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Are nuclear weapons ineffective in deterring non-nuclear weapon states?

The paradox of Russia's war on Ukraine

Since February 24, Russia's war on Ukraine has become a laboratory of major theories and regimes. Most of them were inherited from the Cold War period. At the forefront of this day-to-day testing lab, nuclear deterrence is being assessed for its capabilities and limits. This critical juncture is already paving a new role in today's international security architecture.

The concept of nuclear deterrence is closely linked to the ownership of nuclear weapons by five NPT-permitted nuclear weapon states (the United States, Russia, China, France, and the United Kingdom) and four other nuclear-possessing states (India, Pakistan, Israel, and the DPRK).¹ It is based on what Dr. Strangelove satirically describes, in Stanley Kubrick's eponymous 1964 masterpiece, as the idea of "*producing in the mind of the enemy the fear to attack*".² Thus, the effectiveness of this threat must be credible and comprehensible to other states. In addition, this message should be carried with a devastating retaliatory threat for using nuclear weapons, which should deter the aggressive behavior of a potential attacker.

¹ Bruno Tertrais, "[Quel avenir pour la dissuasion nucléaire ?](#)", Fondation pour l'innovation politique, October 2022.

² Eric Schlosser, "[Almost Everything in 'Dr. Strangelove' Was True](#)", *The New Yorker*, January 17, 2014; Stanley Kubrick, *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb* [Film; DVD release], Columbia Pictures, 1963.

In the context of the present war in Ukraine, the problem is that Russian nuclear deterrence has not been entirely credible and might undermine the declaratory policies of other nuclear weapon states. However, deterrence against US/NATO is working and its use as a cover for Russian aggression in Ukraine could be successful.³ For example, the missile incident in Poland which took place on November 15 makes the case that fear of nuclear escalation is much alive between the two nuclear superpowers, the US and Russia.⁴

Furthermore, the world has already witnessed some other capabilities of nuclear deterrence, in particular, “offensive deterrence” or “aggressive sanctuarisation” as it is called sometimes.⁵ By offensive deterrence, we mean the strategy where nuclear capabilities are used not only to deter the enemy’s attack on one’s home territory or allies’ territory but also to ensure an invasion of a sovereign state through the coercive threat of nuclear use to prevent the interference of the third parties. This strategy is based on Russia’s attempts to establish anti-access and area denial (A2/AD) capabilities along its borders, designed to force any attacker into a major escalation, in which Moscow could pursue both defensive and coercive aims, depending on the circumstances.⁶

This paper will focus on the limitations of nuclear deterrence and the ineffectiveness of nuclear weapons in deterring non-nuclear weapon states brightly demonstrated during this war.

Deterring non-nuclear states

Political scientists Kyle Beardsley and Victor Asal claimed that “*nuclear actors are more likely to prevail when facing non-nuclear states.*”⁷ It is likely that Russia was completely sure of this proposition when it started its war against Ukraine. In his speech on September 30, Russian President Vladimir Putin unveiled, among other things, the notion that the United States created a precedent for the use of nuclear weapons with its bombing of Hiroshima and Nagasaki in 1945,⁸ thus seemingly entertaining the idea of nuclear use in Ukraine. The reality is that these weapons were so horrific in their effects that they created not a precedent but a nuclear taboo.⁹ But Putin may be tempted to break this 77-year taboo. Why? Because he signaled that he wanted a victory at all costs. This strategy was supported by the annexation of the four occupied Ukrainian regions (Donetsk, Luhansk, Kherson, and Zaporizhzhia) that Putin signed into Federal Constitutional Law, on October 4.¹⁰

³ Nikolai Sokov, “[Russia Clarifies Its Nuclear Deterrence Policy](#)”, VCDNP, June 3, 2020.

⁴ Vasilisa Stepanenko, “[Poland, NATO say missile strike wasn’t a Russian attack](#)”, Associated Press, November 16, 2022; Herman Kahn, *On Escalation: Metaphors and Scenarios*, Routledge, New York, 2010.

⁵ Bruno Tertrais, “[L’automne nucléaire de l’Europe](#)”, *Le Grand Continent*, September 26, 2022.

⁶ Emmanuelle Maitre, “[Between enhanced commitment and structural opposition: nuclear deterrence in light of the war in Ukraine](#)”, *Recherches & Documents*, FRS, n° 15/2022, November 2022.

⁷ Kyle Beardsley, Victor Asal, “Winning with the Bomb”, *The Journal of Conflict Resolution*, vol. 53, n° 2, 2009.

⁸ [Signing of treaties on accession of Donetsk and Lugansk people’s republics and Zaporozhye and Kherson regions to Russia](#), The Kremlin, Moscow, September 30, 2022.

⁹ Nina Tannenwald, “The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use”, *International Organization*, vol. 53, n° 3, 1999.

¹⁰ Guy Faulconbridge, Felix Light, “[Kremlin says annexation and retreat are not a contradiction amid Ukrainian successes](#)”, Reuters, October 5, 2022.

It is possible to interpret Putin's autumn announcements as an attempt to enhance his deterrence signals. Using what game theorist and Nobel laureate Thomas Schelling described as a nuclear "game of a chicken", *i.e.*, when a player taunts the other it increases the risk of shame in yielding.¹¹ By officially annexing the Ukrainian territories and making them an integral part of the Russian territory, Putin presented himself as a driver who was not able to stop. He also applied the Kremlin's favorite playbook to justify its actions by something which has been done previously by Washington. For example, the aggression against Ukraine had a direct reference to the Serbia operation of 1999 and the liberation of Kosovo. The Russian President used this standard code of conduct by referring to the Hiroshima nuclear bombardments in his speech on September 30.

These declarations aimed to coerce Ukraine to peace on Russia's terms, while simultaneously coercing NATO to pressure Ukraine, also slowing down its military equipment support, or at least obtaining territories, especially since the prospect of Russia winning the conventional war is uncertain.

All facts and circumstances have enhanced Russian nuclear messaging. According to Russia's *Basic Principles of State Policy on Nuclear Deterrence*, one of the conditions for Moscow to use nuclear weapons is in a conventional war if the very existence of the Russian state is threatened.¹² In addition, one of the main values of Russia's nuclear deterrent is to protect its territorial integrity.¹³ In this regard, the notion of an "existential threat" to Russia seems to apply, "*in fact, to the scenario of a direct attack on territory considered by Moscow to be legally Russian*".¹⁴ Hence, the illegal referendums and the following joining of the annexed Ukrainian regions (besides their basic mission to expand Russian territory) were aimed to demonstrate Moscow's increasing resolve to use nuclear weapons. Those declarations just reinforced the arguments made by Putin on September 21, when he commented that "*if Russia feels its territorial integrity is threatened, we will use all defense methods at our disposal, and this is not a bluff*".¹⁵ This was interpreted as a hint of possible nuclear use.

However, the paradox of this conflict is that unlike US/NATO, which are somewhat deterred by Russian strategic nuclear weapons from interfering directly in the war, Kyiv does not seem to be deterred by Moscow's nuclear rhetoric. Despite active Russian signaling on the "judgment day" as a consequence of an attack on the Crimean bridge (as defined by deputy chairman of the Russian Security Council Dmitry Medvedev in July), the bridge was heavily damaged by the Ukrainian forces in October.¹⁶

¹¹ Thomas Schelling, *Arms and Influence*, Yale University Press, New Haven, 1966.

¹² [Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence](#), Executive Order of the President of the Russian Federation, June 8, 2020.

¹³ *Ibid.* According to Article 4, Russia's state policy on nuclear deterrence "*is defensive by nature, it is aimed at maintaining the nuclear forces potential at the level sufficient for nuclear deterrence and guarantees protection of national sovereignty and territorial integrity of the State, and deterrence of a potential adversary from aggression against the Russian Federation and/or its allies. In the event of a military conflict, this Policy provides for the prevention of an escalation of military actions and their termination on conditions that are acceptable for the Russian Federation and/or its allies.*"

¹⁴ Bruno Tertrais, "L'automne nucléaire de l'Europe", *op. cit.*

¹⁵ Vladimir Putin, "[Address by the President of the Russian Federation](#)", The Kremlin, Moscow, September 21, 2022.

¹⁶ "[Медведев предупредил Киев о 'судном дне' в случае атаки на Крымский мост](#)", Radio Sputnik, July 17, 2022.

More recent events showed the complete ineffectiveness of the Russian nuclear rhetoric against Ukraine. Later in autumn, the counteroffensive actions of the Ukrainian army and strikes over military bases in Crimea succeeded in pushing Russians back from Kherson at the Southern front. It also led Kyiv to a new level of ignoring Russian deterrent threats when the Ukrainians performed behind-enemy-lines operations on Russian territory. For example, the Ukrainian drone attacks over the Russian military bases of Tu-95 and Tu-160 dual capable bombers in Saratov, Briansk, and Kursk oblasts on December 5-6 were performed over the internationally recognized territory of the Russian Federation.¹⁷

The latter could have severe consequences. One of the provisions of Russia's *Basic Principles of State Policy on Nuclear Deterrence* for nuclear use is an attack against Russia's "critical governmental or military sites" or a disruption that "would undermine nuclear forces response actions".¹⁸ In our opinion, Russian strategic bombers bases can be considered as a critical infrastructure involved in response actions.

The main question here is: why Ukraine is not deterred by the Russian nuclear rhetoric? There can be political and theoretical reasons to explain this, which are pretty much intertwined.

The first reason is that the frequent use of deterrent threats leads to its exhaustion. The main paradox of nuclear deterrence is that "for a nuclear weapon to be a weapon of non-use, it must at the same time be a weapon of use."¹⁹ In their war on Ukraine, Moscow authorities have used the wording "red lines" so many times that it has just lost its deterrent value for Ukraine. Kyiv has been continuously testing Russian deterrence on the battlefield since the blowout of the Crimean Bridge and continuous strikes behind enemy lines, including over Russian strategic forces bases. In response, Russia has performed attacks on the Ukrainian energy infrastructure. These have brought heavy damage to the Ukrainian population. Nonetheless, when compared to the notion of Ukrainian state extermination, which Russia has initially been pursuing, the damage these attacks have caused cannot be called "unacceptable".

Second is the "tradition of nuclear non-use," introduced by T.V. Paul, which explains the non-use of nuclear weapons against non-nuclear states by a range of factors, including strategic, reputational, or even "the destabilizing and absolute character of nuclear weapons which [limits] their strategic utility".²⁰ Therefore, the tradition "undermines the prospects of nuclear use and ... deterrence at the sub-strategic level" and makes the use of nuclear weapons against Ukraine not credible enough.²¹

Third, the Ukrainian resolve can be explained by Kahneman and Tversky's prospect theory when the relative value of the loss is much higher than the relative value of the gain in the war, which

¹⁷ Rostislav Khotyn, "[Хотин Р. Україна змінила географію війни. Удари 'в серце Росії' по авіабазах](#)", Radio Svoboda, December 6, 2022.

¹⁸ Polina Sinovets, "[Hot off the Press, Colder in Scope: Russia's Nuclear Deterrence Fundamentals 2020](#)", *PONARS Eurasia Commentary*, August 7, 2020.

¹⁹ Benjamin Hautecouverture, "[Russia's Threat of Nuclear Weapons in Its War with Ukraine Is at the Heart of the Deterrence Paradox](#)", *DecipherGrey*, 2022.

²⁰ T.V. Paul, *The Tradition of Non-Use of Nuclear Weapons*, Stanford University Press, 2009, p. 37.

²¹ *Ibid.*, p. 57.

defines the stronger resolution of the one who is losing territories, sovereignty, etc. In this regard, Ukraine has undeniable primacy over Russia.²²

Moreover, Ukrainian president Volodymyr Zelensky is trapped in the same “game of a chicken” as Putin is. While there is pressure on the Russian elites to overcome at all costs the failure of the “special military operation” in Ukraine that may lead Putin to be dangerously risk-prone, Zelensky, for his part, cannot give up the Ukrainian territories occupied by Russia during the war since it would be considered by its elites and population at large as a betrayal of Ukrainian national state interests.²³

The Kremlin’s (real) “red lines”

All this time, Ukraine has been probably acting below Russia’s nuclear threshold, because the Russian nuclear rhetoric has never been supported by any military action conducive to the use of nuclear weapons. Therefore, unless NATO directly attacks Russian territory within its international borders, the nuclear scenario is not credible.²⁴ However, this notion cannot be accepted as being permanent while Russia is losing the war with Ukraine and Putin’s positions become weaker within the country. As a result, he may become more determined to win the war.

The latter may bring about a lowering of the nuclear threshold depending on the internal situation in Russia and the stability of Putin’s regime. Russia cannot lose without undermining Putin’s positions substantially. So, what are the real “red lines” that are likely to make him disregard the nuclear taboo?

From our perspective, there are two key red lines for the Russian current regime: Donbas and Crimea. In relation to Donbas, Putin does not have much freedom of maneuver as the official reason for starting the “special military operation” against Ukraine was the support of the Donetsk and Lugansk people’s republics where Russia plays the role of the great patron. The fiercest battles are currently taking place in the Donbas area, where Russia shows much stronger resolve than with Kherson. After the referenda and the consequent annexation of the four occupied Ukrainian regions that Putin signed into Russian Federal Constitutional Law, Moscow considers Donbas as part of its territory under its nuclear doctrine and deterrence principles.

Crimea seems to be a much more serious case. Its annexation has been supported by most of the Russian population, leading to an exponential growth in Putin’s rating. In a 2015 documentary on the annexation of Crimea by the Russian Federation in 2014, Putin mentioned that he was ready to put nuclear weapons on high alert in case this necessity appeared.²⁵ This approach became a reality after Russia’s full-fledged invasion of Ukraine in 2022. In sum, in all Russian national conscience, Crimea is legitimized as Russian and the loss of it may constitute unacceptable damage to

²² Daniel Kahneman, Amos Tversky, “Prospect Theory: An Analysis of Decision under Risk”, *Econometrica*, vol. 47, n° 2, 1979.

²³ [“Russian elites ramp up criticism amid Moscow’s setbacks in Ukraine”](#), France 24, October 6, 2022.

²⁴ Bruno Tertrais, “L’automne nucléaire de l’Europe,” *op. cit.*

²⁵ Laura Smith-Spark, Alla Eshchenko, Emma Burrows, [“Russia was ready to put nuclear forces on alert over Crimea, Putin says”](#), CNN, March 16, 2022.

Putin's reputation and his future as a political leader. Therefore, an effective military attempt to bring Crimea back to Ukraine may end up with the possibility of Russia using nuclear weapons.

Deterring non-offensive threats

As far as Ukrainian effective resistance is concerned, Russia has tried to counter this by nuclear coercion.²⁶ Since the beginning of spring, Moscow's declarations on the unacceptability of US weapons supplies to Ukraine have combined with "nuclear hints". In particular, on April 26, Russian Foreign Minister Sergei Lavrov pointed out the growing risk of nuclear war which could be triggered because of the West's "irresponsible" policy of supplying arms to Ukraine.²⁷

Notwithstanding, the Americans as well as Europeans ignored such threats mostly because they held extremely low credibility. Indeed, the believability of the threat in the eyes of the side one is trying to coerce from certain action is a key element of deterrence. The threat of military actions to punish the supply of weapons to Ukraine turned out to be ineffective as the probability of starting a large-scale, and possibly nuclear conflict with NATO was not regarded as serious as a reaction for such actions.

However, the relevance of transferring weapons to Ukraine depends on the particular types of weapons Kyiv could receive. In late May 2022, when the US adopted the bill on comprehensive military help to Ukraine, Moscow threatened the West on the "intolerability" of the supply of long-range systems to Kyiv. Putin himself emphasized Russia had "*sufficient quantities [of weapons] to strike those facilities that we are not attacking so far*", hinting at the possible escalation of war if such long-range missile systems would be supplied to Ukraine.²⁸ In response, President Biden declared the US would not give Ukraine the missile systems that could reach Russia, which demonstrated the understanding of the Russian "red lines" and the clear intention to follow a relatively safe course.²⁹

Disruption of deterrence

According to the French classic of deterrence theory by General André Beaufre, the effect of the strategy rests on the fear that the other side will strike first.³⁰ Since if there is no fear, there is no deterrence. Following this line of thinking, nuclear deterrence, in order to stay efficient, should be combined with real readiness to use nuclear weapons. Russia keeps trying to demonstrate such readiness, which in the end may push it to the commitment trap to use nuclear weapons trying to avoid the complete deterrence disruption.³¹

²⁶ Edward Rhodes, *Power and Madness: The Logic of Nuclear Coercion*, New York, Columbia University Press, 1989.

²⁷ "[Russia-Ukraine war: Lavrov warns of risk of nuclear conflict](#)", Al Jazeera, April 26, 2022.

²⁸ Andrew Stanton, "[What Russia has said about U.S. supplying Ukraine with long-range missiles](#)", *Newsweek*, July 5, 2022.

²⁹ Steve Holland, "[U.S. will not send Ukraine rocket systems that can reach Russia, says Biden](#)", Reuters, May 30, 2022.

³⁰ André Beaufre, *Deterrence and strategy*, Faber & Faber, London, 1965.

³¹ See, for example, Scott Sagan, "The Commitment Trap: Why the United States Should Not Use Nuclear Threats to Deter Biological and Chemical Weapons Attacks", *International Security*, vol. 24, n° 4, 2000.

Meanwhile, the actual use of nuclear weapons, besides its obvious tragic meaning, would have the most destructive consequences for the Russian deterrent. There are two nuclear dangers one should avoid here. First, nuclear use would mean the disruption of (nuclear) deterrence, which serves as Putin's last trump card in his show of strength with the West.³² Though the main aim of such use would be to reestablish deterrence in a more credible way, it may lead to the opposite result. Russia could probably think over two scenarios of nuclear use.

In the first scenario, the use of low-yield nuclear weapons against Ukrainian forces, bases, and logistics hubs would hardly lead to any military results as Ukrainian troops are spread all over the line of the borders with Russia.³³ At the same time, the use of multiple tactical nuclear weapons would expose both Russian and NATO territories to significant amounts of radiation.

Another option would be a nuclear bomb dropped on a Ukrainian city to create a fear comparable to Hiroshima. During his phone conversation with President Macron on November 25, Putin hinted at this option by declaring that *"you don't have to launch a nuclear strike over a major city to win a war"*.³⁴ However, Moscow might be deterred by Washington's private warnings of decisive US retaliatory actions if Russia envisioned "any use of nuclear weapons" in Ukrainian territory – a notion that was shared by US National Security Advisor Jake Sullivan in an interview with CBS on September 25.³⁵

In this context, there is a high risk that even a conventional US attack on the Russian military forces would put Moscow on the verge of war against US/NATO combined conventional forces, with the further possibility to escalate to the nuclear level. Therefore, there is ground to believe Putin when in his recent Valdai speech on October 27, he said that Russia did not need any nuclear use on Ukraine *"as it lacks any military or political utility"*.³⁶

The threat of secondary sanctions as a disincentive to use nuclear weapons

From the political-economic perspective, although Russia is already considered a pariah state by the US and its allies, most of the world (Africa, Latin America, and Asia) still does business with Russia. Any use of nuclear weapons over Ukraine might lead most of these countries, including China and India, to cut economic and business ties with Moscow. Similar to what the Trump administration did with the countries that had economic and trade relations with Iran, the US and the EU might be willing to implement secondary sanctions against countries that would continue

³² Isabelle Facon, "[Guerre en Ukraine : le sens du signalement nucléaire russe](#)", *Notes de la FRS*, n° 30/2022, July 27, 2022.

³³ Matthew Kroenig, "[Memo to the President: How to deter Russian nuclear use in Ukraine – and respond if deterrence fails](#)", Atlantic Council, 2022.

³⁴ Glen Owen, Peter Allen, "[Putin's deranged Hiroshima threat: Russian leader tells Macron the 1945 atom bomb is proof 'you don't have to launch a nuclear strike on a major city to win a war'](#)", *Daily Mail*, November 5, 2022.

³⁵ Edward Helmore, "[Jake Sullivan: US will act 'decisively' if Russia uses nuclear weapons in Ukraine](#)", *The Guardian*, September 25, 2022.

³⁶ "[Vladimir Putin Meets with Members of the Valdai Discussion Club. Transcript of the Plenary Session of the 19th Annual Meeting](#)", Valdai Discussion Club, Moscow, October 27, 2022.

to do business with Russia in an attempt to influence the behavior of their states.³⁷ This kind of economic deterrence may also prevent Russia from using tactical nuclear weapons in Ukraine.

As a result, any non-nuclear weapon state that is protected by world economic powers (such as the US, Europe, and Japan) and encourages most states to sanction a given nuclear weapon state's economy would have an impact in discouraging the latter's decision to use nuclear weapons over a non-nuclear weapon state.

The risks of nuclear disorder

Lastly, an eventual successful nuclear use or even nuclear coercion in Ukraine would open Pandora's box for Russia to start threatening other former Soviet Union states such as Georgia and Moldova. Furthermore, other revisionist states, such as China, North Korea, and Iran, may use this nuclear threat or blackmail precedent to expand their political and territorial interests in their regions. This would pave the way for states to delegitimize the nuclear taboo and undermine the NPT regime, which would irreversibly end the tradition of the non-use of nuclear weapons, with unpredictable consequences for world peace.

Moreover, the growing credibility of nuclear use by Russia has made President Biden say, on October 6, that *"for the first time since the Cuban Missile Crisis, we have a direct threat to the use of nuclear weapons"*.³⁸ However, the reinforcement of the Kremlin's nuclear rhetoric has not led Russia to achieve its military aims, such as winning the war against Ukraine or annexing most of the Ukrainian territory. In fact, it triggered the opposite effect by involving Washington in sending direct deterrent signals to Moscow that any nuclear use *"will be met with catastrophic consequences"*.³⁹

The latter example shows the limited capabilities of nuclear coercion when it comes to clash with the vital interests of another nuclear power, projecting deterrence. In this regard, it is worth saying that though the US deterrent threats were not nuclear, any risk of a military conflict between nuclear powers may lead to what Schelling called the *"threat which leaves something to chance,"* paving the way to nuclear escalation.⁴⁰

Hence, Russia's war on Ukraine provides the perfect case for the ineffective role of nuclear weapons in deterring a non-nuclear weapon state (*i.e.*, Ukraine) which is heavily supported by a strategic deterrent adversary (the United States).

³⁷ Adérito Vicente, ["Will the EU diplomacy revive the Iran nuclear deal or keep spinning in a vacuum?"](#), *The Bulletin of the Atomic Scientists*, July 21, 2022.

³⁸ Nandita Bose, ["Biden cites Cuban Missile Crisis in describing Putin's nuclear threat"](#), Reuters, October 7, 2022.

³⁹ Edward Helmore, *"Jake Sullivan: US will act 'decisively' if Russia uses nuclear weapons in Ukraine"*, *op. cit.*

⁴⁰ Thomas Schelling, *Arms and Influence*, *op. cit.*

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