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Research Report

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SWP Comment, No. 68/2022

Provided in Cooperation with:

Stiftung Wissenschaft und Politik (SWP), German Institute for International and Security Affairs, Berlin

Suggested Citation: Wachs, Lydia (2022) : The role of nuclear weapons in Russia's strategic deterrence: Implications for European security and nuclear arms control, SWP Comment, No. 68/2022, Stiftung Wissenschaft und Politik (SWP), Berlin, <https://doi.org/10.18449/2022C68>

This Version is available at:

<https://hdl.handle.net/10419/266591>

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SWP Comment

NO. 68 NOVEMBER 2022

The Role of Nuclear Weapons in Russia's Strategic Deterrence

Implications for European security and nuclear arms control

Lydia Wachs

In the West, Russia's nuclear deterrence strategy is often described as one of "escalate to deescalate". The thinking goes that Moscow is prepared to use nuclear weapons at an early stage in a conflict in order to "deescalate" and terminate the confrontation quickly in its favour. However, Russia's official military doctrine, nuclear exercises of the Russian military, and debates among political and military elites have so far pointed in a different direction. With the concept of "strategic deterrence", Russia has developed a holistic deterrence strategy in which nuclear weapons remain an important element. Yet, to gain more flexibility below the nuclear threshold in order to manage escalation, the strategy also conceptualises a broad range of non-military and conventional means. Given Russia's dwindling arsenal of conventional precision weapons due to its war against Ukraine as well as the strategic adaptation of the North Atlantic Treaty Organization (NATO), Russia's strategy is likely to change: In the coming years, Russia's reliance on its non-strategic nuclear weapons will probably increase. These developments could both undermine crisis stability in Europe and further impede the prospects for nuclear arms control in the future.

Over the past decades, Russia has carried out a comprehensive modernisation of its nuclear forces. As part of this, it has not only replaced legacy delivery systems, but also developed entirely new capabilities. The size of the strategic arsenal of the Soviet Union and Russia has historically not been determined by specific targeting requirements. One of the main objectives has instead been to achieve numerical parity with the United States. Today, Russia has an active nuclear arsenal of about 4,500 nuclear warheads. About 1,600 of these warheads

are deployed on land-based intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and at heavy bomber bases. At present, the New START Treaty with the United States still limits Russia's strategic nuclear arsenal. However, the treaty expires in 2026. Since Russia currently has around 1,000 additional warheads in storage, it would then have the possibility to substantially increase the number of its deployed strategic nuclear weapons.

Russia's modernisation campaign is also driven by concerns about the credibility of



its own second-strike capability, especially in view of the US missile defence programme. Although the latter poses no real threat to Moscow's second-strike capability, the Russian leadership has repeatedly underlined its concerns and has framed the development of several new strategic and partly asymmetric capabilities as responses to advances in US missile defence. These Russian capabilities include the already deployed *Avangard* hypersonic glide vehicle, the new *Sarmat* ICBM, which is supposed to be deployed in the next months, the *Poseidon* nuclear-powered, long-range underwater drone, and the *Burevestnik* nuclear-powered cruise missile with global range. The latter two systems are still being developed and tested.

Russia's non-strategic nuclear weapons

In addition to its strategic arsenal, Russia possesses about 2,000 non-strategic nuclear weapons, meaning weapons with generally lower yields and shorter ranges. These are not subject to any arms control or transparency measures.

The fact that Russia still possesses and modernises such a sizeable number of non-strategic nuclear weapons has triggered debates in the West about Moscow's nuclear threshold. These have intensified with Russia's attack on Ukraine and its nuclear threats. In particular, Western officials and analysts have voiced the concern that Russia could employ nuclear weapons early in a conflict in a limited way because its leaders believe that this will allow Russia to end the conflict quickly on its terms — an approach that has been described in the West as “escalate to de-escalate”. The Kremlin has always rejected this portrayal of its deterrence strategy. Instead, it officially states that Russia would use nuclear weapons only in the event of an attack with nuclear weapons or other weapons of mass destruction, or if the existence of the Russian state were threatened by a large-scale conventional aggression. However, it

remains unclear what Moscow would consider a threat to the state's existence. This uncertainty about Russia's exact nuclear threshold cannot be resolved. Perhaps not even the Kremlin has precisely defined the point at which it would employ nuclear weapons. An analysis of Russian strategic documents and debates among the political and military elites can nonetheless shed light on how Moscow conceptualises deterrence.

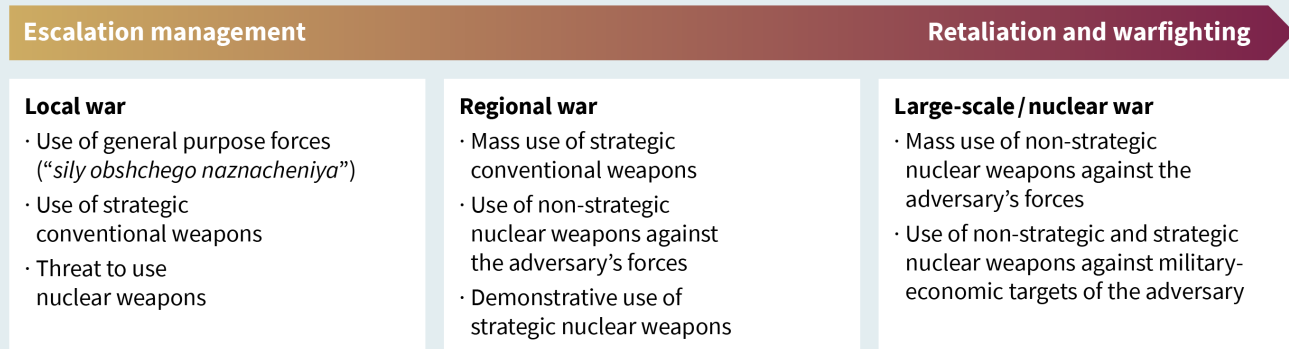
Moscow's nuclear threshold

In its military doctrine, Moscow has for decades not ruled out using nuclear weapons first. This notwithstanding, Russia's deterrence strategy has changed over time with implications for its nuclear threshold. Russia's changed threat perception is likely one factor that has influenced this as well as the interplay of conventional and nuclear capabilities.

In the first years after the collapse of the Soviet Union, Russia's perceived conventional inferiority compared to the modern precision strike capabilities of the United States led Moscow to rely more on its non-strategic nuclear weapons. Increased nuclear signalling but also Russia's declaratory policy underlined this. According to the Russian military doctrine from 2000, Russia would also consider the use of nuclear weapons in response to a conventional aggression “critical to the national security of Russia” (emphasis added). Russia thereby appeared to signal a willingness to employ nuclear weapons even as a response to an aggression that did not threaten the existence of the state. This lowered nuclear threshold was however also controversial in Moscow, as discussions among political-military elites indicate. After all, threatening a nuclear response in the face of non-nuclear threats seemed non-credible also in the eyes of these elites.

The role of nuclear weapons in Moscow's deterrence strategy appeared to gradually change with the modernisation of its conventional forces and the development of

Russian model for the role of conventional and nuclear weapons in escalation management



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Source: Michael Kofman et al., *Russian Strategy for Escalation Management: Evolution of Key Concepts* (Arlington: CNA, April 2020), 20.

modern conventional or dual-capable land-, sea-, and air-based capabilities in the 2010s. These include the dual-capable short-range *Iskander* missile system as well as several intermediate-range missiles, such as the dual-capable sea-based cruise missile *Kalibr* and the air-based conventional or nuclear cruise missile *Kh-101/Kh-102*.

These new conventional and dual-capable systems did not replace the role of nuclear weapons in Russia’s strategy of escalation management and nuclear weapons remain an important component in Russia’s deterrence system. Yet, Moscow’s over-reliance on nuclear weapons appears to have been significantly reduced in the past decade. Writings in Russian military journals suggest that the availability of non-nuclear capabilities is primarily intended to create more flexibility below the nuclear threshold and in the early phases of a conflict. Its most recent military doctrines also indicate that Moscow is raising the bar for nuclear weapons use: Today it officially declares that it would consider using nuclear weapons as a response to a conventional aggression that threatens the state’s existence.

Strategic deterrence

With the concept of “strategic deterrence” (“*strategicheskoe sderzhivanie*”), Russia is today pursuing a holistic deterrence strategy that integrates both non-military and military

means. Above all, however, the concept is based on the credible threat to use military force, which includes a broad range of weapons — from conventional to strategic nuclear weapons. This is supposed to contribute towards deterring and containing adversaries in peacetime as well as managing escalation in wartime.

It follows that the Russian understanding of deterrence is much broader than the traditional Western one: From Moscow’s point of view, it is based not only on the threat of force or intimidation, but also on the willingness to use limited force (“*silovoe sderzhivanie*”). Furthermore, according to the official definition, its deterrence tools may be used to influence not only political decision-makers but also the general public of an adversarial state.

Nuclear weapons are included within this conceptualisation. The Russian strategic debate on the utility of nuclear weapons starts from a conceptualisation of different conflict archetypes. At one end of the spectrum are local wars, such as the one in Ukraine; at the other end are large-scale wars between major powers or coalitions. In between are regional wars, understood as more limited military confrontations with an alliance of states, such as NATO.

An analysis of publications in Russian military journals from the past few years suggests that the role of nuclear weapons in local wars is limited to mere threats of nuclear employment. Such threats are sup-

posed to deter other states from intervening, thereby keeping a limited war from becoming a regional one. In confrontations of this nature, the focus lies on the use of (strategic) conventional capabilities. In turn, it is within regional wars that Russian strategists conceptualise a transition from the use of strategic conventional weapons to non-strategic nuclear weapons. It is only for the largest conflict type that Russian debates theorise the possibility of a massive use of non-strategic and strategic nuclear weapons (see figure).

Accordingly, the nuclear element has three main functions: deterrence through the threat of escalation, actual limited use in order to manage escalation, and massive retaliation or warfare in the event of escalation.

There is furthermore a much closer link between non-nuclear and nuclear capabilities than in the West. This is also evident in organisational terms: For example, Russian forces are not structured into strategic or non-strategic nuclear forces. Rather, Russia differentiates functionally between general purpose forces (*“sily obshchego naznacheniya”*), which are supposed to achieve effects directly in the theatre of military operations, and strategic deterrence forces (*“strategicheskiye sily sderzhivaniya”*), which range from strategic conventional weapons to strategic nuclear weapons. Owing to this much greater integration of conventional and nuclear capabilities, some Western experts argue that when compared to the approach of NATO states, Russia’s nuclear threshold is much more blurred.

Russia’s conventional operation in Ukraine to some extent demonstrates this strategy. Moscow seems to be trying to keep the war limited to Ukraine and to deter NATO from intervening through veiled nuclear threats. Nuclear *signalling* serves escalation management purposes. This approach is not entirely new. Russia used nuclear rhetoric during its annexation of Crimea in 2014 and in Georgia in 2008 — but not to the same extent as in 2022.

In the West, however, the predominant interpretation of Moscow’s strategy of esca-

lation management has so far been that Russia would use the signalling effect of its non-strategic nuclear weapons only to protect its own national security and territory — not to pursue revisionist goals in its own neighbourhood. Russia’s actions in Ukraine now call this interpretation into question.

Russia’s problems with conventional precision weapons

In the future, the role of nuclear weapons in Russia’s strategic deterrence is likely to change. Two factors in particular could lead to a greater reliance on the nuclear component: Russia’s dwindling arsenal of non-nuclear strategic weapons and NATO’s political and military adaptation.

Since the beginning of the war in Ukraine, Russia has used a vast number of ballistic and cruise missiles. According to Western intelligence, however, Russian missiles appear to have a high fail rate as well as problems with precision. In addition, Russia’s arsenal of modern non-nuclear precision weapons is slowly running low, which is why the military leadership is increasingly having to resort to older, less precise systems and reaching out to partners such as Iran for assistance. To reconstitute Russia’s depleted stocks, missile manufacturers have tried to accelerate production but are struggling to significantly increase volumes.

Russia’s dependence on semiconductors and electronic components from the West exacerbates this situation. Systems such as Russia’s *Iskander-M*, *Kalibr*, and *Kh-101* missiles require specialised microelectronic components that are produced primarily in North America, Europe, and East Asia. Yet, due to Western sanctions and export controls, the Russian military appears to be struggling to replenish its arsenal. Moscow’s efforts to build its own semiconductor industry have so far met with little success. In the short and medium term, imports from China are also not an option due to the extraterritorial effect of US sanctions. Therefore, Russia either has to produce less-efficient systems or it has to try to circum-

vent sanctions, for example by using front companies.

Against this background, the question arises as to whether the vacuum left by Russia's strategic conventional capabilities in its deterrence strategy could to a certain extent be filled by non-strategic nuclear weapons. As a consequence, Moscow would – at least temporarily – rely more on non-strategic nuclear weapons in its strategy of escalation management, resembling its approach in the early 2000s.

Could Moscow adapt its nuclear posture?

In addition to the described conventional weaknesses, the current changes in the European security order could further contribute to the growing role of nuclear weapons in Moscow's deterrence strategy. Russia's war in Ukraine has triggered a substantial transformation in the security architecture in Europe. The accession of Finland and Sweden to NATO will make it easier for the Alliance to defend and strategically utilise the Baltic region, while hampering Russia's ability to conduct military operations in the Baltic Sea. Thus, future Russian military planning will have to take into account a much longer coastline and land border with the Alliance.

NATO's steps to adapt its deterrence and defence posture are likely to further worsen the strategic situation from Moscow's point of view. Russia already has considerable military resources in Kaliningrad, in the St Petersburg region, and on the Kola Peninsula. This notwithstanding, the Kremlin's threat perception will most likely increase in light of NATO's strategic adaptation, potentially triggering Russian force adjustments. Defence Minister Sergei Shoigu has already stated that the above-mentioned developments will affect Russia's defence strategy. What form this might take remains unclear, however. At the moment, Russia does not seem to have sufficient conventional forces to increase its regional presence in the Baltics. This could be an-

other factor spurring an elevated role of especially non-strategic nuclear weapons in Russia's deterrence strategy and driving nuclear posture adjustments in the regions bordering NATO.

Russia permanently deployed *Iskander-M* systems to Kaliningrad in 2018, although it remains unclear whether it also stores nuclear warheads there. Over the past years, Moscow has carried out renovations of some storage sites in the exclave. If it has not already done so, Russia could now move nuclear weapons to the region. Moscow also deployed Mig-31 fighter jets with *Kinzhal* dual-capable missiles to Kaliningrad in August 2022 to strengthen its strategic deterrence. The *Kinzhal* medium-range air-launched ballistic missile is one of Russia's advanced weapons systems. Although it is often labelled as a hypersonic missile, its design is likely derived from Russia's *Iskander-M* systems. Its distinguishing feature is not so much its high speed, which resembles the speed of other ballistic missiles, but its manoeuvrability, limiting the ability of the defending party to target the incoming missile.

Another way in which Russia could respond to the changing European security order is by transferring nuclear weapons or nuclear-capable systems to Belarus. Alexander Lukashenko and Vladimir Putin addressed this issue in late June, announcing that in the coming months Belarusian Su-25 aircraft would be modified in Russia so that they could carry nuclear weapons and personnel would be trained accordingly. In addition, Putin announced the transfer of *Iskander-M* systems to Belarus. However, what the two men did not touch upon was the transfer of nuclear warheads to Belarus.

Even though the ban on hosting nuclear weapons on Belarusian territory was removed through changes in the Belarusian constitution in February 2022, such a transfer would be relatively difficult. Former Soviet storage sites in Belarus would first need to be reactivated. Moreover, the Belarusian Su-25 aircraft could most likely carry only gravity bombs, and its survivability against defensive measures would be rela-

tively poor. Recently, the Su-24 aircraft was also raised as another option in Belarusian media reports. This aircraft would be nuclear-capable, but it was removed from service by Belarus 10 years ago and would therefore first need to be reactivated.

For the time being, several political but also technical questions therefore still appear unresolved. What is also possible is that the public deliberations between Putin and Lukashenko were first and foremost aimed at sending a political signal rather than providing the basis for an actual transfer of robust systems to Belarus.

Crisis stability could decline...

An elevated role for nuclear weapons in Russia's deterrence strategy and a strengthened nuclear posture in areas bordering NATO could weaken European security and stability in different ways.

First, strengthened deployments of nuclear weapons in western Russia could trigger new arms dynamics in Europe. The immediate military impact of deploying non-strategic nuclear weapons in Kaliningrad and Belarus would likely be limited. Russia can already hold any target in Europe at risk with its various missiles.

Nevertheless, a strengthening of Russian nuclear forces in the Baltic region and possibly in Belarus could generate political pressure within NATO to respond to these moves. So far, the military Alliance has rejected the deployment of new land-based nuclear missiles in Europe. Yet, the United States is currently developing various conventional stand-off missiles. Decisions about their deployment are still pending. Should Russia expand its nuclear deployments close to NATO, Central and Eastern European states in particular could demand not only a strengthening of defensive capabilities such as missile and air defence. They could also pressure NATO to increase offensive capabilities by deploying American conventional cruise missiles and hypersonic weapons, which are currently in the final stages of development.

In the long term, this could push Moscow towards developing a serious interest in non-strategic arms control, much like in the 1970s and 1980s. In the short to medium term, however, it could exacerbate Moscow's threat perception and thus influence escalation dynamics.

This leads to the second point: A greater role of nuclear weapons in Russia's escalation management could have an impact on the stability and dynamic of potential crises between NATO and Russia. Research on nuclear crises highlights two factors in particular that can influence crisis stability. These are, firstly, the incentive to use nuclear weapons first and, secondly, the degree to which crises can be controlled, for example through communication channels. What matters is less the actual situation than the perceptions of the actors involved.

Thus, in a worsening crisis situation, for example in the Baltic Sea region, the United States might be concerned about a low Russian nuclear threshold and therefore consider the use of conventional precision weapons. Russia, in turn, is likely to fear such a step, which could make a Russian use of nuclear weapons more likely. Overall, the escalation potential of crises would thus increase.

Since both sides will factor these potential escalation dynamics into their military planning and established crisis communication channels do exist, nuclear escalation should remain unlikely. Nonetheless, looking into the future, the perceptions of asymmetric force distribution are more likely than ever before to shape both crises and the strategic behaviour of both sides.

...and the prospects for arms control could further dwindle

Third, a potentially growing role of nuclear weapons for Russia's security will pose an additional obstacle to arms control. The New START Treaty, which limits the number of strategic delivery systems and nuclear warheads, expires in 2026. At present, it is highly unlikely that the United States and

Russia will conclude a follow-on treaty. This is not only due to bilateral tensions but also due to China's nuclear build-up and the domestic political situation in the United States. It remains to be seen whether, despite these obstacles, a politically binding upper limit on strategic nuclear weapons or transparency measures, for example limited data exchanges, can be negotiated.

With regard to non-strategic nuclear weapons, the situation is even more complicated. Already before the war, arms control of non-strategic systems faced serious challenges. The 1987 Intermediate-Range Nuclear Forces Treaty (INF), which banned land-based intermediate-range missiles, fell apart in 2019 when the Trump administration decided to withdraw from the treaty. Russia's development of a cruise missile banned under the treaty had triggered this decision. Moscow had however always denied violating INF provisions and, in turn, accused the United States of breaching the treaty. Since then, various arms control and transparency initiatives regarding INF systems have not come to fruition.

If Russia's reliance on non-strategic nuclear weapons once again increases, Moscow's appetite for limitations on short- and medium-range missiles will likely erode even further. The United States is also unlikely to have any interest in restrictions in view of both its own missile programmes and China's growing arsenal of medium-range missiles. Thus, there will be no significant increase in nuclear security and stability in Europe in the coming years, neither on the strategic nor on the non-strategic level.

Recommendations

Germany's forthcoming National Security Strategy provides an opportunity for the government to analyse the new threat landscape in Europe and to adapt its position.

In this context, it is first of all important that Germany remains clear-eyed and acknowledges the current challenges: Russia will have no interest in arms control, let alone the disarmament of non-strategic nuclear weapons in the coming years. On the contrary, Moscow's reliance on nuclear weapons for deterrence and escalation management will likely grow. The "disarmament offensive" called for in the German coalition agreement, which also demands arms control measures covering nuclear weapons with shorter ranges, is unlikely to have any chance of success in this legislative period.

In addition, Berlin should strengthen its position with regard to the arms dynamics taking place in Europe. In view of Washington's development of new conventional medium-range missile systems and the re-activation of the 56th Artillery Command in Germany, Berlin might face difficult decisions concerning the deployment of conventional medium-range missiles in the coming years. Negotiations with Moscow, however, can only succeed from a position of strength, which is based in particular on a united Alliance. Thus, the German government should seek to prevent decisions on possible US missile deployments in Europe from becoming a test for NATO.

Finally, German government officials should thwart Russia's nuclear intimidation strategy, which is among other things aimed at weakening social cohesion within Western societies. Moscow's nuclear signalling will likely continue in the coming years and potentially disconcert the German population. Effective communication and explanations of the situation and context can help counteract the effect of intimidation. Here, media representatives can play an important role as well.

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ISSN (Print) 1861-1761
ISSN (Online) 2747-5107
DOI: 10.18449/2022C68

(English version of
SWP-Aktuell 59/2022)

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SWP Comment 68
November 2022