

Will Russia Use Nuclear Weapons in Ukraine?

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The Russian invasion of Ukraine and the nuclear context provided by President Putin, who has elevated the nuclear alert of his forces, immediately returned the subject of nuclear deterrence to the agenda. Will the nuclear taboo be broken for the first time in 77 years, or will the balance of nuclear deterrence be maintained? The real risk involves the tactical weapons, and even there, the likelihood of use is low, despite fears that the Putin's calculation of profits and losses will lead him to escalate the campaign.

With the Russian invasion of Ukraine, and following a number of measures taken by Russian President Vladimir Putin in the nuclear realm, the threat that nuclear weapons might be used has returned to the international agenda after a long absence. Indeed, a number of measures taken by Putin have given the current crisis a nuclear framework: Russia conducted an exercise of its nuclear forces a few days before the invasion; Putin raised the nuclear alert level for the first time since 1991 (although no actual proof of this is evident); and the President of Belarus took action to change the country's constitution to allow Russian nuclear weapons to be deployed in its territory. Following these measures, compounded by Russia's inability thus far to attain its objectives in Ukraine, the question arises whether these moves were designed to remind the West that Russia is still a nuclear power, and to prevent active Western intervention in the fighting on Ukraine's side. Or, is there an actual threat that the balance of nuclear deterrence will collapse due to a Russian use of nuclear weapons.

For several years, some in the United States have argued that Putin's nuclear hints used in tandem with his military moves (in 2014 in Crimea, for example) are part of an "escalate to de-escalate" strategy – generating escalation on the nuclear level in order to deter against escalation in the conventional sphere. According to this approach, Russia's weakness in conventional warfare leads it to highlight its nuclear capabilities to deter the West from intervening actively in conventional warfare, in order to avoid a conflict with a nuclear aspect – as is currently emerging in the Ukrainian crisis. Thus far, the White House has responded to this strategy

with moderation, likely in order to avoid escalation. At this stage of the conflict, NATO is refraining from provocative measures that may be interpreted as belligerent, which could lead to a direct confrontation between NATO and Russian forces, for example the establishment of a no-fly zone over Ukraine. Presumably one of the reasons is to avoid a fateful error liable to escalate the crisis up the nuclear ladder, as occurred in the missile crisis in Cuba, for example.

Despite the great likelihood that this accurately describes the Russian strategy, the question remains whether Vladimir Putin's nuclear hints are merely a strategic maneuver, or whether a real risk exists that nuclear weapons will be used for the first time since 1945. In this context, the basis of nuclear deterrence that has successfully prevented the use of nuclear weapons for 77 years should be examined. The nuclear balance of deterrence is based on the existence of mutual assured destruction (MAD) – a condition in which even if one side executes an effective nuclear strike, the other side will undoubtedly respond with a successful nuclear counterstrike that will destroy the attacker. As a result, neither side has an interest in commencing with nuclear warfare. MAD relies on a second-strike capability, i.e., the assured ability to launch nuclear weapons effectively, even after suffering a deadly nuclear attack. The assured survival of the nuclear forces of each country is therefore a top priority in preserving a stable balance of deterrence.

The nuclear forces relevant to the current crisis are those of Russia, the United States, and NATO. Under the 2010 New Strategic Arms Reduction Treaty (New START), the United States and Russia have agreed to limit their respective deployed strategic nuclear forces to 1,550 nuclear warheads on various launching systems, including submarines, nuclear bombers, and long-range ballistic missiles. Russia's declared strategic forces currently number 1,458, out of a total arsenal of 5,970, while the United States has an estimated 1,396 weapons deployed out of a total arsenal of 5,800. In addition, Great Britain has 225 nuclear warheads and France has 300.

Significantly, the treaty refers to strategic weapons only, while the concern that Russia might use nuclear weapons refers primarily to possible use of tactical weapons. The definition of tactical nuclear weapons is vague – the term usually refers to weapons that are not classified as strategic under nuclear treaties, are low-yield weapons (for example, explosive force of 0.5-50 kilotons), are meant for use on high precision platforms and are of limited range (500 km). These weapons could theoretically be used on the battlefield against specific targets. This subject deserves special attention, because it is feared that tactical weapons are sometimes regarded by military planners as means that can be used on the battlefield, in contrast to strategic nuclear weapons, which are usually regarded as suitable exclusively for deterrent purposes and as belonging to a category that is entirely different from conventional weapons, and which would inevitably activate the MAD equation.

The main risk in the nuclear dimension of the Russia-Ukraine crisis lies in the use of tactical weapons. The use of strategic weapons is too dangerous – it is liable to have a dramatic effect on the neighboring countries, including NATO members and Russia itself. The ecological fallout from these weapons is liable to be catastrophic, and the attacked territory will become strategically useless. However, Russia has an arsenal of 1,900 tactical weapons, while the United States and NATO have fewer than 200 such weapons. The gap between the arsenals seems to indicate a doctrinal gap; it appears that the Russian doctrine attaches importance to tactical weapons, primarily in the regional theater, and strives to distinguish between tactical weapons (usable on the battlefield) and strategic weapons (for deterrent purposes). The American doctrine, on the other hand, was well summarized by former US Secretary of Defense James Mattis, who declared that there was no such thing as a tactical weapon, because any use of nuclear weapons constitutes a strategic game changer.

Will Putin use tactical nuclear weapons in the current crisis? It is not very likely. First, it is unclear what the operational benefit of using such weapons on the battlefield in Ukraine might be, and what military targets they are more suitable for than available conventional alternatives. Second, tactical

nuclear weapons have never been used on the battlefield against military targets. In Hiroshima and Nagasaki, weapons with an explosive power of 15-20 kilotons were used, but at a low level of precision, and they were aimed at strategic civilian targets. Despite the tests and simulations conducted to learn the results and consequences, there is no certainty of how tactical nuclear weapons will "behave" when used, and what their effect on the campaign will be. Furthermore, the use of nuclear weapons, including tactical, brings with it the threat of leading NATO into the war, because it is difficult to envision NATO remaining inactive when the long-standing nuclear taboo is broken, even if it has no direct commitment to Ukraine.

It therefore appears that at this stage, there is little logic to the use of tactical nuclear weapons by Russia. On the other hand, the question of logic and what is considered a rational action demands analytical caution. There is currently a heated debate regarding Putin's motives in the war in Ukraine, and to what extent he is acting rationally. Similar questions have been posed in the past about other leaders. At the outset of the Cold War, Stalin was believed to be an uncompromising ideologue who sacrificed millions of his own people on the altar of Communist ideology, and Chinese leader Mao Zedong was also regarded as a dangerously extreme ideologue, or perhaps even crazy, whose actions caused the death of millions of Chinese. The concern about Mao's stability was so great that there are reports that in the early 1960s the Kennedy administration considered a preemptive attack against the Chinese nuclear program. Today, the rational reasoning of North Korean leader Kim Jong-un is also frequently questioned.

Yet while the rationality element is central to nuclear deterrence, the rationality involved is simple, based on the desire to survive. The MAD equation creates a condition in which pressing the button is tantamount to suicide, meaning the self-destruction by the button-presser of the state entity that he leads. The catastrophic and inevitable result of starting a nuclear war is what has preserved the nuclear taboo for 77 years, and presumably, it must also be clear to President Putin. Furthermore, it can be assumed that above all Putin will consider the consequences of his actions

for his personal survival and his legacy. If Putin does order the use of nuclear weapons, presumably his order would be carried out given the reliability and efficiency of the chain of command and control of the nuclear systems in Russia. Very broad opposition would be required within these systems to prevent such an order from being executed.

In conclusion, while the probability of use of nuclear weapons in the current crisis is quite low, the stability of the balance of nuclear deterrence is not inevitable and cannot be taken for granted. It is possible that if the Russian President finds himself in a situation that he perceives as desperate or dangerous, the nuclear dimension of this crisis will also escalate.

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