THE ROLE OF NUCLEAR WEAPONS IN THE U.S.-RUSSIAN RELATIONSHIP

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Nuclear weapons continue to play a very important role in U.S.-Russian relations, and indeed their role is likely increasing. Relations between Washington and Moscow in this domain are defined by a strategic balance characterized by a high degree of mutual vulnerability; concerns, particularly on the Russian side, about the potential for the other side to be able to interdict or even preempt a substantial portion of its retaliatory forces, especially using novel technologies; and strategies involving limited employment of nuclear weapons for decisive effect, again particularly on the Russian side. Given the potential for conflict between NATO and Russia, these factors mean that nuclear weapons (and defense strategy and posture more broadly) are receiving increasing attention in Alliance capitals, and this attention is only likely to grow. Because of—rather than despite—this, arms control and stability measures will become more valuable and appropriate to try to mitigate the chances of conflict breaking out or of escalation if it does.

THE U.S.-RUSSIAN STRATEGIC BALANCE

The strategic balance between the United States and Russia today and at least for the near to medium term remains defined, as it has been for many years, by a very high degree of mutual vulnerability. Put simply, both sides have the power to wreak unprecedented destruction on the other through the employment of nuclear weapons even in the face of a determined effort by the other to preempt or defend against it.

The United States deploys a very large number of warheads on its highly survivable strategic missile submarines; at all times, several of these vessels are at sea and ready to receive orders to launch a devastating strike that Russia would be powerless to stop. The United States also possesses several hundred fixed-silo intercontinental ballistic missiles that would be extremely difficult to comprehensively destroy, as well as a force of nearly 100 strategic bombers that could be placed on a more survivable alert status if needed. At the same time, the United States continues to maintain capabilities to ensure the requisite command and control and early-warning apparatus to provide warning of any attack and enable the National Command Authority or its designees to communicate launch orders to the force. Accordingly, there are few, if any, serious concerns about the U.S. ability over the near to medium term to launch a devastating retaliatory strike against Russia (or any other state).

Russia also deploys a triad of strategic delivery systems capable of delivering hundreds of warheads against the United States. Russia boasts ICBMs both in fixed-silo and mobile configurations, strategic missile submarines, and bombers.
capable of delivering air-launched cruise missiles. It also has a very large and varied arsenal of shorter-range or “tactical” nuclear weapons, with at least some of these designed to be employable for military effect on the battlefield. Moscow also possesses a capable nuclear command and control system as well as at least some capacity for early warning of an adversary attack.1

Nonetheless, Moscow evinces serious concern about the survivability of its forces in the face of a determined U.S. attack—one that Russians fear could involve not only nuclear strikes but also conventional and non-kinetic (such as cyber) attacks backstopped by missile defenses designed to “mop up” residual forces that survived such an assault. As evidence of this, Moscow points to Washington’s missile defense architecture (including its advanced sensors on earth and in space), its conventional strike capabilities, and its dauntingly capable and far-reaching command, control, communications, computers, and intelligence, surveillance, and reconnaissance, or C4ISR, networks. America’s military prowess as well as some scholarship and discussion in the United States have fueled Russian fears by signifying that the United States might be seeking and could attain a disarming first strike capability.2 Such a capability, if achieved, could obviate the relationship of mutual vulnerability and thereby give the United States substantially greater coercive leverage over Russia.

Moscow’s concerns appear to be, at least in part, substantially genuine, although overwrought for the near to medium term. Some of Moscow’s publicly expressed anxieties are, however, likely a form of strategic bargaining, since the Kremlin has a vested interest in—and long history of—seeking to restrain American and NATO military developments by loudly lamenting their destabilizing quality and has been decidedly unreceptive to what appear to be reasonable efforts to allay those concerns. Nonetheless, the fears appear sufficiently real to have acted as one of the primary drivers, if not the primary one, of Russia’s comprehensive modernization of its strategic deterrent over the past fifteen years.

Since the nadir of Russian military power in the 1990s, Moscow has modernized its nuclear strike forces and also sought to recapitalize its early warning and nuclear command and control architectures. With an eye more toward efficiency and assured retaliation rather than Soviet-style mass, the Kremlin has shifted its emphasis considerably toward a more survivable force. For instance, Moscow has focused on fielding a greater number of and apportioning a larger number of its total warheads on mobile ICBMs, systems that, when deployed to their operating areas, are considerably less vulnerable than missiles in silos or aircraft that can be destroyed on the ground.3 Russia has also been building quieter and more capable SSBNs and has reportedly begun putting its submarines (including presumably its ballistic missile submarines) to sea more frequently, a change from the 1990s, when many boats were largely tied up at pier side and thus highly vulnerable, even to a non-nuclear attack.4 At the same time, Russia has been exercising its forces more regularly, presumably at least in part to ensure their responsiveness and effectiveness even under attack.5 Such a large-scale and expensive modernization effort suggests that Russia is, in fact, quite fearful about the U.S. capability to conduct meaningful strategic counterforce attacks.

The reality, however, is that the U.S. capability to conduct such attacks remains imperfect, in many respects highly so, and the ability to comprehensively destroy or disable Moscow’s retaliatory force is a distant mirage. Under current circumstances and in light of plausible U.S. capabilities at least for the near to medium term, it is exceedingly improbable that any such large-scale U.S. preemptive attack could succeed to anywhere near the degree that would make such a “cosmic role of the dice” (in Harold Brown’s memorable phrase) minimally attractive and justifiable in situations short of the genuinely desperate and truly existential. While it is true that the United States has made enormous strides in its ability to establish and wield what the Russians refer to as a “reconnaissance strike complex” (or a “battle network” in American parlance), the United States is still far short of being able to destroy, intercept, or ward off all or very nearly all of Russia’s nuclear strike forces under any conceivable circumstance. Yet, given the horrifying effect of a single thermonuclear warhead on an urban area, this is precisely the standard a putative preemptive capability...
must meet, if it is to be seriously considered short of those catastrophic situations in which partial success would be preferable to restraint.

The reason for this inability is that the United States would face immense and almost certainly insuperable difficulties in seeking to comprehensively and confidently destroy or adequately damage the very large number of targets required to make such an attack “worth the candle.” Without touching on the ever-present likelihood of accidents or mistakes in such complex military endeavors, the most important reason for this is the simple fact that conducting operations that would be key to a successful first strike, including destroying mobile, fleeting, buried, hardened, or concealed targets and in intercepting adversary ballistic and cruise missiles, is extraordinarily hard.

Even at the apogee of its military prowess, the United States has faced and continues to face serious difficulties in successfully conducting these operations. The U.S. military, for instance, has had mixed and in some respects little success in targeting mobile missile systems in its wars against Iraq and Serbia. U.S. missile defenses, meanwhile, have struggled even in tests simulating single missile attacks by less sophisticated missile systems such as North Korea or Iran might employ. At the same time, U.S. and allied antisubmarine capabilities have eroded substantially since the Cold War while U.S. aircraft, including low-observable ones, face increasingly menacing threats from modern surface-to-air missile networks. Many of these deficiencies, moreover, have emerged in contests with adversaries dramatically less militarily capable than Russia would be. Unlike Iraq or Serbia, Russia possesses among the world’s most advanced air defenses, counterspace and cyberweapons, and conventional and nuclear strike arsenals.

There thus seems little question that an even partially generated Russian force would be able to deliver a devastating blow against the United States, even in the face of a determined attack. While the United States could no doubt attrite a portion—perhaps a quite substantial portion—of the Russian force in such circumstances, it beggars belief that the United States could stop Moscow from firing back in a way that could wreak the gravest kind of damage on the United States, its allies, or both. Nor does it appear much more feasible that the United States could disarm a portion of the Russian force that would be more credibly usable than the rest, for instance in more limited and controlled ways, as Americans feared in the 1970s and 1980s with respect to the U.S. ICBM force. Rather, the comprehensive modernization of Russia’s forces and their regular exercising suggest that there is sufficient controllability and accurate capability across its strategic force to enable more limited nuclear responses.

Some might argue that the United States would not need to destroy all of Russia’s force but could instead seek to decapitate the Russian leadership and/or suspend the operation of command, control, and communications networks enough to prevent a retaliatory response sufficient to penetrate U.S. defenses. There are several problems with this approach. First, it is well known that Russia has fielded redundant mechanisms for launch orders, including the (infamous) Perimeter, or Dead Hand, system that would have launched Soviet nuclear forces in the event of the destruction of the USSR’s leadership. Some reports indicate the Russians still may have such a system. Thus decapitating the Russian leadership could well achieve the very result it was designed to avoid—the launch of a massive Russian strike. Second, interrupting, delaying, or otherwise disrupting communications with deployed forces would not obviate the need eventually to destroy them, since such forces could still launch attacks, including via redundant nuclear command, control, and communications chains, yet such disruptions would not necessarily diminish these forces’ survivability.

Thus, bearing in mind that the attacker in a preemptive disarming strike would need to be essentially perfect for the attack to make sense, this effectively means that Russia and the United States are in a state of high mutual vulnerability and will very probably remain there for the foreseeable future. Over the longer term, the evolution of new technologies such as long-range prompt strike, effective mobile missile defense interceptors, cyberwarfare capabilities, supercomputing, and the like, will present a more complicated picture. Even so,
however, it appears highly unlikely that, assuming continued Russian investment in its strategic forces, such developments will fundamentally change the implausibility of a successful U.S. disarming first strike.

**WHY NUCLEAR WEAPONS REMAIN RELEVANT**

At first glance, the reality of mutual vulnerability might seem to cancel out the relevance of nuclear weapons in U.S.-Russian relations. If both sides can do the most grievous damage to each other under any realistic circumstances, many question whether it is plausible they would ever be used. Yet nuclear weapons do actually play an important and possibly growing role in U.S.-Russian relations, and not merely as a totem of political significance. Rather, there are actually scenarios—some quite cognizable and not implausible—in which nuclear weapons could be brandished in influential ways and even employed in a U.S.-Russian crisis or conflict.12

A first reason stems from perceptions of vulnerability. For the reality is that one of the sides may perceive the other side as being capable of a disarming or at least debilitating first strike, even if that judgment is erroneous. As discussed, this is particularly the case with respect to Russia, which evinces a profound fear that the United States is capable of creating new technologies and exploiting them in ways that would undermine Moscow’s capability to survive a preemptive attack and launch a penetrating, sizable retaliatory strike. Even if that assessment is exaggerated or mistaken, which it almost certainly is, it has proven very hard for the United States to allay such concerns, despite earnest efforts to do so by senior U.S. government officials in recent years. This difficulty appears to stem, among other factors, from some combination of distrust, Russian paranoia, Moscow’s unwillingness to let Washington “off the hook” politically for its military advances, the necessary concealment of military capabilities as part of the effort to retain or attain military advantage, the difficulties of verification, Moscow’s imperfect early-warning systems, and a U.S. disinclination to bind itself for no real gain.

Given this context, Russia, anxious that it may not have the luxury of waiting in the event of conflict (or, even worse, crisis), might feel impelled to posture and ready its forces for quicker and less deliberate employment. Moscow may judge that, should it come to blows with Washington, American capabilities are so great and so rapid in their effect that Russia’s options are too narrow and its time frame for effective action too compressed to allow for a posture designed to provide time for validated ascertainment, communication, and reflection. Russian leadership may assess that U.S. capabilities are so formidable that, if Russia does not strike harshly early in a conflict, it will leave itself supine to defeat. In such conditions the Russian leadership might judge that it must, in the canonical phrase, “use” its nuclear forces for decisive effect or lose them.13

While this type of scenario has long been acknowledged, the advent of new technologies relevant to the nuclear balance and their unpredictable scope and effect may exacerbate pressures toward consideration of usage along these lines. For instance, novel cyberwarfare, space/counterspace, and unmanned and autonomous capabilities may offer the possibility of improving targeting of crucial command and control and early-warning assets, and they may help in targeting delivery platforms as well. The uncertain extent and consequence of the integration of these capabilities may contribute to nervousness on the part of leaderships in crisis or conflict in ways that could contribute to their increased readiness to use their nuclear forces earlier or in larger numbers than in the absence of these new capabilities.14

A second reason that nuclear weapons could be used is that both Russia and the United States are capable of employing these arms in limited and relatively controlled ways. Such more discriminate usage has long been recognized as a potential way to gain value from nuclear weapons beyond threats of general use, the implementation of which would likely be tantamount to suicide. Such limited employment can be contemplated for purely “tactical” or military purposes, for instance in order to redress a deficiency in conventional military capability. Such use can also be contemplated to seek to manipulate risk by communicating in the most credible way—that one is prepared to move closer to general war, in the hopes of persuading the other side that further escalation or continuation of its course is
too perilous. The North Atlantic Alliance emphasized just such potential forms of employment during the Cold War through its Flexible Response doctrine to attempt to deter the Soviet bloc, especially once the USSR achieved the ability to strike the U.S. homeland during the 1960s.

Today it is Russia that has been more avid in exploring these forms of employment. In particular, Moscow appears to have developed a strategy of “escalating to deescalate” through so-called strategic conventional and, if necessary, nuclear strikes. Russia appears to envision such employment (or threatened employment) as important in the context of a conflict with the United States in which Moscow wants to terminate the war before Washington can bring to bear the full brunt of its superior non-nuclear forces. Just precisely how and when Russia would resort to such a dramatic move is unclear, and may well not be fully clear to Russian strategists and leaders themselves, but what seems evident is that Russia has thought through such an approach, possesses the capabilities to undertake it, and has exercised for its implementation. Meanwhile, the United States also possesses substantial capabilities for limited nuclear operations, though some of these are of diminishing effectiveness in light of improving Russian defenses, and has long planned for the ability to conduct such strikes. It is therefore possible that a limited nuclear war could occur between the United States and Russia, though both sides would need to regard such a conflict as of the utmost danger given the profound difficulties and risks of seeking to control escalation and the fact that both sides can effectively destroy the other.

IMPLICATIONS

Because of these two factors, any contest between the United States/NATO and Russia would be shadowed by the prospect of nuclear use, and probably heavily so. A conflict over the Baltics, for instance, would presumptively have a nuclear coloration, especially as defending against and particularly ejecting Russian forces would very likely require extensive and heavy attacks into Russian sovereign territory by NATO. For these reasons, both Washington and Brussels have been increasingly concerned over the last two years not just with the much-discussed “hybrid warfare” challenge from Russia but also with Moscow’s higher-end conventional and nuclear capabilities and its strategies to employ them. There is increasing recognition in Western capitals that Moscow’s integrated approach, ultimately buttressed by its nuclear escalation approach, presents a significant problem for Allied security and U.S. extended deterrence.

Accordingly, the United States and NATO are going to need to dedicate considerable attention to fortifying their conventional force posture in Europe and to adapting their nuclear strategy. Indeed, this is already happening, with efforts to understand the nature of the threat from Russia and how to adapt to it already the subject of much U.S. government and NATO focus — and highly likely to continue to be so. Discussion is tending to concentrate on what conventional forces to deploy into the former Warsaw Pact states, particularly the Baltic states and Poland, and on whether any changes to the Alliance’s nuclear posture are in order. The decisions by the United States and the Alliance to buttress their conventional force posture in Eastern Europe in early 2016 reflect this dynamic and likely represent only a beginning to this evolution. And while it seems doubtful that there will be any significant additions to NATO’s in-theater nuclear array, it also seems exceedingly unlikely that the Alliance will withdraw the U.S. theater nuclear weapons located in Europe today.

PROSPECTS FOR FUTURE ARMS CONTROL AND RISK REDUCTION EFFORTS

Nuclear weapons therefore cast a shadow over U.S.-Russian security and military dynamics, and, if anything, this shadow seems likely to darken rather than lift given the existence of points of possibly serious dispute between Washington and Moscow and both sides’ nuclear and non-nuclear modernization programs. While some observers bemoan (or rejoice at) these trends as portending the end of U.S.-Russian arms control, it actually signals a resurgence in the importance of risk reduction efforts between Washington and NATO on the one side and Moscow on the other. Arms control, risk reduction, and deescalation measures are, of course, most useful and relevant—if more difficult—when two sides might actually come to blows. In this instance,
such agreements (explicit or implicit) might contribute to preventing conflict or reducing its damage. From the closing of the Cold War until recently, the implausibility of actual conflict breaking out between NATO and Russia thus meant that arms control efforts were, while often constructive, not very important. Conversely, the possibility of war breaking out calls for renewed attention to how to reduce the chances of it happening essentially mistakenly and to restraining inadvertent or accidental escalation if it does.

This calls for risk reduction proposals formulated more narrowly on the concrete objective of promoting strategic stability, for instance by validating the inability of given systems to deny the other side’s retaliatory capability, rather than as tokens of political reconciliation or as encompassing solutions to U.S.-Russian discord. It also means that rather targeted proposals or steps should be considered even if they do not come as part of a comprehensive solution, since individual measures might offer meaningful benefits even outside the context of a broader agreement that may be too difficult to conclude.21

CONCLUSION

In sum, nuclear arms remain highly significant in relations and strategic dynamics between the United States and Russia, not simply as symbols but also as instruments of coercive leverage in crisis and deadly weapons in the event of war. Given that tensions between the United States and Russia seem certain to persist for the foreseeable future, and that the potential for these tensions to descend into outright conflict cannot be dismissed, it is vital that U.S. and NATO decisionmakers—even those focused more on political than military matters—ensure that due attention is given to how their role can be managed in ways conducive to both effective deterrence and stability.
NOTES

1. For a fuller cataloging of Russia’s nuclear modernization program, which includes the replacement or modernization of the whole gamut of its forces, see, for instance, Hans Kristensen and Robert Norris, “Russian Nuclear Forces, 2015,” Bulletin of the Atomic Scientists 71, no. 3 (May/June 2015): 84–97.


3. Reports of Russian discussion of reestablishing a rail-based ICBM might also fall into this category.


6. For an expert assessment of these difficulties, see Forrest Morgan et al., Confronting Emerging Nuclear-Armed Regional Adversaries: Prospects for Neutralization, Strategies for Escalation Management (Santa Monica, CA: RAND Corporation, 2015), especially 17–28. Morgan et al. point out that “once out of garrison, TELs [mobile transporter erector-launchers for missiles] would be very difficult to find, track, and target,” and they assess that “the prospects of successful neutralization [of an adversary’s nuclear missile capability] are grim even when the adversary has only a few MRBMs [medium-range ballistic missiles],” 23.


9. For instance, reports on the November 2015 exercise indicated Russia test-fired a range of weapons, including ICBM(s), ALCM(s), SLBM(s), and SLCM(s). See Gady, “Revealed.”


12. This presumes that the United States and Russia could plausibly come to blows over stakes of sufficient importance to both sides that they would be willing to fight over them, and that the existence of mutual vulnerability at the strategic nuclear level might restrain and inhibit the parties but not necessarily prevent them from engaging in combat. Moreover, it assumes that such combat could, once joined, lead to escalation for a variety of reasons, of both the deliberate and inadvertent or even accidental varieties.

13. It is important to note that such an employment need not necessarily be an all-out strike. Moscow might elect to strike earlier (and possibly more substantially) even with a portion of its force in order to “pull forward” some strategic utility from such use.

14. This problem is the focus of an ongoing project of the Center for a New American Security and the Harvard Kennedy School funded by the Carnegie Corporation of New York and led by James N. Miller Jr. and the author.

15. While Russia possesses a large arsenal of tactical/theater nuclear weapons, the United States and NATO have generally regarded this as a serious problem but not as a source of genuine, significant Russian advantage. One basic reason why is that the United States and NATO do not need such weapons to compensate for deficiencies in their conventional capabilities, as was the case during the Cold War. With respect to Russian use of such weapons, the United States and NATO rely on their arsenal of nonstrategic and strategic nuclear as well as their conventional forces to respond to such employment. See, for instance, The New START and the Implications for National Security: Hearings Before the Comm. on Armed Services, 111th Cong. (2010) (responses of General Kevin P. Chilton, commander, U.S. Strategic Command, to questions submitted by Senator James Risch, from the U.S. Senate Committee on Foreign Relations, June 16, 2010), https://www.gpo.gov/fdsys/pkg/CHRG-111shrg65071/html/CHRG-111shrg65071.htm. The United States can afford such an asymmetry in “nonstrategic” nuclear forces because it is very likely that any substantial or persisting use of its “tactical” nuclear weapons by Moscow would escalate to the strategic nuclear level in ways in which Moscow would not have an advantage. Moreover, at
the strategic level, the United States retains substantial capabilities for limited nuclear operations (though these capabilities should be modernized, improved, and expanded) that would allow Washington to effectively respond to Russian tactical use with tailored nuclear strikes of its own.


17. There are additional “pathways” by which the United States and Russia could come to use nuclear weapons against each other, such as third-party “catalytic” escalation and pure accident, but the primary plausible routes seem to be perceptions of vulnerability and deliberate escalation. Other “pathways” might interact, however, with these two routes to heighten the risk of nuclear use. Elucidating these pathways, their relative importance, and measures to mitigate risks in light of them is the focus of an ongoing project by the Center for a New American Security and the Harvard Kennedy School.


20. Such deployments are likely to involve substantial stability implications, not least due to the potential placement of forces, including strike forces, very near to Russian territory, including St. Petersburg. For the author’s views on how to attempt to mitigate some of these challenges, particularly through the development and presentation to Moscow of a serious proposal for conventional arms control in Eastern Europe, see Elbridge Colby, “Step Up to Stand Down: The United States, NATO, and Dissuading Russian Aggression,” Foreign Affairs, August 13, 2015, https://www.foreignaffairs.com/articles/poland/2015-08-13/step-stand-down.