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Nuclear Fears after Ukrainian Crisis

Oleg Barabanov
Richard Weitz

One of the global security consequences of the current Ukrainian crisis is the visibly raising ‘nuclear fears’ in both political elites and wider public opinion among the world. There are various dimensions of such fears.

Russian Fears

a) Ukrainian Nuclear Bomb

The one point is connected with possibilities to break the current status quo in the nonproliferation regimes. The Ukrainian political crisis of 2013–2014 brought to a head a discussion that had been going on before about Ukraine’s nuclear status. Several statements were made in Kyiv that Ukraine should develop nuclear weapons of its own. Advocates of this idea pleaded the non-fulfillment of the Budapest Memorandum of 1994 in which three nuclear powers – the U.S., Britain and Russia – had provided security guarantees to Kyiv in exchange for a waiver of the Soviet-era nuclear arsenal, and as a compensation for its non-nuclear-weapon status according to the Non Proliferation Treaty.

The first wave of such declarations was in February–March 2014, they were made, among others, by one of the key leaders of the Ukrainian post-Maidan politics, head of the Radical Party of Ukraine Oleh Lyashko, and by the former Foreign Minister of Ukraine Volodymyr Ohryzko. The issue to restore the military nuclear status of Ukraine has become in the core of Oleh Lyashko’s electoral program for Presidential Elections in May 2014, when he has obtained the third result with 8,32%. The new wave of the issue was launched by the former Ukrainian Minister of Defense Valeriy Heletey in September 2014 that if the U.S. (or NATO) will not provide the Ukrainian military forces with adequate conventional weapons, the Ukrainian Government will start to build its own nuclear bomb.

Naturally, such a decision, should it be taken, would challenge the global nuclear nonproliferation regime. At the same time, this issue prompts an analysis of Ukraine’s real potential in this sphere.

As regards missiles, the situation is obvious. The Yuzhnoye/Pivdenne Design Bureau, located in Dnipropetrovsk, was a major element of the Soviet missile program, so there would be no doubt about Ukraine’s ability to create booster rockets for nuclear warheads. As to necessary nuclear technologies, in Soviet times Ukraine had no facilities for enriching uranium to the weapon-grade conditions or for radiochemical plutonium production. However, the high scientific level gained by the Institute for Nuclear Research of the National Academy of Sciences of Ukraine and by other research centers may well be enough for coping with technological difficulties to build the new necessary facilities.

The key question in that sense is about fissile materials in Ukraine. One of the possible options would be to start the reprocessing the spent nuclear fuel from the five Ukrainian nuclear power plants. And one of them, the infamous Chernobyl Nuclear Power Plant had the so-called RBMK reactors which engineering design was based exactly on the model of the Soviet military AD-type reactors specifically focused on the production of plutonium. Practically all the spent nuclear fuel of the Chernobyl NPP for more than 20 years of its exploitation is still stored until now in situ, in Chernobyl. In 2013–2014 the Ukrainian Government has started the program to build in Chernobyl the new plant

for reprocessing that fuel, and to extract plutonium from it. The openly declared reason for this was to build in Chernobyl another new facility to prepare the plutonium-based MOX-fuel, and to obtain the fully closed nuclear fuel cycle in Ukraine¹. Not to mention the fact that such a plan could by itself contradict to the ideology of the IAEA safeguards, it seems very easy to switch these reprocessing works to the military purposes.

Sure, the political decision to start its own nuclear weapons program would become a serious additional burden to Ukrainian economy, and its financial stability. Some experts say that Ukraine is not just financially sustainable to do it. But taking into consideration the current large-scale programs funded by the EU and G-7 to restructure the Chernobyl zone (including a fuel reprocessing plant) would definitely ease a nuclear weapons project as well. Another reason is to compare the Ukrainian case with Pakistan or North Korea where the economic weakness hadn't stopped the respective bomb projects.

So, if yes, if Ukraine starts its own military nuclear program, there are fears in Russia now that such a decision would be tolerated by the NATO nuclear powers (in the framework of highly raised tensions between Russia and the U.S. now). At least for now there were practically no statements by the key Western politicians to stop the Ukrainians to think on it. And such a situation could definitely (and dramatically) challenge the existing global nonproliferation regimes, and would have long-term global security consequences.

b) A Global Nuclear War: Towards a Real Scenario?

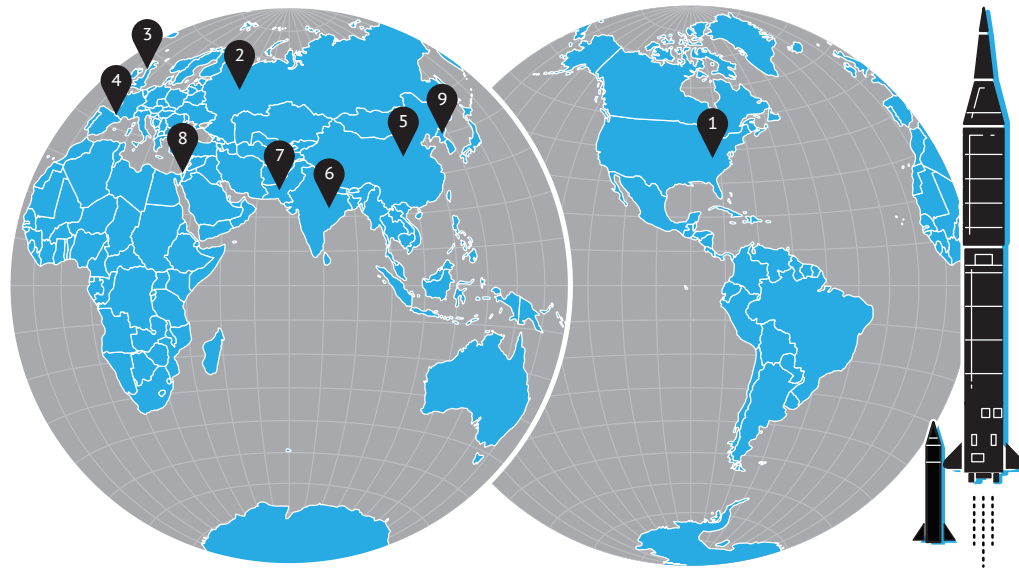
The second point is the raising fears that the current Russia-U.S. tensions could escalate into a real nuclear war, or at least to put it into the real agenda of bilateral relations. Such scenarios were also spurred by the Ukrainian crisis, in September 2014 there was the statement of the former Ukrainian Minister of Defense Valeriy Heletey that Russia is ready for the nuclear attack on Ukraine, adding the visible nuclear dimension to the military conflict in (and around) Ukraine. After that, the highly raised tensions between Russia and NATO, the decisions of the Wales NATO Summit to build a new network of capabilities along the Russian border in the Baltic and in the Arctic, were already considered by some Russian experts as having a real risk of (mutual) provocations which could escalate into an open war with a real possibility for using nuclear weapons. Such cases were openly discussed in various political TV-shows in Russia in September-October 2014, and thus have passed into a wider public opinion sphere.

All this has provoked a new series of discussions about the current readiness (or non-readiness) of the Russian military capabilities to deter the U.S. from an eventual nuclear strike. The key issue here was about the U.S. BMD effectiveness and potential. The current situation has intensified the earlier predictions (and fears) in Russia that the covert aim of the BMD program is to block the so-called 'second strike' or 'response strike' from Russia to an eventual 'first strike' from the U.S. In that logic,

¹ See more details on this issue in: Oleg Barabanov. "Will Kiev Be Able to Create a Nuclear Bomb? The Problem of Spent Nuclear Fuel from Ukrainian Nuclear Power Plants," *Russia in Global Affairs*, Vol. 12, No.2, April-June 2014, <http://eng.globalaffairs.ru/number/Will-Kiev-Be-Able-to-Create-a-Nuclear-Bomb-16719v>

Nuclear Weapon States

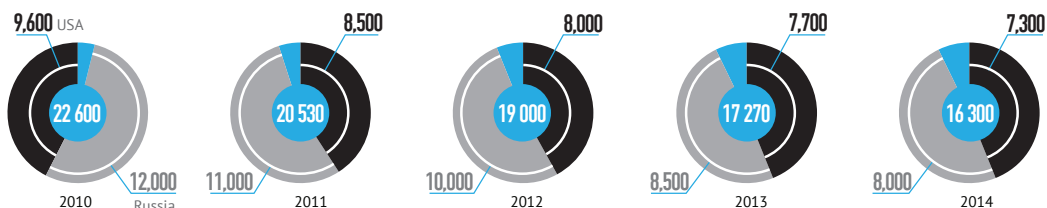
Nuclear arsenals, January 2014



	① USA	② Russia	③ UK	④ France	⑤ China	⑥ India	⑦ Pakistan	⑧ Israel	⑨ North Korea
First nuclear test	1945	1949	1952	1960	1964	1974	1998		2006
Deployed warheads	1920	1600	160	290		1920		80	
Other warheads	5380	6400	65	10	250	90 – 110	100 – 120	80	6 – 8
Total	7300	8000	225	300	250	90 – 110	100 – 120	80	6 – 8

Changes in nuclear arsenals, 2010–2014

(number of nuclear warheads)



Source: SIPRI Yearbook 2014, www.sipri.org

the openly declared reassurances by the U.S. officials that the BMD has nothing to do with a Russian strike seem to be hypocritical, because the BMD would be focused not on a Russian 'first strike', but on a 'response strike' when the Russian nuclear capabilities would be already significantly weakened.

How to react on all this? There is a growing perception in Russia now that the only effective counter-measure for Russia for this would be to withdraw from the current obligations under the START/SORT treaties regimes with the U.S., and to raise significantly the quantity of the Russian strategic warheads to have the potential to overpass in any case the U.S. BMD in an eventual 'response strike'.

It is sure that all these perceptions are directly connected with a (possible) weakening of status quo in bilateral nuclear deterrence, and with options that the traditional cold-war time 'mutual assured destruction' is not already guaranteed as previously (in the framework of the existing START/SORT obligations, and at the same time with the BMD).

c) A Tactical Nuclear War in Europe?

The Ukrainian crisis has raised also the issue of a possible tactical nuclear war in Europe, in Ukraine (or wider in Central/Eastern Europe) without escalating into global nuclear strikes. The above-mentioned scenario of Ukraine becoming the nuclear weapon state (and its eventual tolerating by the West) could escalate into a more large-scale conflict between Ukraine and Russia, and to spur a use of nuclear weapons in a limited theater of operations. In this logic an eventual exchange of nuclear strikes between the NWS Ukraine and Russia would not necessarily escalate into a global nuclear war. To some extent it would be not unrealistic to extrapolate into Ukraine the possibility of Indo-Pakistani scenario of a limited nuclear war as an option in the agenda.

But taking into consideration that such an option could become real one day, it seems logical already now for Russia to think about its own effective capabilities for this. And it is not a secret that practically all Russian nuclear strategy was focused on the global exchange of strikes with the U.S., and not on using nuclear weapons in a limited (tactical or regional) theater of operations.

And there are two obvious tasks for Russia in that sense. The first one is to build its own effective TMD – a missile defense capabilities for a limited theater of operations. And the second one is to increase the role (and readiness) of its tactical nuclear weapons, and to reconsider the Russian approaches for intermediate-range and shorter-range nuclear weapons in its defense strategy. This means practically to reconsider a withdrawal from the INF Treaty. This would coincide closely to the already earlier widely diffused perceptions in the Russian expert community that it is exactly the INF Treaty from which Russia should withdraw as soon as possible. The reason for this (yet before the Ukrainian crisis) was that the key real threats to the Russian security originate from the so-called 'arc of instability' along the Russian borders, and the only effective deterrence measure for them would be to restore Russia's intermediate-range and shorter-range nuclear capabilities. The eventual Ukrainian plans to become an NWS will definitely intensify the discussions on withdrawing from the INF Treaty.

These are some of the most significant dimensions of 'nuclear fears' in Russia now. In a case of Ukraine going to the NWS de facto status, all this could definitely change the current status quo both in nonproliferation regimes and in global nuclear security. Taking all this into consideration, it might

be possible that Russia could raise a question in the IAEA or other nonproliferation forums to consider more seriously Ukraine as a nuclear weapons threshold state, and to ask for more serious controls on Ukrainian obligations under the IAEA safeguards (similar to Iran etc.). But in the context of current Russia-U.S./NATO tensions it seems unlikely that such proposals could be accepted by the West.

Another point, and it is visible now that the consequences of the Ukrainian crisis have switched the focus of the Russian public opinion to more military-inclined scenarios in Russian nuclear strategy from the 'ordinary' political agenda on nonproliferation issues. This is also a new reality in the framework of current events.

American Fears

The nuclear fears of the U.S. national security elite differ from those in Moscow as well as those among average Americans. The Ukraine crisis did not reawaken fears of nuclear war anywhere near the extent that was widespread during the 1961 Cuban Missile Crisis or the Reagan-era Euromissile crisis. Indeed, the sense of alarm did not even reach the unease seen whenever North Korea makes wild threats against the United States or launches a long-range missile. President Obama made clear in various statements that he would not intervene militarily in the conflict, and his administration eschewed from any deliberate saber rattling of the U.S. nuclear deterrent. The fears among the U.S. national security community attentive to nuclear issues, which is centered in Washington but also has influential participants among some academics, experts, and concerned citizens elsewhere, were less targeted and more speculative. They reflected angst at how developments in Ukraine might, when added to other factors, contribute to further horizontal nuclear weapons proliferation, lower nuclear materials security, and raise, however slightly, the small risk of a nuclear conflict between Russia and the West due to misperceptions and miscalculations.

a) Nuclear Proliferation

Although American experts were uneasy by Russia's seemingly disregard of the 1994 Budapest Memorandum, the prospect of Ukraine seeking nuclear weapons has never been seen as a likely outcome of the current crisis, and understanding probably contributed to the British and U.S. decision to exclude any military response to uphold the Memorandum. Ukraine lacks the means to rapidly reconstitute a large nuclear arsenal.² More importantly, proceeding down that path would weaken its support in the West while risking provoking Russia into taking preemptive action to avert yet another nuclear-armed neighbor on its border. Although Western leaders are not publicly calling on Ukraine to renounce any nuclear weapons aspirations, they have offered such advice in private, and believe it has been accepted in Kyiv. As during the years after the Cold War, the U.S. national security is confident that Ukrainian leaders still accept the logic that their security is enhanced more by having good ties with Western countries, and receiving copious Western economic, diplomatic, and

² <http://time.com/21934/ukraine-crimea-russia-nuclear-weapons/>

other assistance, and not engaging in a nuclear arms race with Russia than by seeking to develop a nuclear deterrent that would be extremely vulnerable to a Russian first strike.

However, there has been a widespread concern that Ukraine's de facto defeat in the war combined with the nonfulfillment of the security assurances associated with the Budapest Memorandum (which admittedly was a political agreement rather than a legally binding international treaty) will further weaken the global nuclear nonproliferation regime already threatened by a number of adverse developments. These include the stalemated Russia-U.S. nuclear arms control talks, the failure to convene a conference on eliminating WMDs in the Middle East, the slow progress of the nuclear negotiations with Iran, and the refusal of North Korea, India, or Pakistan to make any gesture to nuclear disarmament. There is a great fear that next year's Nuclear Non-Proliferation Treaty (NPT) Review Conference will prove much more contentious than the 2010 session even if other countries, seeing Ukraine's fate, do not seek their own national nuclear deterrent. For example, since the Ukraine affair, Kazakhstan and other governments have called for making the negative nuclear security guarantees offered by the P-5 stronger and more concrete. That being said, it still seems that the main threats to trespass the nuclear nonproliferation regime come from Iran and North Korea—beyond these two wayward countries there is no state eagerly looking for an excuse to pursue nuclear weapons.

b) Nuclear Materials Security

Russia-West conflict over Ukraine did not seem to harm the March 2014 Nuclear Security Summit in The Hague, has not caused Moscow to break with the West in the Iran P6+1 negotiations, and has not prevented the successful Russia-U.S. nonproliferation cooperation with Kazakhstan, which recently returned some sensitive nuclear material to Russia with their aid. However, the conflict has prevented the end of the Nunn-Lugar program from being followed by the hoped-for intensified Russia-U.S. threat reduction cooperation in other countries. Russian-U.S. cooperation remains invaluable for addressing regional proliferation challenges. In cooperation with the International Atomic Energy Agency (IAEA) and other partners, their past collaboration in removing HEU from Serbia, Kazakhstan and other countries has been very productive. (Indeed, it contributed to removing the remaining fissile material from Ukraine in 2012, depriving Ukraine, which lacks an indigenous means of enriching uranium or reprocessing spent fuel plutonium, of an easy near-term nuclear weapons option). Syria presented a sudden WMD elimination opportunity that the United States successfully exploited in partnership with Russia. Similar opportunities might occur with regime changes or national emergencies elsewhere, such as the demise of North Korea's dysfunctional Communist dynasty or a threatened terrorist seizure of Pakistan's nuclear weapons.

Unfortunately, another form of collateral damage from the Ukraine conflict has been the de facto suspension of the Group of Eight (G-8) process. That institution has lost its elevated status of the 1980s and 1990s, when it was seen as a kind of great power directorate for managing the world economy. In particular, the Group of 20 has assumed many of its economic functions. But the G-8 has retained important nonproliferation functions, including providing critical management support for the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. With the scaling back of the Russian-U.S. Cooperative Threat Reduction program, the Global Partnership could become a more important multilateral threat reduction framework in coming years. Without an active G-8 guiding its activities, the Global Partnership will require a new directing framework. Ending the G-8 could also make it harder to decide what mechanism should replace the nuclear

security summits if they end in 2016 as planned. Some Russian support will be needed to create an effective follow-on architecture to ensure that the IAEA and other institutions can carry on important nuclear security work even in the absence of regular heads-of-state summits.

The economic sanctions on Russia might also decrease the funding that the Russian government is willing and able to employ to secure its own nuclear materials. Although Western experts are generally skeptical that ISIL or other terrorist organizations might be able to acquire nuclear materials to make radiological dispersal devices, their threatening to detonate these “dirty bombs” in the heart of Western cities would presumably have a greater deterrent effect, due to their economic and psychological detestation, on Western military action in the Middle East than the current ISIL strategies of video executions and empty threats. The threat of radiological or nuclear terrorism against Russia is also not zero and still demands active Russia-U.S. cooperation to prevent. WMD threats continue to become more global and complex. For diverse reasons, more countries are actively considering pursuing civilian nuclear power programs, which can be misused for making nuclear weapons. New technologies such as laser enrichment also pose new proliferation challenges. In some of these cases, the diverging security relations, capabilities, and approaches of Russia and the United States could make it easier for them to complement as well as supplement each other’s nonproliferation work. For example, depending on their relations with Russia or the United States, some governments will feel more comfortable dealing with Moscow or Washington, allowing for a beneficial division of labor. Given their historically preeminent roles in supplying global nuclear materials and technologies, and large stockpiles of nuclear materials and weapons, their nonproliferation collaboration is perhaps even more important for denying terrorists and other non-state actors access to WMD, especially nuclear weapons. Yet, the Ukraine crisis makes Russia-U.S. nonproliferation collaboration more difficult to achieve as well as to overcome longstanding differences in Russian and U.S. nonproliferation priorities, now deepened by the Crimea annexation.

c) Raised Risk of Armed Clashes between Nuclear-Armed Countries

The main lesson that most European and Eurasian governments seem to be learning from the Ukraine affair is that states should not to engage in a military confrontation with Russia if they are not NATO members. Conversely, the main message Washington is seeking to transmit to Moscow is that any attempt to use military force, or even hybrid tactics blending military and non-military tools, against a NATO member, even a former Soviet bloc state or former Soviet republic, would be met by a decisive response in accordance with Article 5 of the Washington Treaty that established NATO.

To make this message more persuasive to Russia, and to reassure nervous NATO allies, the United States has joined other NATO members in seeking to rectify various weaknesses in the alliance’s deterrence posture in East Central Europe. NATO’s response has remained moderate and allied governments have generally ignored the demands of hardliners to establish large permanent bases near Russia, undertake a massive program to transform the handful of NATO missile defense systems in Europe into more plausible hindrances to Russian missile strikes against NATO countries, or relocate some of NATO’s shrinking tactical nuclear weapons stockpile from Western Europe, where they are not wanted, to the allies most concerned about a renewed Russian military threat.

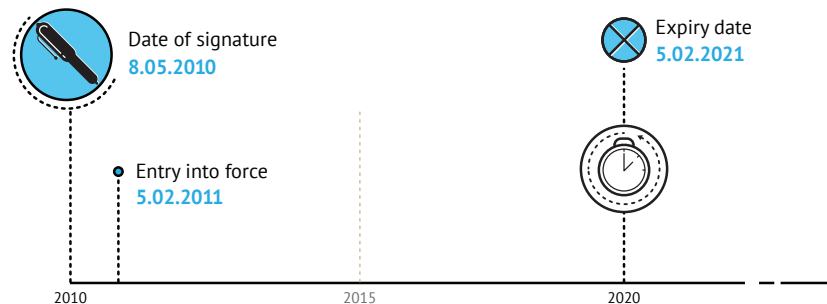
Nonetheless, the Russian government is naturally unhappy with this development. Russian rhetoric has not reached the nadir seen during the George W. Bush administration, with even President

New START Treaty

The main essence

Despite considerable cuts in nuclear weapons, the remaining amount is still huge

The Treaty provides for cuts in the number of nuclear warheads, intercontinental ballistic missiles, submarine-based ballistic missiles and heavy bombers both Russian and US. The New START Treaty in no way regulates nuclear warheads' yields



	Russia	as of 2009*	Limitation	USA	as of 2009*	Limitation
Nuclear warheads	3,897		1,550	5,916		1,550
Carrier vehicles	809		800	1,188		800

*according to US Department of State data, July 2009

Putin explicitly threatening to aim nuclear missiles at Ukraine should it host U.S. missile defenses. But Russian leaders have reaffirmed their commitment to increase their country's nuclear capabilities, have stated that the Crimea now enjoys the protection of Russia's nuclear umbrella, and have refused to negotiate reductions with NATO in even their non-strategic nuclear forces, which vastly outnumber the NATO tactical nuclear weapons. The Russian government also continues to engage in military exercises that include simulated use of nuclear weapons. Russia nuclear doctrine also still accepts the questionable principle that detonating a single nuclear warhead might de-escalate a conflict rather than the obverse.

One effect of Russia's response has been to stimulate renewed American thinking about how U.S. nuclear weapons can shape Russian beliefs and behavior. For example, the U.S. government now seems more inclined to publicly challenge perceived Russian violations of the Intermediate-Range Nuclear Forces (INF) Treaty, despite the risk that the Russian government will withdraw from the treaty. Russians note that this treaty uniquely applies to Russia and the United States, which must abstain from having missiles of the 500km-5,500km range, which is precisely the distance that most of the missiles of China, India, Pakistan and other nuclear weapons states are located relative to Russia, which threatens Russian but not U.S. territory. However, if Russia were to withdraw, Russian ballistic missile manufactures would have to dissipate their research and development efforts among yet another nuclear delivery system, when the troubled experience of the Bulava submarine-launched ballistic missile has made evident that Russian capabilities are already challenged. In addition, the United States is now more likely to respond. A growing number of U.S. analysts now advocate that the United States withdraw from the INF Treaty—not to aim more missiles against Russia, but to counter the hundreds of INF-range missiles China is now aiming at Taiwan, Japan, and U.S. bases in the Pacific (including possibly South Korea). Given how Russians insist that the few unarmed U.S. BMD interceptors in Europe are aimed at their nuclear missiles rather than Iranian missiles, one suspect that Russians would react equally badly to having hundreds of U.S. intermediate-range missiles deployed near The Russian Far East and perhaps elsewhere.

Regardless of what happens to the INF Treaty, Obama administration officials openly acknowledge that, given the poor security relationship between Russia and the United States, they will not be able to negotiate another strategic arms reduction treaty with the Putin administration before they leave office in January 2017. Outside the administration, expectations that we will see any near-term progress towards a nuclear-free world have vanished, while U.S. strategists advocating that the United States and NATO treat their nuclear policies less as an arms control and alliance management issue and approach them more from an operational and deterrence perspective have gained greater attention.

That said, American fears about a nuclear war occurring between Russia and the United States remain minimal. One need only point to the recent experience with the war in Syria. Whereas the Soviet Union during the 1973 Middle East crisis raised its nuclear alert level and engaged in other nuclear signaling to highlight Russia's deterrent capabilities, the Russian Federation declined to threaten any military response even when the Obama administration announced it would conduct air strikes against the Syrian government after it used chemical weapons against its own people. The United States and its NATO allies were similarly restrained during the Ukraine war.

Instead, the major source of near-term U.S. nuclear angst is that other governments with territorial aspirations, above all China, may be tempted to achieve them by applying the same types of tactics that Russia used in Georgia and Ukraine—applying steady pressure on the targeted state, preparing to unfreeze a conflict when the opportunity presents itself, and expecting the United States not to respond with robust military power since Washington has not enforced previous “red lines” against Iranian and North Korean nuclear activities or Syria's use of chemical weapons. If China and North Korea become more aggressive, then the risks of war between them and the United States, which would take some military action to defend Japan or South Korea from direct military aggression, increases. Naturally, Russia would also suffer human, financial, and other major costs if a war escalated to a direct nuclear exchange between either of these nearby countries and the United States. Even if the Pentagon avoided nuclear strikes near Russian territory, the humanitarian catastrophe and the collapse of the Asian and then global economy would not spare Russia.

Fortunately, Russian diplomacy has recognized this risk and not encouraged China to engage in military confrontations with its neighbors, while Moscow continues to join Beijing and Washington in discouraging North Korean provocations and nuclear weapons tests. The challenge now is to sustain this trilateral cooperation in the cases of Pyongyang and Tehran, avoiding direct military confrontations between these three great powers, while preparing to expand their nonproliferation partnership to other areas when future conditions are more propitious.

About the authors:

Oleg BARABANOV, Head of Department of EU Politics at MGIMO-University, and Professor at School of World Economics and Global Politics of the National Research University – Higher School of Economics, Senior Research Fellow at Valdai Club Foundation

Richard WEITZ, Director and Senior Fellow at Center for Political-Military Analysis of Hudson Institute