by interpretations formed under pressure and limited information.

5. Taiwan as a Stress Test

These dynamics are most likely to materialise in a Taiwan contingency. While the risks outlined above apply more broadly, Taiwan represents the scenario in which compressed decision making, strategic ambiguity, and mutual threat perceptions converge under the highest political stakes.

For Beijing, Taiwan is not only a territorial issue, but a question tied to regime legitimacy and national unity. In a crisis, failure to achieve political or military objectives could carry significant domestic consequences. Under such conditions, the threshold for escalation may shift, particularly if nuclear signalling is perceived as a necessary tool to deter external intervention or to reassert control over a deteriorating situation (Shullman et al. 2024; Zhao 2024).

China's official No First Use policy has long been central to its nuclear doctrine, signalling that Beijing would not use nuclear weapons first in a conflict. However, a Taiwan contingency would place this commitment under exceptional pressure. If a failed invasion or major U.S. intervention were perceived by Chinese leaders as threatening regime survival or national reunification, the boundary between defensive deterrence and coercive nuclear signalling could become blurred. The risk is therefore not necessarily that China has formally abandoned No First Use, but that crisis conditions could create uncertainty about how Beijing interprets its own doctrine, especially in a conflict over what it considers a core sovereignty issue (Zhao 2024; Shullman et al. 2024).

For the United States, Taiwan represents a central test of credibility within the Indo Pacific. Any confrontation would likely involve rapid efforts to project conventional force in support of deterrence and regional stability. However, given the growing integration of nuclear and conventional capabilities, such actions could be interpreted by Beijing through a nuclear lens, particularly under conditions of limited information and heightened uncertainty.

The risk is not necessarily that a crisis over Taiwan would begin as a nuclear conflict, but that escalation pathways would become increasingly difficult to interpret and control once a conflict is underway. Nuclear signalling could emerge within a largely conventional confrontation, while dual capable systems and compressed timelines increase the potential for misinterpretation on both sides.

In this sense, Taiwan functions as a stress test for the evolving nuclear landscape. It is the context in which the interaction between capability, perception, and time pressure is most likely to be exposed, and where the risks associated with uncertainty are most likely to materialise.

6. Implications for Deterrence

Taken together, these developments point to a gradual erosion of deterrence stability. As nuclear postures become more operational and decision making conditions more constrained, deterrence is no longer anchored in clear signalling or shared assumptions. Instead, it increasingly depends on how actions are interpreted under pressure.

In this context, perception becomes central. With declining transparency and growing ambiguity, both sides must assess intent on the basis of incomplete and time sensitive information. Signals that might previously have been understood as conventional or defensive can now be read as escalatory, particularly in a crisis where decision making windows are compressed.

This dynamic increases the risk of miscalculation. As the distinction between nuclear and conventional operations becomes less clear, and as response timelines shorten, the margin for error narrows. Actions taken to reinforce deterrence can be interpreted in unintended ways, raising the likelihood that escalation is driven by misperception rather than intent. Deterrence remains in place, but it operates under conditions that are more fragile and more dependent on judgement than in the past.

These pressures are not confined to the United States and China. They are increasingly reflected in the strategic calculations of regional allies. In South Korea, for instance, public support for an independent nuclear capability has risen significantly, driven in part by concerns over the credibility and predictability of U.S. extended deterrence (Cho, 2025; Kim, 2025). This suggests that uncertainty does not remain contained at the bilateral level, but has broader implications for regional stability and the non-proliferation regime.

At the same time, these shifts complicate the management of escalation. Traditional models of deterrence relied on clearer thresholds and more stable expectations about how conflict would unfold. In the current environment, those assumptions are weakening. Escalation is less linear, more ambiguous, and harder to contain once a crisis begins.

The result is not the collapse of deterrence, but its transformation. Deterrence persists, but in a form that is more reliant on perception, more vulnerable to error, and ultimately harder to sustain under conditions of uncertainty.

7. Conclusion

The emerging nuclear landscape is not defined by stability, but by transformation. China's shift away from minimal deterrence, combined with the erosion of arms control frameworks and the growing integration of nuclear and conventional capabilities, signals a departure from the assumptions that once underpinned deterrence.

In this environment, the central challenge is no longer simply to maintain a balance of power, but to operate within a system where escalation is harder to interpret and control. As decision making timelines compress and ambiguity increases, the risk lies not only in deliberate escalation, but in the possibility that actions are misread under pressure.

This shift does not render deterrence obsolete. Nuclear weapons continue to shape strategic behaviour, and the logic of deterrence remains intact. What has changed are the conditions under which it operates. Deterrence is now less predictable, more dependent on perception, and more vulnerable to error.

The implications are significant. A system once characterised by relatively stable expectations is giving way to one defined by uncertainty, where escalation pathways are less clear and harder to manage. In such a context, the challenge is not to restore a past model of stability, but to understand and navigate a system in which the risk of miscalculation is increasingly embedded.

Ultimately, the issue is not only how many nuclear weapons exist, but how decisions about their use are made. It is in this shift, from numbers to uncertainty, that the future of nuclear risk now lies.

8. References

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→ *A simple visual illustrating how compressed decision-making timelines, dual-capable systems, and limited information interact in a crisis could complement the analysis.*