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ARTICLE



## Main Shortcomings and Challenges of the New START Treaty

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### ABSTRACT

The New START Treaty is a nuclear arms reduction agreement between the United States and Russia, signed in 2010 and in force since 2011. It limits the number of strategic nuclear missile launchers and warheads each country may deploy. This article evaluates the treaty's attribution to world nuclear safety and highlights its shortcomings, such as the abstention of modernised, conventional, and hypersonic weapons. The article argues for the correction of the mentioned drawbacks. Furthermore, it considers the participation of China in the prolonged version of the treaty in 2026.

For more than 70 years, international security has been based on treaties limiting or forbidding the use, deployment, proliferation or acquisition of nuclear weapons. They are, not limited to, the Treaty on the Non-Proliferation of Nuclear Weapons limiting the proliferation of nuclear weapons, Anti-Ballistic Missile Treaty limiting defence systems of participating countries,<sup>1</sup> Intermediate-Range Nuclear Forces Treaty binding the signatories to eliminate medium-range missiles,<sup>2</sup> various agreements on establishing Nuclear Free Zone,<sup>3</sup> such as in Latin America,<sup>4</sup> or even in the Outer Space<sup>5</sup> and other treaties, including predecessors of the current New START Treaty. It is the New START and its predecessors that have been maintaining the so-called strategic stability in global security. It means, as written by Colby, that neither of the parties will, in the case of crisis, take the incentive to be the first to attack as well as the fact that any attack of one party would result in activating the doctrine of mutual assured destruction (MAD<sup>6</sup>). Strategic stability can be explained from a pacifistic, peaceful viewpoint and inspire ideas of a balance among super powers. However, Colby interprets this expression rather in the sense of strategic deterrence and that is also the term that best describes the situation between two powers, USA and Russia.<sup>7</sup> It is not possible to talk about strategic balance at a time when any use of the arsenal could lead to the utter destruction of competing stakeholders as well as other countries. In the discussion about the nuclear arsenals of analysed powers, it is not

possible to talk about any condition representing a balance but rather about the fear of an attack and, therefore, about strategic deterrence. Both these countries possess a sufficient capacity for strategic and non-strategic nuclear weapons necessary for deterrence. Their arsenal of nuclear warheads is around 50 to 60 times higher than they need for effective nuclear deterrence. As mentioned by Pearce, in his study, an effective deterrence requires a maximum of 100 nuclear heads, whereby, after exceeding this number, any following, even though unreciprocated, an attack is counterproductive because of the damage suffered also by the territory of the attacker.<sup>8</sup> Despite this, the countries agreed on limiting their nuclear arsenal at a significantly higher quantity. As mentioned by Woolf in his article, both parties wish to reduce the number of nuclear weapons and US President Barack Obama even talked about global nuclear disarmament. That, however, was not successfully accomplished, even despite efforts to ban nuclear weapons by means of a legally binding document. Treaty on the Prohibition of Nuclear Weapons (TPNW) was one of the initiatives leading to the full elimination of nuclear weapons; however, its signatories are not nuclear states and powers and, therefore, it is possible to conclude that the TPNW, in its current position, cannot meet its ultimate goal.<sup>9</sup> The reality shows that although the New START Treaty limited the number of nuclear weapons, on one hand, it failed to take more steps leading to a further reduction of their number. Paradoxically, during the time of implementation, the qualitative aspects of the nuclear arsenals of the parties even increased. Woolf further mentions that, for the purposes of achieving an agreement, further extension of the term of the treaty after 2026 could be accompanied with difficulties in communication between the parties, complications concerning the agreement on the number of nuclear warheads or also the participation of China in the agreement that will also be analysed herein.<sup>10</sup> In their texts about New START, authors often forget the qualitative aspect of nuclear weapons development, in particular, hypersonic nuclear weapons. According to Wilkening, especially these weapons pose a high level of threat, in particular to the USA and Europe, as they are possessed especially by China and Russia, which are even increasing their level of deterrence towards the NATO countries.<sup>11</sup> New nuclear weapons of hypersonic nature are changing the dynamics of the nuclear balance, also due to the fact that the probability of intercepting them by current technologies is low. Karako and Dahlgren mention that interception of a hypersonic missile is technologically possible, however, in order to make it happen, it is necessary to approach the anti-missile defence in a different manner.<sup>12</sup> On the other hand, the New START Treaty does not contain any clauses on anti-missile defence, which may encourage the parties to recourse to the old concept of the arms race: country A develops a new type of nuclear weapon, the other tries to adapt its missile defence in order to intercept it and, thus, it also enhances its attack capacities. This principle can, subsequently, continue as a loop and result in

developing weapons discussed also herein. During negotiations on the New START, Russia wanted to settle the limitation of anti-missile systems, which also led to an extended duration of negotiations. President Obama could not meet such a request of the Russian President for political reasons and, therefore, they agreed upon a statement in the recitals that assumes a connection between offensive and defensive systems.<sup>13</sup> This article will focus on answering the question if the current format of the New START Treaty is effective and sufficient at the current level of technological and geopolitical progress. We will also answer the question of what should be contained in the treaty after 2026 and what stakeholders should be included.

In the period from 1969 to 1972, there were talks held on limitation of strategic arms that led to the Anti-ballistic Missile Treaty (ABM) and SALT I. The ABM Treaty forbade anti-missile defence systems that could protect the territory of the USA and Russia but it allowed the regional defence of 100 ground-launched missiles (the Soviet Union used them for the protection of Moscow while the US decided to protect a ballistic missile base).<sup>14</sup> While the ABM covered the use of defence systems, SALT I focused on the limitation of the arms race, in particular, strategic nuclear weapons.<sup>15</sup> SALT I set limits on the USA and the USSR for increasing the number of launchers for intercontinental ballistic missiles (ICBM) and launchers for submarine launched ballistic missiles (SLBM).<sup>16</sup> According to Cameron, however, the treaty was not only the first treaty of its kind but a beginning of a brand new era of détente. What is equally important to mention is that the treaty did not limit, namely, the number of warheads. The reason is that a ballistic missile launched from a launcher is a carrier with a certain number of warheads with explosives. Based on the above, it is possible to conclude that the treaty did limit the number of launchers but failed to consider the number of warheads. Thus, the stakeholders could load more heads on missiles and increase their attack potential. SALT I was to be replaced with a more extensive SALT II, which was signed in 1979. However, that treaty never came into force due to the Soviet invasion to Afghanistan and concerns about the non-observance of the treaty by both parties.<sup>17</sup>

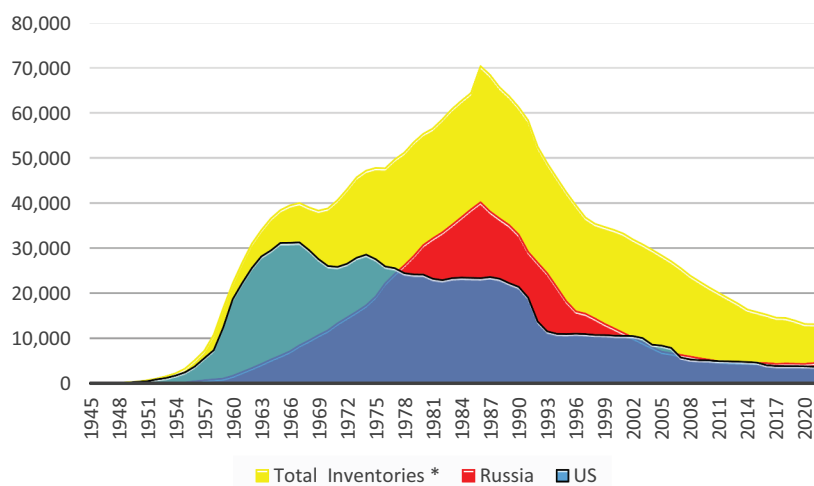
The START I Treaty signed in 1991 already contained attributes similar to those that can be found in the present New START. George Bush and Mikhail Gorbachev signed a treaty that limited the number of deployed<sup>18</sup> ICBMs, SLBMs and heavy bombardiers to 1,600, as well as the number of prepared and deployed heads to 6,000.<sup>19</sup> Although the treaty was signed in 1991, it came into force three years later as the Soviet Union was disintegrating at that time and, as a result of that, nuclear weapons remained in the ownership of Russia, Belarus, Ukraine and Kazakhstan, whereby all countries except for Russia gave them up in 1994 in the form of Budapest Memorandum in return for security guarantees.<sup>20</sup> Upon signing the Lisbon Protocol, all the countries became parties to the START Treaty, which made it possible for the treaty to come

into force.<sup>21</sup> Based on the analysis of differences between SALT I and START I, it is possible to conclude that leaders signing the START I Treaty managed to sign a more ambitious treaty than their predecessors as it also contained a provision on deployed warheads and set limits for the entire nuclear triad.

As it can be seen in Figure 1, the total number of nuclear weapons was increasing after the end of World War 2 until 1986, one year after appointing Mikhail Gorbachev into the position of the General Secretary of the Communist Party of the Soviet Union. It was in 1986 when the number of nuclear heads started to decline, especially due to a change in the policy of the USSR during the Cold War, the results of the Reykjavik Summit<sup>22</sup> and also due to continuing economic decline of the Soviet Union.<sup>23</sup>

The joint nuclear arsenal of both powers is currently at its lowest level since about 1960, which can be especially attributed to Presidents Barack Obama and Dimitri Medvedev who signed the New START Treaty. However, as it has been mentioned, the treaty does not eliminate the possibility of a nuclear conflict, as the number of nuclear weapons is not reduced to the 'global zero' that was often referred to by Barack Obama,<sup>25</sup> but to 1,550 pieces of deployed nuclear heads for both parties.

That means that the two countries possess sufficient inventory to destroy both, the territory of the enemy as well as a large number of other countries and to induce the nuclear winter.<sup>26</sup> On the other hand, it is possible to apply the principle of strategic stability and deterrence, as both powers possess, along with the nuclear force (silos), submarines and mobile launchers. That equipment makes it possible to unexpectedly launch missiles at the opponent



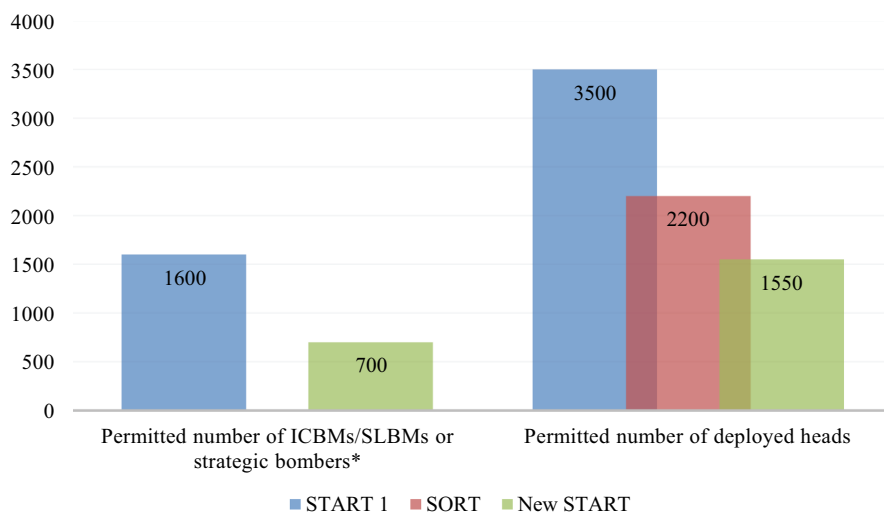
**Figure 1.** Estimated global inventories of nuclear warheads. Source: Federation of American Scientists<sup>24</sup>, elaborated by the authors. \*Total inventories include US, Russian and other nuclear countries' warheads.

at any time and from any place as the enemy country does not know where a such attack may come from.

According to Futter, that unpredictability excludes that a rational military command could attack the enemy, because the possibility of a counterattack is too high and potentially devastating.<sup>27</sup> Although the weapons inventory has significantly decreased since the Cold War, the effects of their use have remained unchanged. Various experts and observers considered this option after the annexation of Crimea by the Russian Federation in 2014. Under certain unfavourable circumstances, the conflict could escalate and lead to the use of nuclear weapons.<sup>28</sup> Currently, in an analogous situation concerning the attack of Russia on Ukraine, which started on 24 February 2022, the level of uncertainty and nervousness is even higher. Along with maintaining a high number of nuclear warheads, the powers have also been investing billions of dollars into development of new nuclear weapons that are, to a large extent, and, together with non-strategic nuclear weapons and strong conventional weapons, not regulated in the treaty. It is up to both countries to find an effective deal on further arrangement of nuclear arming and the preparations for extension of the New START treaty that should take place in 2026 is an ideal opportunity for such a step. Until then, however, the USA and Russia will have to settle a number of geopolitical and strategic issues as well as matters of internal policy, such as approaching elections in the US or the political and economic situation in the Russian Federation.

The New START Treaty was signed in Prague in 2009 by the US President Barack Obama and his Russian counterpart Dmitri Medvedev. It came into force in 2011.<sup>29</sup>

As can be seen in [Figure 2](#), the New START Treaty guaranteed the lowest number of deployed carriers and heads since the Cold War. One of the intentions of the treaty – a historical goal to free humankind from the nuclear threat – has not been accomplished yet. However, the countries demonstrably meet their commitment to gradually limit nuclear weapons in parallel to maintaining security with their arsenals.<sup>30</sup> Provisions of the treaty are deemed sufficient and the 2011–2021 period showed that the treaty's content had been effectively implemented and its implementation continues. The extraordinary system of verification is the first of its kind and enables the parties to keep an overview of their partner's arsenal by means of exchanging data as well as by means of 18 inspections held every year that are notified only shortly prior to their execution.<sup>31</sup> Inspections also include random scrutiny of the number of warheads deployed on missiles.<sup>32</sup> However, it is necessary to add that, based on published information, there are no inspections held at present. Inspections were suspended already back during the COVID-19 pandemic and, currently, they are hindered by the decision of the Kremlin to ban inspection that was taken in August 2022.<sup>33</sup>



**Figure 2.** Overview of the permitted number of carriers and deployed warheads based on START I, SORT and New START. Prepared by the author based on provisions of START I, SORT and New START. \* The SORT Treaty did not include provisions on the permitted number of carriers.

Maybe, even more relevant than what is contained in the New START Treaty is what is missing there. One of its material shortcomings is the absence of partial provisions on the nuclear triad. Although the nuclear triad provisions were defined in START I, their absence in New START means that the parties can determine the composition and structure of their strategic attack weapons by themselves. New START also contains no limits for inactive battle heads and missiles/bombers.<sup>34</sup> That shortcoming is of material nature because an inactive warhead or carrier can be transformed into an active condition relatively fast, which represents an increase of the battle arsenal force. Due to the fact that the USA has 5,550 nuclear heads and Russia has 6,257<sup>35</sup> nuclear heads, any termination of the treaty could result in their fast transformation into active and deployed heads. On one hand, New START does not contain any limitation of active heads and missiles, on the other, it does limit the number of launchers, which reduces the possibilities of the parties. Even despite that, the countries should look for a way how to reduce the total number of heads. If the countries aim at keeping an effective level of nuclear deterrence, the sufficient number of heads should amount to hundreds, not thousands. In this context, unused or obsolete nuclear warheads cause useless financial costs allocated for their maintenance and storage. Besides that, many of them cannot be utilised due to inferior technological features and, thus, they only intensify the tension in the international community as well as the risk of undesired detonation. On the other hand, it is necessary to emphasise the fact that the treaty also contains provisions on monitoring of inactive heads and exact rules on the method of storing inactive nuclear inventories. Along with

that, inactive heads must not be positioned in the proximity of active heads and they must be distinctively marked. Monitoring of that arsenal is outlined in Article XI and allows the parties to perform inspections and obliges the parties to provide information on those heads.<sup>36</sup>

Furthermore, it is possible to define 3 more important factors that are not contained in the New START Treaty and that constitutes a point of conflict between the USA and Russia:

- defence systems,
- modernised weapons,
- conventional weapons with high power.

Defence systems consist of intercepting missiles<sup>37</sup> as well as radars and early warning systems that can be positioned on the ground, in the sea or in the universe and of command and control centres. Radars are supposed to detect any launched enemy missile in the shortest possible time and convey information to the command and control centre, where the data is evaluated and result in an adequate response.<sup>38</sup> One possible question is if, in the 21<sup>st</sup> century, such radars and command centres can be merged into one using artificial intelligence (AI) and, thus, reduce the response time. One of the answers is that the command and control centres can be replaced with artificial intelligence but such change could pose a significant threat and could lead to material accidents. Early warning systems use AI or machine learning and there are well-known examples when the warning was evaluated as a false one. When the artificial intelligence algorithm makes mistake, the command centre will have time to respond, assess the situation and not initiate a counter measure. If artificial intelligence is introduced also to command and control centres, a possible error would be a part of the decision-making process of artificial intelligence and it could attack an object that does not constitute a risk or launch a counter attack that could have more than just diplomatic consequences.<sup>39</sup>

Of course, defence systems also contain anti-missile systems. When the radar detects an enemy missile and the command and control centre issues the command to respond, intercepting missiles are launched to hit the enemy missile on its trajectory of impact and destroy it using kinetic energy. Such missiles could be launched from the ground, mobile launchers for trucks or from ships but, for the time being, not from the space yet.<sup>40</sup> The reason why defence systems should be limited by the new treaty is that too strong anti-missile defence devalues the arsenal of the opponent that, subsequently, quantitatively and qualitatively expands its attack capabilities and encourages the defending country to improve its defence capacities and even the first strike. It can result in a new arms race, which is more demanding on finance and technology progress than it was in the past century.



The second aspect that is not contained in the New START Treaty is modernised weapons. The treaty does not directly put limits on modernisation, it only contains a provision that the parties should have the right to raise objections concerning newly developed weapons.<sup>41</sup> Certain modernised weapons, such as hypersonic glide vehicle Avangard, have been added to the New START additionally and, thus, their use and acquisition are contractually limited. However, there are weapons, such as Poseidon strategic missile or Burevestnik cruise missiles, which are not limited by any treaty.

Last but not least, the treaty lacks any provision for conventional weapons with high yield. Concerns about such weapons have been raised especially on the part of Russia, which is worried about US conventional weapons as they are capable of destroying targets that, in the past, could only be destroyed by nuclear weapons.

Although Article IX contained the option to extend the treaty by 5 more years, it almost expired in 2021 due to the reasons described above. For the time being, the validity of the treaty remains relatively stable. Now, it is up to the leaders of the countries to find a consensus and put safeguards for the effective implementation of the treaty even after 2026.

However, there still is one factor that has not been settled yet and that cannot be negotiated by the US and Russia only: participation of China in the New START Treaty in 2026. China shows the minimum level of transparency regarding the condition of its nuclear force; it is assumed that it currently possesses 350 heads, and their number is continuously rising.<sup>42</sup> It is one of the reasons why Donald Trump raised a requirement for three-party nature of the treaty, i.e. involvement of China. For a long time, China has been concerned about a possible American precise conventional attack on the Chinese nuclear force. As mentioned by Tong, China currently operates massive underground tunnels that are supposed to protect nuclear launchers from American attacks.<sup>43</sup> Thus, the Chinese level of deterrence of the USA increased, because the US could not easily degrade the Chinese nuclear arsenal anymore. Although the communication of the current US President Joe Biden is not as confrontational as it used to be during the preceding administration, he still requires the presence of China in negotiations on the new format of the New START.<sup>44</sup>

China was also invited to Vienna negotiations in 2020, but its representatives did not arrive and expressed their outrage of the non-serious conduct of the American party.<sup>45</sup> Talks between the US and Russia continued and led to a bilateral agreement. Looking at the Chinese nuclear arsenal, there is actually no relevant and strategic reason why China should become a signatory to the treaty. It possesses only 350 warheads, while the USA and Russia have, jointly, in total, almost 12,000 heads, including modernised weapons. *Ceteris paribus*, this argument is logical. Even despite that, the rising quantity of the Chinese

arsenal and complicated relations with the USA could pose a risk although China declared its policy of not being the first to use the heads.<sup>46</sup>

At the moment, the participation of China is unrealistic but the countries have time to negotiate also this matter until 2026. If China accesses the treaty, it should also be open to other countries, in particular, France, the United Kingdom as well as Pakistan, as their arsenals are comparable to China's. Such a treaty would be, however, too complex and compiling its multilateral version is unlikely. Even despite that, the USA and Russia have agreed on establishing two working groups that will initiate negotiations on matters such as non-strategic, conventional and modernised weapons, defence systems and hold discussions on China and with China. It is still true that negotiations on non-strategic, conventional and modernised weapons, defence systems and discussions on China will not be simple and will require constructiveness and patience. Countries will probably not achieve the global zero that was desired by Obama but they will, at least, minimise the nuclear threat. However, as Considine proved in her article, nuclear weapons are the embodiment of human inclination to violence.<sup>47</sup> It is up to leaders of the powers to effectively restrict such inclinations by means of security guarantees and contractual commitments.

The New START Treaty currently constitutes one of the most important surviving treaties that form the basis of global nuclear security. It is a result of long-term negotiation efforts aimed at reducing nuclear heads and carriers that started, in the form of the SALT I Treaty, already back in 1969, after the Cuban missile crisis and renewed in 2021 in the form of the agreement on renewing the New START Treaty. The future format of the treaty extension that is projected for 2026 is, however, disputable. One reason is the geopolitical situation caused by the war in Ukraine, which demonstrably influences the implementation and efforts to renew the New START Treaty, because the parties are negotiating at a lower level and because the Russian Federation started limiting access to American inspectors to its nuclear facilities, where they were supposed to perform the inspection of observance of provisions of the treaty. Furthermore, at the time of elaboration of this article, a turn of events has occurred which may jeopardise the continued operation of the treaty. The Kremlin has announced that it is suspending its participation in the New START treaty. Unsurprisingly, President Putin said the West had forced him to take this step. He defines the suspension of participation as a reaction to the United States' assistance to Ukraine and the West's desire for Russia's 'strategic defeat' in Ukraine, on the basis of which it cannot allow US inspectors into its nuclear facilities. In fact, Vladimir Putin has consistently stressed that he will not withdraw from the treaty, and Lavrov added that Russia has no plans to increase the number of nuclear warheads beyond the contractually permitted level. Russia's actions are reminiscent of those of Iran in the context of the JCPOA. Although the circumstances were diametrically opposed, Iran

also suspended its participation in the treaty and, although it never officially withdrew from the treaty, it stopped complying with its provisions. The New START treaty allows both parties to carry out 18 inspections of nuclear facilities per year, and it is precisely the visits of US inspectors that Russia will no longer allow. This will not change the status quo, however, as inspections were first suspended because of the COVID-19 pandemic. Since the start of the war, Russia has not allowed US inspectors to enter its nuclear facilities. Nevertheless, other inspection mechanisms may change, such as the exchange of data on the movement of nuclear weapons or other related changes. Complete closure of the window of transparency between the nuclear superpowers would further increase uncertainty and concern about the quantitative and qualitative build-up of nuclear arsenals. It is also for this reason that the Russian Foreign Ministry has stated that it will continue to comply with the exchange of information on planned launches of intercontinental ballistic missiles and submarine-launched ballistic missiles under the 1988 Ballistic Missile Launch Notification Agreement. Since the treaty was suspended and not terminated, a step of the Russian president can be interpreted as an effort to create leverage for negotiations in the context of the war in Ukraine. However, such an action destabilised international nuclear architecture. Furthermore, it will be much more difficult to verify the nuclear capabilities of the Russian Federation. Nevertheless, increase of the nuclear arsenal above the treaty limits is not probable. In any case, the expert debate should not only focus on whether the agreement on treaty extension is reached. The treaty lacks several provisions that could enhance global security and strategic stability. Along with returning to the exact numbers of the nuclear triad, we find it important to include provisions on defence systems to the treaty. After the fall of the ABM Treaty, there is nothing that can limit the parties from building anti-missile systems, which, at the current level of technological progress, devalues the arsenal of the opponent and such party is further motivated to produce more modern weapons capable of penetrating the opponent's defence.

The quantitative arms race typical for the Cold War era is changing into qualitative race because of the contractual limitations and it can increase its pace thanks to the current technological progress. One of the features of the qualitative progress is hypersonic nuclear weapons whose limitation, except for specific restriction on Avangard missiles, is not included in the treaty. However, due to their speed and destruction force, such weapons constitute a change in the dynamics of nuclear armament because there are no defence systems capable of intercepting them at the moment.

Discussions are also held on the potential involvement of China in the New START Treaty. As we have shown herein, engagement of China is currently unlikely and it would be a rather surprising and relatively non-strategic decision on the part of the People's Republic of China. At the moment,

China has no incentive to engage in arrangements on reduction of its nuclear weapons when the USA and Russia possess multiple times bigger nuclear arsenals. The discussion should certainly intensify if the Chinese nuclear arsenal grows at the same pace as it has been doing so far and if its quantity and quality approximate to the American and Russian arsenals.

On the contrary, the discussion should also start at the moment when the parties to the New START Treaty get more ambitious and start reducing their nuclear arsenals to lower levels. In the article, we have also proven that effective strategic deterrence requires a significantly lower number of nuclear warheads and can still cause devastating effects on its adversaries, as well as on other countries. The parties should pay attention to reaching the best possible agreement in particular at present, when there is the highest risk of a global conflict since the Cold War and when the Russian Federation is openly threatening to use its nuclear weapons. Any failure to restore negotiations on extending the duration of the treaty would lead to tension and danger that could, at the current conditions, be much higher than it was prior to the last extension of the treaty in 2021.

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## Disclosure statement

No potential conflict of interest was reported by the author(s).

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