

China and Nuclear Arms Control

The effectiveness of future arms control measures will depend on their ability to address the growing US-China nuclear competition and its impact on security dynamics in the Asia-Pacific. While legally binding treaties may be more distant prospects, there are strong incentives for the US, China, and others to work on confidence-building measures and dialogue aimed at reducing risk and misperceptions.

By Névine Schepers

Debates on the future of nuclear arms control have increasingly focused on two key aspects: how to address a more diverse range of weapon systems and how to include more parties beyond the US and Russia. The latter has predominantly meant China. Among the five recognized nuclear-weapon states under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), China is the only state that has increased its nuclear arsenal, albeit in small quantities. China has also been modernizing and expanding its types of delivery systems. Some of them can carry nuclear or conventional warheads, which increases the risk of inadvertent escalation in a crisis. Moreover, the nuclear dimension of the US-China relationship will inevitably grow as the strategic competition between Washington and Beijing intensifies on other fronts, notably in terms of a conventional arms race.

In the last two years, President Donald Trump and his administration insisted that Beijing join Washington and Moscow in arms limitation talks. In essence, these appeals stand to reason and would have received more support from US allies and the rest of the international community had they not been perceived as a diversion from a more urgent arms control objective: extending New START (Strategic Arms Reduction Treaty), the last remaining treaty placing limits on US and Russian nuclear



Military vehicles carrying JL-2 submarine-launched ballistic missiles drive past Tiananmen Square, October 2019. *Thomas Peter / Reuters*

arsenals. Also, the Trump administration's "name and shame" tactics and accusatory tone did not resonate well with Beijing, which flatly refused to take part in trilateral arms control on the basis that its nuclear arsenal is significantly smaller than that of the US and Russia.

With President-elect Joe Biden taking office on 20 January 2021, an extension of the New START agreement becomes more

likely. However, the next arms control steps would need to involve China, regardless of whether these are treaties, political commitments, or confidence-building measures. These all fit within the wider scope of arms control, which includes all forms of cooperation aimed at reducing the likelihood of war and contributes to improving understanding, transparency, and predictability between opponents. Managing growing US-China competition – one of

Biden's main foreign policy challenges – inherently involves a nuclear dimension. The question of how to involve China in arms control will remain and only become more prominent as China continues to grow its arsenal and field new systems. Finding ways in which China can become a party to future nuclear arms control efforts will require overcoming various misperceptions and addressing the challenges posed by regional security dynamics as well as the integration of new parties and technologies in a context that has been traditionally dominated by the US and Russia.

China's Policy and Capabilities

As opposed to other NPT nuclear weapon-states, China does not provide public estimates of its nuclear weapons. Warhead stockpile estimates vary from “in the low-200s” according to the US Department of Defense to about 320 warheads according to the 2020 SIPRI Yearbook. This places China in the same category as France and the UK, with respectively 290 and 215 warheads, and far behind the US and Russia, with 5800 and 6378 each, all based on 2020 SIPRI estimates. Yet, as opposed to

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other NPT nuclear-weapon states, China's stockpile has been slowly growing as it fields new weapon systems. The treaty-enforced limits of New START currently restrain both the US and Russia's arsenals while France maintains a self-imposed upper-limit and the UK is undergoing further reductions. Chinese stockpile increases will be limited in scope, however, given Beijing's limited reserves of fissile materials.

China's nuclear doctrine has remained unchanged since it first conducted a nuclear weapon test in 1964 and is underpinned by two principles: a minimum deterrent doctrine and No First Use (NFU) policy. The former means that nuclear weapons only serve to deter a nuclear attack or threat thereof, which just requires a small but credible second-strike capability, and the latter is self-explanatory: China pledges never to use nuclear weapons first under any circumstances.

China possesses a nuclear triad, composed of land-, sea- and air-based nuclear forces,

Nuclear concepts and terms: a Chinese interpretation

Exchanges between Chinese and Western – in particular American – nuclear experts are not as well established as with Russian experts and have often lagged due to persistent communication issues. These have mainly revolved around the **concept of NFU and different understandings of deterrence and strategic stability**. Chinese officials place a lot of importance on declaratory policy and transparency of intent, hence they push for mutual and multilateral NFU pledges during interactions with other nuclear-weapon states as a starting-point for progress on arms control and disarmament. US officials have always been skeptical of China's NFU pledge, seen as naïve and unrealistic, and their dismissal leaves discussions about basic confidence-building measures at an impasse. Moreover, **different interpretations of “nuclear deterrence” and “strategic stability”** – two key terms used when explaining nuclear policy and arms control dynamics – have made it difficult to express different concepts. The translation of “nuclear deterrence” in Chinese includes a strong sense of coercion. “Strategic stability” is ascribed a wider context than just nuclear relations and refers to broader trust and respect. **Work on a nuclear glossary** within the P5 process will hopefully help in moving discussions beyond issues of terminology.

but mostly relies on its land-based medium-, intermediate-range, and intercontinental ballistic missiles, of which approximately 190 are nuclear-capable. Beijing has been building up its sea-based deterrent currently made up of four Jin-class nuclear-powered ballistic missile submarines, each designed to carry up to 12 JL-2 submarine-launched ballistic missiles, with two more under construction. It remains unclear whether the submarines have ever conducted deterrent patrols with nuclear weapons on board. Their design is notoriously noisy, making them vulnerable to US anti-submarine warfare capabilities, hence the likelihood that Beijing is already working on its next generation of ballistic missile submarines and longer-range JL-3 missile. Finally, China's air force was reportedly reassigned a nuclear mission in 2018 and is currently developing a long-range strategic bomber, which would be able to also deliver nuclear weapons.

Beijing justifies its ongoing nuclear modernization program on the need to enhance the survivability and mobility of its nuclear forces and to ensure the credibility of its minimum deterrent. These developments are themselves driven by US advancements in the field of missile defense systems and long-range conventional precision-strike weapons, which could undermine China's nuclear deterrent. The deployment of the new Chinese DF-26 intermediate-range ballistic missile has raised concerns, however, given its dual-capable nature, which increases the potential for miscalculation in a crisis.

Despite some growing debate in China within expert and military circles on

whether to reconsider policies of minimum deterrence and NFU, the Chinese government has continuously re-affirmed its commitment to both principles. While the concept of what constitutes a “minimum” deterrent is debatable, modernization efforts do not necessarily affect China's NFU, which is unlikely to change given its central feature within Chinese doctrine. A more relevant and concerning development relates to a potential shift toward an increased state of readiness, comprised of investments in the development of an early warning system. This may lead to a “launch on warning” defense posture. Unlike the US and Russia, Chinese nuclear weapons are not kept on high alert during peacetime and it is widely believed warheads are kept separated from missiles. Accordingly, a change of launch posture would represent a significant development. As it reduces the available decision-making time during a crisis, it would increase the risk of accidental nuclear escalation.

International Cooperation Efforts

While China's nuclear posture has been fairly consistent over the years, its approach toward international and regional nuclear arms control, non-proliferation and disarmament efforts has evolved. It shifted from outright hostility to engagement with and eventually full participation in international regimes. This largely follows the timeline of China's policies of reform and opening up to the outside world, as well as increased diplomatic interactions. China's overall preference for multilateral formats translates to the fields of non-proliferation and arms control as well. Following its adherence to the NPT in 1992, China signed and participated in the negotiations establishing the Comprehensive Nuclear Test-Ban Treaty (CTBT). It also took part in

the management of the North Korean and Iranian proliferation crises and the revival of the P5 process, a dedicated forum for dialogue between the five permanent members of the UN Security Council in order to advance disarmament issues under the NPT. Beijing seems to favor the P5 format to advance confidence-building measures such as exchanges on nuclear doctrines and strategic risk reduction efforts.

Such confidence-building measures are welcome. Efforts aimed at developing risk reduction tools and initiating dialogues on issues of concern on either side, such as missile defense systems or the impact of new technologies on nuclear capabilities, will likely be necessary first steps to negotiating more restrictive agreements. China increasingly faces pressure, not only from the US but also non-nuclear weapons states under the NPT framework, to participate in arms control efforts for the purposes of restraining the development, stockpiling and deployment of nuclear weapons and their means of delivery. While Beijing is not alone in generating instability, its growing arsenal runs counter to overall disarmament aims and its work in the P5 process or efforts to push for a multilateral NFU are insufficient to advance disarmament.

So far, however, legally binding and verifiable strategic arms limitation and reduction treaties have only been concluded between the US and Russia or the Soviet Union. The only exception is the multilateral CTBT, which, by prohibiting all nuclear testing, limits further developments of nuclear weapons. While all states except for North Korea have respected the no-testing norm in the 21st century, the treaty has yet to come into force. China has signed but not ratified the treaty given the absence of US ratification. Beijing's lack of experience with strategic arms limitations and the significant difference in nuclear capabilities with the US and Russia are but some of the challenges facing future negotiations.

Obstacles to Progress

Several further factors hamper China's potential participation in such forms of arms control. Beijing is inherently suspicious of the US' intentions and believes it would use arms control measures as a tool to maintain US hegemony and a strategic competitive advantage. Moreover, Chinese wariness of verification measures stems from the belief that technologically superior states would

be able to circumvent such measures or use them for espionage purposes. While Beijing has consistently advocated for transparency in terms of nuclear doctrine and intent, it has shied away from transparency in capabilities, citing the reliance of its smaller deterrent on concealment abilities. In addition, there is little incentive for China to take part in arms control that solely addresses nuclear capabilities, given its own modernization efforts are determined by developments in US missile defense systems as well as conventional long-range strike and anti-submarine warfare capabilities. Missile defense systems are a key Chinese (and Russian) concern, but the US has so far refused to negotiate them. Finally, the US' withdrawal from several arms control treaties over the years, including the Anti-Ballistic Missile Treaty and the Intermediate-Range Nuclear Forces (INF) Treaty, have tarnished the image of the US as a reliable negotiating partner.

The US and China have engaged in military-to-military contacts since the 1990s and started a more concerted strategic stability dialogue under the Obama administration, although it has been placed on hold under Trump. These discussions, however, showed little progress as US and Chinese officials had very different views of where to start, with NFU, transparency, and mutual vulnerability being the main obstacles. On the one hand, Beijing would want to discuss a reciprocal NFU pledge (see text-box). On the other, Washington does not consider a NFU to be credible and has routinely tested out China's resolve by setting out hypothetical scenarios, such as a conventional strike on nuclear forces, which

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only serve to worsen China's fears. Moreover, the US sees China's refusal to discuss the exact number of nuclear weapons it possesses and plans to build as proof of bad faith. China, meanwhile, views the US' refusal to acknowledge vulnerability to Chinese nuclear retaliation as evidence that the US is seeking to win nuclear competition.

Regional Security Dynamics

Mutual vulnerability with China is an unstated fact. Were the US to declare it formally, it would indicate that the US is not seeking immunity from a Chinese second-

Further Reading

Li Bin and Tong Zhao (eds.) *Understanding Chinese Nuclear Thinking*, Carnegie Endowment for International Peace, 2016.

Nancy Gallagher, *China on Arms Control, Nonproliferation, and Strategic Stability*, Center for International & Security Studies at Maryland, August 2019.

Ulrich Kühn, Alexey Arbatov, David Santoro, and Tong Zhao, *Trilateral Arms Control? Perspectives from Washington, Moscow, and Beijing*, Institute for Peace Research and Security Policy at the University of Hamburg, March 2020.

ary strike. The US not acknowledging such a vulnerability currently informs Chinese strategic planning decisions and spurs modernization efforts. At the same time, Japan, South Korea, and Taiwan – all dependent on US extended deterrence, albeit more ambiguously in the case of Taiwan – would perceive such a declaration as undermining the credibility of US security guarantees and emboldening China, as Beijing would no longer fear the risk of a conventional conflict escalating to a nuclear level. This highlights the linkages between progress on nuclear arms control with China and broader regional security dynamics as well as between conventional and nuclear developments. Debates surrounding the potential deployment in either South Korea or Japan of US conventionally armed ground-based missile systems previously prohibited under the INF treaty encapsulate both challenges as well. To the US and its allies, such deployments would serve to counter Chinese military expansion, but they would also continue to drive the arms race forward. Furthermore, such deployments would also threaten Moscow, which would provide an additional incentive for China and Russia to work together.

China and Russia are not allies, nor do they publicly recognize the existence of a reciprocal deterrence relationship between them. Yet, Sino-Russian cooperation, driven by common security interests and joint opposition to US leadership, has increasingly touched on nuclear aspects. These have included confidence-building measures such as a ballistic missile launch notification agreement, sales of air and missile defense systems, participation in joint mili-

tary exercises including a joint strategic bomber patrol, and, more significantly, Russian support in the development of an early warning system. Yet due to the unspoken but still latent deterrence relationship between Moscow and Beijing, there is a limit to deeper nuclear cooperation. Moscow previously called for the inclusion of China in future arms control agreements but has become less vocal about it, at least publicly. As long as Sino-Russian security

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interests align, Moscow and Beijing will continue to cooperate, including on nuclear issues. This cooperation would probably be helpful to China in potential trilateral arms control negotiations.

Finally, while China's nuclear policy and capabilities increasingly feature in India's strategic calculations, the opposite is not currently true. The lack of attention Chinese officials bestow on the nuclear dimension of China-India relations, largely ascribed to a sense of superiority in military capabilities, is concerning as it ignores the potential escalation and miscalculation risks. It also dismisses the impact Chinese nuclear developments have on India's growing capabilities, which, in turn, spur

on Pakistan. Any regional destabilizing effects arising from the nuclear competition between India and Pakistan have implications for China's strategic balance and security perceptions, as does India's closer security cooperation with the US.

Outlook

Arms control does not occur in isolation from broader strategic trends and geopolitical developments, nor can it be successful in managing strategic stability or arms race stability if it ignores the overall security environment. China's interest in arms control will be contingent on whether the political and security benefits outweigh the costs and risks. This cost-risk-benefit analysis depends in part on the evolution of its relationship with the US, which also extends to security dynamics involving US regional allies. The incoming Biden administration may change the tone of the US' rhetoric on China and seek to rectify the balance between competition and cooperation, given the need to work together on issues such as global warming and the pandemic. However, even this will be challenging given bi-partisan views that China is increasingly a threat to the US. Biden will also face the more difficult issue of addressing China's growing challenge to the liberal international order that remains at the heart of US foreign policy and promotes freedom, democracy, rule of law, and human rights. How the Biden administra-

tion chooses to tackle the former will affect the approach it chooses on arms control.

As competition between the US and China intensifies on multiple fronts, arms control measures could serve to address not just nuclear weapons themselves but ideally a broader range of elements that generate competition and instability, including defensive systems, conventional weapons that can target nuclear assets, and space-based capabilities. Simply transposing measures that worked in a US-Russian context or that focus solely on nuclear capabilities are unlikely to succeed. Nevertheless, pursuing arms control measures to ultimately advance disarmament aims by including all P5 states is desirable in the long-term. As a starting point, progress can take the form of confidence-building measures by pursuing risk reduction measures, developing crisis management tools, and at least initiating discussions on how non-nuclear technologies impact nuclear programs and escalation risks.

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