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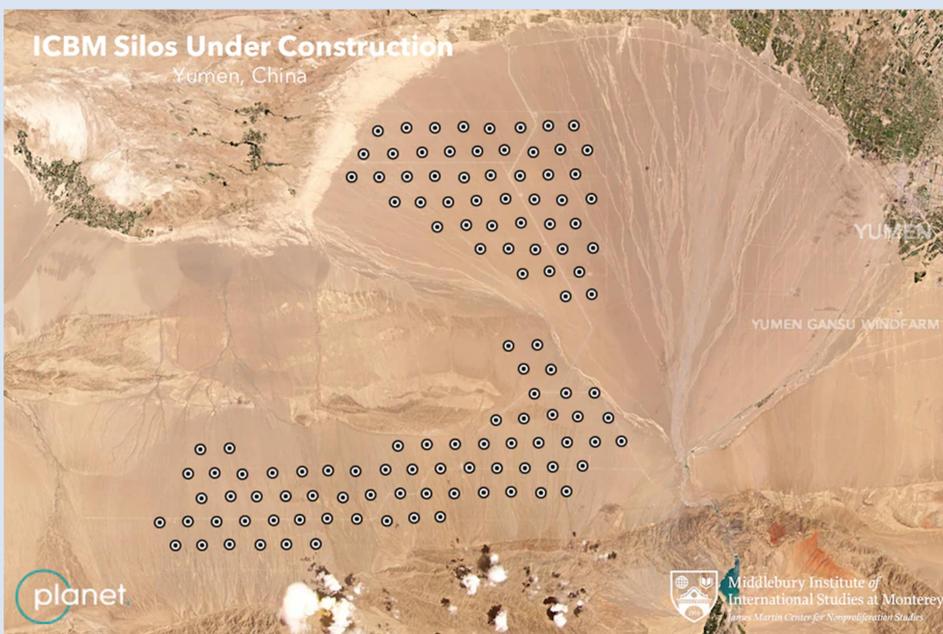
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## China's Nuclear Build-up: The Risk of Inadvertent Nuclear Escalation



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In both Washington and Beijing, a consensus seems to be emerging over why China is building up its nuclear arsenal. Analysts agree on the general argument that China intends to develop survivable and assured second-strike nuclear capability, pushing the US into a state of mutual nuclear vulnerability, thus enhancing deterrence stability. While technically it is a positive development, some western analysts argue that nuclear stability and reduced risk of nuclear blackmail might encourage China to challenge the US and its allies conventionally. Thus, increasing the risk of a conventional great power war, possibly over Taiwan. However, any such conventional war, irrespective of its origin and intention of the warring states, involves the risk of inadvertent nuclear escalation. This article analyses China's nuclear build-up from the perspective of escalation risk and underlines why a conventional conflict cannot with certainty be segregated from nuclear confrontation.

## **Recent Developments**

It is well known that China is expanding, diversifying, and modernising its nuclear forces. An array of media reports indicated that China carried out a hypersonic missile test in July that circumnavigated the globe before hitting its target<sup>1</sup>, demonstrating PRC's ability to incorporate a hypersonic glider into a Fractional Orbital Bombardment System (FOBS)— "a nuclear-weapons delivery system that places warheads into low-earth orbit prior to de-orbiting them on to their targets".<sup>2</sup> Earlier, commercial satellite imagery has shown that China is building hundreds of missile silos that would add over 200 new silos to the Chinese arsenal.<sup>3</sup> China is reportedly constructing new submarines and modernising its air-based deterrent. Pentagon projects that China's nuclear build-up might enable it "to have up to 700 deliverable nuclear warheads by 2027" and at least 1000 warheads by 2030.<sup>4</sup> Recent developments in China's nuclear force posture has raised questions about its objectives and emerging nuclear strategy.

## **China's Quest for Survivability and Assured Second Strike Capability**

China's nuclear doctrine of no-first-use preordains it towards an assured retaliation strategy.<sup>5</sup> For the strategic deterrence to be credible and effective, China must survive the first blow and launch a massive retaliatory strike with the remaining strategic forces. However, the advanced US counterforce capabilities (both conventional and strategic) and sophisticated missile defences have long been a concern for China due to its small nuclear force.

The large-scale construction of geographically scattered silos, plausibly at a higher state of readiness, would boost China's capability to retaliate against nuclear attack and "would leave China better equipped to deter any nuclear attack its adversaries might be tempted to initiate".<sup>6</sup> The recent hypersonic missile tests signal China's capability to penetrate US missile defences. They demonstrate

that even if US pre-emptive first strike was to eliminate a majority of China's strategic forces, it would still have the capability to inflict unacceptable damage on the US homeland without worrying about missiles defences.

In essence, China's nuclear modernisation efforts enhance the survivability of its nuclear forces and boost its capability to launch a retaliatory second strike. This strengthens mutual nuclear vulnerability, the fundamental principle of nuclear deterrence. Thus, recent developments in China's nuclear force posture are stabilising, at least from the perspective of deterrence theory and from China's perspective.

### **China's Nuclear Build-up and Stability-Instability Paradox**

Some western experts have argued that stability at the nuclear level might instigate instability at the conventional level.<sup>7</sup> With its modernising conventional force and declining US conventional advantage in the East and the South China Sea, China would be more confident to challenge the United States and its allies conventionally to further Chinese rejuvenation by integrating Taiwan with mainland China. Abraham Denmark and Caitlin Talmadge expressed the underlying concern in an analysis on *Foreign Affairs*. They argue that "by limiting the vulnerability and increasing the numbers of its nuclear forces, Chinese strategists may grow more confident that the Chinese military can challenge the United States or its allies conventionally, with little fear that the United States would resort to nuclear escalation."<sup>8</sup>

The concept underpinning the above concern is the stability-instability paradox. The central argument is that nuclear and conventional military balance interact in a manner such that the stability at the strategic balance of terror lowers the stability at the conventional level of violence and vice-versa.<sup>9</sup> In other words, nuclear stability creates conventional instability, and conventional stability creates nuclear instability. While the concept was introduced in the initial decades of the Cold War by Glenn Snyder and has been extendedly employed to explain the dynamics of India-Pakistan nuclear and sub-conventional military balance<sup>10</sup>, it erroneously assumes that conventional and nuclear conflicts could be hermetically separated from each other, omitting the risk of inadvertent nuclear escalation.

### **Appreciating the Risk of Inadvertent Nuclear Escalation**

The danger of inadvertent nuclear escalation was highlighted by Barry Posen in his seminal work titled *Inadvertent Escalation*.<sup>11</sup> He argued that since great powers closely identify their security with the maintenance of survivable strategic deterrence, any unintended conventional operation that might threaten strategic forces, nuclear command and control assets, or early warning systems might

lead to a nuclear escalation. The risk of inadvertent nuclear escalation is further amplified by military organisations' offensive inclinations and the difficulty distinguishing between offensive and defensive operations during the crisis (worsened by the security dilemma).

The possibility of employing strategic weapons in the event of "significant non-nuclear strategic attacks... on US or allied nuclear forces, their command and control, or warning and attack assessment capabilities" was highlighted by the 2018 US nuclear posture review.<sup>12</sup> The risk of inadvertent escalation in a non-nuclear operation is catalysed by the entanglement between nuclear and non-nuclear systems (dual-use nature of C3I assets and missile delivery systems).<sup>13</sup> The increasing dependence of C3I assets and strategic forces on the digital communication system has created new vulnerabilities and has increased the risk of inadvertent escalation.<sup>14</sup>

From the perspective of deterrence stability, inadvertent escalation can have both positive and negative consequences. For instance, the risk of nuclear escalation might deter the determined CPC from starting a conventional war over Taiwan since US conventional intervention on behalf of Taiwan can escalate into nuclear warfighting. On the other hand, it could also encourage China to start a conventional campaign, possibly to integrate Taiwan, thinking that the risk of inadvertent escalation would deter the United States from conventionally interfering on behalf of Taiwan in the first place, thus paving the way for unhindered Chinese occupation of the island territory. Which side the dice of inadvertent escalation would roll depend on the Chinese determination to integrate Taiwan, US commitment towards the security and survival of Taiwan, and effective signalling by both actors towards their desired goals and obligations.

Nonetheless, the risk of a conventional conflict escalating to the nuclear level is real. Any conventional war between the US and China, irrespective of the origin and intention of the warring states, involves the risk of inadvertent nuclear escalation. Strategists and policymakers should fully appreciate the risk of inadvertent nuclear escalation to strengthen nuclear deterrence and avoid the catastrophic consequences of fighting a nuclear war.

## Notes

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<sup>2</sup> Timothy Wright, "Is China gliding toward a FOBS capability?" *International Institute for Strategic Studies*, October 22, 2021, <https://www.iiss.org/blogs/analysis/2021/10/is-china-gliding-toward-a-fobs-capability>. Accessed on October 25, 2021.

<sup>3</sup> Joby Warrick, "China is building more than 100 new missile silos in its western desert, analysts say", *The Washington Post*, June 30, 2021, [https://www.washingtonpost.com/national-security/china-nuclear-missile-silos/2021/06/30\\_story.html](https://www.washingtonpost.com/national-security/china-nuclear-missile-silos/2021/06/30_story.html). Accessed on

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<sup>4</sup> US Department of Defense, "Military and Security Developments Involving the People's Republic of China 2021", p. 92, November 3, 2021, <https://media.defense.gov/2021/Nov/03/2002885874/-1/-1/0/2021-CMPR-FINAL.PDF>. Accessed on November 8, 2021.

<sup>5</sup> M. Taylor Fravel and Evan S. Medeiros, "China's Search for Assured Retaliation: The Evolution of Chinese Nuclear Strategy and Force Structure", *International Security*, vol. 35, no. 2 (2010), pp. 48–87, <https://direct.mit.edu/isec/article-abstract/35/2/48/11999/China-s-Search-for-Assured-Retaliation>. Accessed on October 11, 2021.

<sup>6</sup> Fiona S. Cunningham and M. Taylor Fravel, "China's nuclear arsenal is growing. What does that mean for U.S.-China relations?", *The Washington Post*, November 11, 2021, <https://www.washingtonpost.com/politics/2021/11/11/chinas-nuclear-arsenal-is-growing-what-does-that-mean-us-china-relations/>. Accessed on November 21, 2021.

<sup>7</sup> Abraham Denmark and Caitlin Talmadge, "Why China Wants More and Better Nukes", *Foreign Affairs*, November 19, 2021, <https://www.foreignaffairs.com/articles/china/2021-11-19/why-china-wants-more-and-better-nukes>. Accessed on November 21, 2021. For a similar explanation, see, for example, Vipin Narang's Twitter thread available at: <https://twitter.com/NarangVipin/status/1451019849820422150>; "Nuclear Pieces on the Asia Chessboard: US, China, and Extended Deterrence", *Centre for Strategic and International Studies*, October 25, 2021, <https://www.csis.org/analysis/nuclear-pieces-asia-chessboard-us-china-and-extended-deterrence>. Accessed on November 9, 2021; Fiona S. Cunningham and M. Taylor Fravel, "China's nuclear arsenal is growing. What does that mean for U.S.-China relations?", *The Washington Post*, November 11, 2021, <https://www.washingtonpost.com/politics/2021/11/11/chinas-nuclear-arsenal-is-growing-what-does-that-mean-us-china-relations/>. Accessed on November 21, 2021. Tong Zhao, "Why Is China Building Up Its Nuclear Arsenal?", *The New York Times*, November 15, 2021, <https://www.nytimes.com/2021/11/15/opinion/we-need-to-pay-attention-to-chinas-nuclear-build-up.html>. Accessed on November 30, 2021.

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<sup>9</sup> The concept was introduced initially in Glenn Snyder, "The Balance of Power and the Balance of Terror", in Paul Seabury, ed., *The Balance of Power*, (San Francisco: Chandler). For a general understanding of the concept, see Rajesh Rajagopalan, "What Stability-Instability Paradox? Subnational Conflicts and the Nuclear Risk in South Asia", *South Asian Strategic Study Unit*, Research Paper No. 4 (2006), <https://www.files.ethz.ch/isn/2004.pdf>. Accessed on April 11, 2021.

<sup>10</sup> Michael Krepon, "The Stability-Instability Paradox in South Asia", *Stimson Center*, January 1, 2005, <https://www.stimson.org/2005/stability-instability-paradox-south-asia/>. Accessed on April 20, 2021.

<sup>11</sup> Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca and London: Cornell University Press, 1991); Barry R. Posen, "Inadvertent Nuclear War? Escalation and NATO'S Northern Flank", *International Security*, vol. 7, no. 2 (1982), pp. 28-54.

<sup>12</sup> US Department of Defense, "Nuclear Posture Review 2018", p. 20, February 2, 2018, <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>. Accessed on October 17, 2021.

<sup>13</sup> James M. Acton, "Escalation through Entanglement", *International Security*, vol. 43, no. 1 (2018), pp. 56-99, <https://www.mitpressjournals.org/doi/pdf/10.1162/isec>. Accessed on July 20, 2021.

<sup>14</sup> James M. Acton, "Cyber Warfare and Inadvertent Escalation", *Daedalus*, vol. 149, Issue 2 (2020), at <https://direct.mit.edu/daed/article/149/2/133/27317/Cyber-Warfare-amp-Inadvertent-Escalation>. Accessed on July 24, 2021.