

## Capstone Project:

The Unraveling of the Intermediate-Range Nuclear Forces (INF) Treaty: Geopolitical Implications for the North Atlantic Treaty Organization, United States, and Russia

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#### Abstract

The unraveling of the US-Russia Intermediate-Range Nuclear Forces (INF) Treaty reflects the breakdown of the nuclear world order. This paper aims to address the question of the geopolitical implications of the unraveling of the INF Treaty for the North Atlantic Treaty Organization (NATO), US and Russia. In response, the arguments put forward are as follow: first, it will lead to a nuclear arms race between the US and Russia; second, it will increase Russia's threat to the security of Europe; and third, it will reinforce the role of NATO in preserving international security. The security of the Euro-Atlantic is at risk as the concept of strategic stability is deteriorating. Its relevancy is being destabilized by Russia's strategic deterrence policy and America's nuclear posture. The termination of the INF Treaty could set precedence and derail the New Strategic Arms Reduction Treaty (New START) that is due for renewal in 2021, of which Russia is in compliance with, and places the world at risk of not having any legal-binding limits for strategic warheads on the world's largest nuclear forces. A case study approach will be applied in this paper using secondary data.

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#### 1. Introduction

#### 1.1 Problem Statement

The unraveling of the US-Russia Intermediate-Range Nuclear Forces (INF) Treaty reflects the breakdown of the nuclear world order which is comprised of two systems of order. First is the "managed system of deterrence" whereby nuclear powers like the US and Russia pursue "deterrence and stability in a rule-bound system" through measures such as arms control agreements. Second is the nuclear nonproliferation order that prevents the spread of nuclear weapons and technology globally. Both systems are unraveling. This paper chooses to focus on the first system given that it presents compelling implications and requires significant coverage to achieve a meaningful analysis.

#### 1.2 Research Question and Hypotheses

This paper aims to address the question of the geopolitical implications of the unraveling of the INF Treaty for the North Atlantic Treaty Organization (NATO), US and Russia. In response I argue that:

- i. It will lead to a nuclear arms race between the US and Russia
- ii. It will increase Russia's threat to the security of Europe
- iii. It will reinforce the role of NATO in preserving international security

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<sup>&</sup>lt;sup>1</sup> "The Future of the Nuclear Order | Arms Control Association," April 2019, https://www.armscontrol.org/act/2019-04/features/future-nuclear-order.

<sup>&</sup>lt;sup>2</sup> "The Future of the Nuclear Order | Arms Control Association."

#### 1.3 Significance of Research

This research matters because the demise of the INF Treaty seems inevitable and poses global security risks, particularly to the Euro-Atlantic, as the concept of strategic stability is deteriorating<sup>3</sup> and puts Europe in the line of fire of nuclear weapons. This principle was first implemented with the 1972 Anti-Ballistic Missile Treaty and the Strategic Arms Limitations Treaty (SALT I), and became a legal norm at the end of the Cold War when nuclear arms control, such as the 1987 INF Treaty and the first Strategic Arms Reduction Treaty (START I) and subsequently the 1993 START II, 1997 START III Framework Agreement and 2010 New START, targeting at marked reduction of nuclear weapons were negotiated.<sup>4</sup> It enabled both the US and Russia to established a mutual agreement that the first nuclear strike is an act of aggression.<sup>5</sup> The relevancy of the strategic stability concept is being destabilized by Russia's strategic deterrence policy and America's nuclear stance as reflected in its 2018 Nuclear Posture Review.

Moreover, the termination of the INF Treaty could set precedence and derail the New START treaty that is due for renewal in 2021 of which Russia is in compliance with and places the world at risk of not having any legal-binding limits for strategic warheads on the world's largest nuclear forces, as Russia and the US together possess over 90 percent of the world's nuclear warhead inventories.<sup>6</sup> Furthermore, it signals that the Western nuclear strategy against Russia could be outdated vis-à-vis the European security environment today, where the greatest

<sup>&</sup>lt;sup>3</sup> Alexey Arbatov, "Nuclear Deterrence: A Guarantee or Threat to Strategic Stability?," Carnegie Moscow Center, accessed June 12, 2019, https://carnegie.ru/2019/03/22/nuclear-deterrence-guarantee-or-threat-to-strategic-stability-pub-78663.

<sup>&</sup>lt;sup>4</sup> Arbatov.

<sup>&</sup>lt;sup>5</sup> Arbatov.

<sup>&</sup>lt;sup>6</sup> "Nuclear Weapons: Who Has What at a Glance | Arms Control Association," June 2018, https://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat.

threat faced by NATO is no longer a Russian invasion, but territorial grab in the Baltics or Poland by Russia, repeating what it has done in eastern Ukraine.<sup>7</sup>

#### 1.4 Conceptual Framework and Methodology

A case study approach will be applied in this paper using secondary data. Broadly, the state of US-Russia arms control in the Euro-Atlantic, and credibility and value of US nuclear capability will be used to test the first hypothesis. The second hypothesis will be analyzed based on Russia's strategic deterrence doctrine and Russia-NATO relations, while the third hypothesis will be examined through the future of NATO. This paper sets out to evaluate Russia's motivations for violating the INF Treaty and its larger concerns, and how they impact Russia-NATO relations, US-Russia arms control developments, US nuclear capability, and the future role of NATO.

The paper is structured as such as the unpacking of the demise of the INF Treaty reveals a spectrum of interconnected variables. Russia's non-compliance with arms control agreements is a result of several factors including its rejection of the current world order led by the US; sources of Russia's NATO fears; Russia's strategic deterrence doctrine; and its perspective of diminishing strategic stability vis-à-vis the US. They could in turn influence a number of aspects such as Russia's interests in intermediate-range missiles, the fate of New START, the state of arms control, and the credibility of NATO's deterrence strategy.

<sup>&</sup>lt;sup>7</sup> Tom Nichols, "Mourning the INF Treaty," March 4, 2019, https://www.foreignaffairs.com/articles/2019-03-04/mourning-inf-treaty.

#### 1.5 Project Roadmap

The project begins with a background of the INF Treaty, laying out in chapter two key events leading up to the Treaty withdrawal by Russia and the US. The third chapter discusses four aspects regarding the problem of Russia. These are Russia's strategic deterrence doctrine; the nature of Russia's INF violation and underlying reasons for doing so; its interests in intermediate-range missiles; and Russia-NATO relations, including sources of Russia's NATO fears and feasibility of Russian NATO membership. The next chapter will review the state of US-Russia arms control in Euro-Atlantic security, defining the US-Russia strategic stability framework and the interrelationship of ballistic missile defense (BMD) with New START; establishing the accomplishments of New START and its uncertain future; and key European conventional arms control. Subsequent chapters will examine the credibility and value of US nuclear capability such as the shift in its nuclear posture, response to Russian violation and participation in an arms race; the future of NATO centered around its internal division, the two-track strategy of deterrence and dialogue, and deterrence credibility. The paper will conclude with an analysis of the hypotheses' validity.

#### 2. Background of the Intermediate-Range Nuclear Forces Treaty

The 1987 Intermediate-Range Nuclear Forces (INF) Treaty was an agreement negotiated by President Ronald Reagan and Soviet President Mikhail Gorbachev, established through significant consultation within NATO and a deliberate effort on the US' part to keep it strictly bilateral. It required both parties to destruct nuclear and conventional ground-launched ballistic and cruise missiles with ranges between 500 to 5,500 kilometers. The INF Treaty was an extraordinary feat as it led to the provable elimination of 2,692 Soviet and US missiles. Nonetheless, the termination of the INF Treaty indicates a reshuffling of the global order and the collapse of a regulated international nuclear order where nuclear weapons have regained legitimacy in countries' security policies, a development underway before but intensified under the Trump administration.

Beginning in the mid-2000s, Russia showed signs of withdrawal from the INF Treaty. In 2004 and 2005, Russia suggested that the US and Russia jointly withdraw from it, expressing its concern that it does not stop other countries from deploying INF missiles. In 2006, Defense Minister Sergei Ivanov called the Treaty "a relic of the Cold War." In 2007, Ivanov commented that removing an entire class of medium-range ballistic missiles was a momentous mistake. In

<sup>&</sup>lt;sup>8</sup> "Intermediate-Range Nuclear Forces Treaty (INF Treaty)," U.S. Department of State, accessed April 18, 2019, http://www.state.gov/t/avc/trty/102360.htm.

<sup>&</sup>lt;sup>9</sup> "INF Treaty Crisis: Background and Next Steps," Arms Control Association, accessed April 18, 2019, https://www.armscontrol.org/issue-briefs/2019-02/inf-treaty-crisis-background-next-steps.

<sup>&</sup>lt;sup>10</sup> Frank A. Rose, "The End of an Era? The INF Treaty, New START, and the Future of Strategic Stability," *Brookings* (blog), February 12, 2019, https://www.brookings.edu/blog/order-from-chaos/2019/02/12/the-end-of-anera-the-inf-treaty-new-start-and-the-future-of-strategic-stability/.

<sup>&</sup>lt;sup>11</sup> Nina Tannenwald, "How Strong Is the Nuclear Taboo Today?," *The Washington Quarterly* 41, no. 3 (July 3, 2018): 89–109, https://doi.org/10.1080/0163660X.2018.1520553.

<sup>&</sup>lt;sup>12</sup> Kay Bailey Hutchison, "How Russia Undermined Over 30 Years of Nuclear Arms Control," *The New York Times*, February 13, 2019, sec. Opinion, https://www.nytimes.com/2019/02/10/opinion/russia-inf-treaty.html.

<sup>&</sup>lt;sup>13</sup> Sputnik, "Scrapping Medium-Range Ballistic Missiles a Mistake - Ivanov-1," accessed May 4, 2019, https://sputniknews.com/russia/2007020760350944/.

October 2017, Putin unsuccessfully sought for a global ban on INF missiles.<sup>14</sup> It is foreseeable why Russia is more concerned with of the issue of third-country INF missiles than the US. As of 2012, among the ten countries that possess ballistic or cruise missiles with ranges between 500 and 5,500 kilometers, they either possess or are developing intermediate-range missiles that can reach Russian territory, but none have the ability to reach the US.<sup>15</sup>

In July 2014, the US made its first declaration that Russia has violated the INF Treaty.

Russia, on the other hand, alleged US noncompliance in three areas which the US has reaffirmed their compliance with its obligations under the INF Treaty: The Aegis Ashore Ballistic Missile Defense System; ballistic target missiles; and armed unmanned aerial vehicles. Russia's concern regarding the missile system warrants some merit as it is unable to verify that software modifications have indeed made in unfeasible for Aegis Ashore to launch cruise missiles and thus from its perspective, US deployment of the launcher violated the Treaty. 

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Over the last six years, US and Russian senior officials have had over 30 engagements on the INF Treaty. On February 1, 2019, the US announced that it will suspend its INF obligations on February 2, and provided a formal six-month notice period to withdraw from the agreement pursuant to Article 15 of the Treaty. In the event that Russia does not return to full and verifiable compliance within this six-month period, the Treaty will be terminated. Soon after, Russia announced that it will officially suspend its Treaty obligations as well. Abandoning the INF will benefit Russia more than the US or NATO because Russia will be able to deploy the INF-range SSC-8, also known as the 9M729 cruise missile, which had already violated the Treaty, and other

<sup>&</sup>lt;sup>14</sup> Steven Pifer, "The INF Treaty, Russian Compliance and the U.S. Policy Response," *Brookings* (blog), July 17, 2014, https://www.brookings.edu/testimonies/the-inf-treaty-russian-compliance-and-the-u-s-policy-response/.
<sup>15</sup> Pifer

<sup>&</sup>lt;sup>16</sup> William Tobey, Pavel Zolotarev and Ulrich Kühn, "The INF Quandary: Preventing a Nuclear Arms Race in Europe. Perspectives from the US, Russia and Germany," Russia Matters, accessed April 19, 2019, https://www.russiamatters.org/analysis/inf-quandary-preventing-nuclear-arms-race-europe-perspectives-us-russia-and-germany.



<sup>&</sup>lt;sup>17</sup> Bell, Robert G., "The Case for Saving the INF Treaty," November 5, 2018.

#### 3. The Problem with Russia

#### 3.1 Russia's Strategic Deterrence Doctrine

The Russian strategic deterrence doctrine is composed of strategic and non-strategic nuclear weapons and conventional forces, complemented by a range of non-military techniques, <sup>18</sup> and is emphasized by the Russian government's aim to reach a complete non-nuclear deterrence by way of increasing its stockpile of non-nuclear strategic weapons four-fold by 2021, <sup>19</sup> while the development of nuclear weapons remains a key priority. Thus, Russia's deterrence doctrine does not rule out the limited use of nuclear weapons in a military conflict; it anticipates using it. <sup>20</sup> This is largely a result of changes in the strategic environment, military technology advancement in the West, and military modernization of the Russian armed forces. <sup>21</sup>

Consequently, NATO countries believe that the Russian strategy in recent years is to "escalate to deescalate" where Moscow would resort to first use of nuclear weapons to end a military confrontation on desirable terms. This is better known as an escalation control, a partial adoption of the broader escalation dominance framework that has been the US' strategy until the end of the Cold War. Escalation control would enable Russia to control and contain the level of conflict escalation using calculated measures rather than dominating the conflict itself. As early as April 2000, Putin has announced that the Russian doctrine is to employ a low-yield nuclear weapon in the combat zone when confronting a superior conventional

<sup>&</sup>lt;sup>18</sup> Katarzyna Zysk, "Escalation and Nuclear Weapons in Russia's Military Strategy," *The RUSI Journal* 163, no. 2 (March 4, 2018): 4–15, https://doi.org/10.1080/03071847.2018.1469267.

<sup>&</sup>lt;sup>19</sup> Zysk.

<sup>&</sup>lt;sup>20</sup> Zysk.

<sup>&</sup>lt;sup>21</sup> Zvsk.

<sup>&</sup>lt;sup>22</sup> Dmitri Trenin, "Strategic Stability in the Changing World," Carnegie Moscow Center, accessed May 4, 2019, https://carnegie.ru/2019/03/21/strategic-stability-in-changing-world-pub-78650.
<sup>23</sup> Trenin.

<sup>&</sup>lt;sup>24</sup> "Time to Terminate Escalate to De-Escalate — It's Escalation Control," War on the Rocks, April 24, 2018, https://warontherocks.com/2018/04/time-to-terminate-escalate-to-de-escalateits-escalation-control/. <sup>25</sup> "Time to Terminate Escalate to De-Escalate — It's Escalation Control."

opponent.<sup>26</sup> The Russian Ministry of Defense described it in its 2003 white paper as an approach that would force an adversary to discontinue its military operations by either threatening or inflicting attacks through the use of conventional and/or nuclear weapons.<sup>27</sup> The 2017 Russian naval doctrine stresses that a demonstration of willingness and ability to use non-strategic nuclear weapons under circumstances of an escalating military conflict is a representation of effective deterrence, as the purpose of limited nuclear use is to effect a change in balance of power based on political calculation that Russia has a greater stake in the conflict.<sup>28</sup> Accordingly, the 2018 Nuclear Posture Review (NPR) alleges that Russia's nuclear doctrine integrates the escalate to deescalate strategy and would utilize low-yield nuclear weapons at initial stages of a conventional conflict to coerce NATO into submitting to terms favorable to it.<sup>29</sup>

#### 3.2 Russia's Intermediate-Range Nuclear Forces Treaty Violation

Beginning in 2013, the US has frequently raised the issue of Russian noncompliance to the INF Treaty. The US first made its claim that Russia "is in violation of its obligations under the... INF Treaty not to possess, produce, or flight-test a ground-launched cruise missile (GLCM) with a range capability of 500 km to 5,500 km, or to possess or produce launchers of such missiles" in its July 2014 Russia Compliance with the INF Treaty report. The subsequent annual editions of the report from 2015 to 2019 made the same claims. Russia, however, repeatedly denied its violation. In late 2017, the US publicized the Russian designator for the missile – SSC-8/9M729.

<sup>&</sup>lt;sup>26</sup> Anna Péczeli, "The Trump Administration's Nuclear Posture Review: Back to Great Power Competition," *Journal for Peace and Nuclear Disarmament* 1, no. 2 (July 3, 2018): 238–55, https://doi.org/10.1080/25751654.2018.1530741.

<sup>&</sup>lt;sup>27</sup> Zysk, "Escalation and Nuclear Weapons in Russia's Military Strategy."

<sup>&</sup>lt;sup>28</sup> Zvsk.

<sup>&</sup>lt;sup>29</sup> Péczeli, "The Trump Administration's Nuclear Posture Review."

<sup>&</sup>lt;sup>30</sup> "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress" (Congressional Research Service, February 8, 2019), https://crsreports.congress.gov/product/pdf/R/R43832/34.

Russia acknowledged the existence of the 9M729 cruise missile but denied that it breached the Treaty's requirements. In November 2018, Deputy Foreign Minister Sergey Ryabkov pointed out that US allegations are untrue and the 9M729 is a replacement for the Iskander-M system missile that covers below 480km.<sup>31</sup>

The lead-up to US formal withdrawal from the treaty was a meeting between US and Russian delegates in Geneva in January 2019, during which the US had reportedly issued an ultimatum demand that Russia destroy the 9M729 and related equipment under its oversight.<sup>32</sup> Andrea Thompson, the Undersecretary of State for Arms Control and International Security, explained that Russia's proposed inspection would not allow the US to verify the range of the missile and its destruction is the only way for Russia to return to its obligations.<sup>33</sup> Later in the month, it was established that Russia had deployed four battalions of the 9M729 cruise missile and has an arsenal of nearly 100 of the missiles including spares.<sup>34</sup>

Aside from the 9M729, the RS-26 land-based ballistic missile, which Russia has tested in ranges both below and above 5,500 kilometers between 2011 to 2013, and claimed it to be an intercontinental ballistic missile (ICBM), is contested by non-government analysts as to whether it constitutes an INF treaty violation too.<sup>35</sup> Some observers noted that the RS-26 intermediaterange tests could suggest Russia's resolve to bypass the limits imposed by the Treaty to take aim

<sup>&</sup>lt;sup>31</sup> "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress."

<sup>&</sup>lt;sup>32</sup> "Foreign Minister Sergey Lavrov's Remarks and Answers to Media Questions at a News Conference on the Results of Russian Diplomacy in 2018 Moscow, January 16, 2019," accessed May 31, 2019, http://www.mid.ru/foreign\_policy/news/-/asset\_publisher/cKNonkJE02Bw/content/id/3476729.

<sup>33 &</sup>quot;Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress."

<sup>&</sup>lt;sup>34</sup> Michael R. Gordon, "On Brink of Arms Treaty Exit, U.S. Finds More Offending Russian Missiles," *Wall Street Journal*, January 31, 2019, sec. Politics, https://www.wsj.com/articles/on-brink-of-arms-treaty-exit-u-s-finds-more-offending-russian-missiles-11548980645.

<sup>&</sup>lt;sup>35</sup> "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress."

at targets within the INF-range.<sup>36</sup> Even so, the Obama administration did not mention RS-26 in the 2014 Compliance Report and the Trump administration had distinguished it from the violating ground-launched cruise missile (GLCM).<sup>37</sup>

Russia's decision to pull out of the INF Treaty could be part of the larger Russian campaign to expand its global reach marked by Vladimir Putin's return to the Russian presidency in 2012. The campaign objectives include to undermine US-led international order; enhance Putin's domestic legitimacy by presenting Russia as a global superpower; advance Russian military interests; and challenge the US in its areas of traditional influence.<sup>38</sup> Russia's INF violation aligns with Putin's broader rejection of the world order which he put forward in 2014 with the idea to "live without any rules at all."<sup>39</sup> It is supplemented by Putin's assertion in 2015 that Russia's military policy is a response to emerging threats against Russia that is neither global nor aggressive, given that it has almost no foreign bases, but is sufficient to ensure Russia's security. <sup>40</sup> It is also a sign that the current US-Russia strategic stability framework has fallen apart. <sup>41</sup> In addition, the INF crisis is likely a tool to test NATO's cohesion. <sup>42</sup>

<sup>&</sup>lt;sup>36</sup> "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress."

<sup>&</sup>lt;sup>37</sup> "2018 Report on Adherence to and Compliance With Arms Control, Nonproliferation, and Disarmament Agreements and Commitments," *United States Department of State* (blog), accessed June 1, 2019, https://www.state.gov/2018-report-on-adherence-to-and-compliance-with-arms-control-nonproliferation-and-disarmament-agreements-and-commitments/.

<sup>&</sup>lt;sup>38</sup> Paul Stronski Sokolsky Richard and Paul Stronski Sokolsky Richard, "The Return of Global Russia: An Analytical Framework," Carnegie Endowment for International Peace, accessed April 28, 2019, https://carnegieendowment.org/2017/12/14/return-of-global-russia-analytical-framework-pub-75003.

<sup>&</sup>lt;sup>39</sup> "Meeting of the Valdai International Discussion Club," President of Russia, October 14, 2014, http://en.kremlin.ru/events/president/news/46860.

<sup>&</sup>lt;sup>40</sup> "'Russia Would Attack NATO Only in Mad Person's Dream' – Putin," RT International, accessed May 4, 2019, https://www.rt.com/news/265399-putin-nato-europe-ukraine-italy/.

<sup>&</sup>lt;sup>41</sup> Rose, "The End of an Era?"

<sup>&</sup>lt;sup>42</sup> Ulrich Kühn Péczeli Anna and Ulrich Kühn Péczeli Anna, "Russia, NATO, and the INF Treaty," Carnegie Endowment for International Peace, accessed May 4, 2019, https://carnegieendowment.org/2017/02/28/russia-nato-and-inf-treaty-pub-68124.

#### 3.3 Russia's Interests in Intermediate-range Missiles

The dismantling of the INF treaty would allow Russia to build its arsenal of intermediaterange missiles<sup>43</sup> that could possibly be fitted with nuclear warheads. It would enable Russia to deploy new sea- and ground-launched conventional missiles, and could increase the perceived risk of a conventional strike relative to a nuclear attack in Europe, thereby strengthening Russia's deterrence against NATO. In fact, Russia has incrementally replaced nuclear missions with conventional strategic strikes. 44 The 2014 Russian Military Doctrine indicates high-precision striking as a key capability of strategic deterrence, 45 and is underscored by the Russian Naval Doctrine published in 2017, which states that the Navy's new objective is to destroy the adversary's critical military and economic facilities from the sea. 46 Russia could use its intermediate-range missiles to respond to NATO's advanced conventional capabilities, such as to deter NATO's use of the US Navy's Tomahawk sea-launched cruise missiles, and enlargement eastward into countries near Russia's western border.<sup>47</sup> Russia may also be developing INFrange missiles to address threats outside of Europe as seen in its plans to deploy the RS-26 missile at Irkutsk that is within range of other countries, including China, towards its south and east.48

<sup>&</sup>lt;sup>43</sup> Stanford University, "What U.S. Suspension of INF Treaty with Russia Means," Stanford News, February 1, 2019, https://news.stanford.edu/2019/02/01/u-s-suspension-nuclear-arms-treaty-russia-means/.

<sup>&</sup>lt;sup>44</sup> Rowan Allport, "Russia's Conventional Weapons Are Deadlier Than Its Nukes," Foreign Policy, January 17, 2019, https://foreignpolicy.com/2019/01/17/russias-conventional-weapons-are-deadlier-than-its-nukes/.

<sup>&</sup>lt;sup>45</sup> "Russian National Security Strategy - Full-Text Translation," December 2015,

http://www.ieee.es/Galerias/fichero/OtrasPublicaciones/Internacional/2016/Russian-National-Security-Strategy-31Dec2015.pdf.

<sup>&</sup>lt;sup>46</sup> "Fundamentals of the State Policy of the Russian Federation in the Field of Naval Operations for the Period Until 2030" (Russia Maritime Studies Institute, July 20, 2017),

 $http://dnnlgwick.blob.core.windows.net/portals/0/RMSI\_RusNavyFundamentalsENG\_FINAL\%20(1).pdf?sr=b\&si=DNNFileManagerPolicy\&sig=i110Z1rxZVzKbB\%2BdHJ1CZuTxvwL3N7W34\%2FLpksgT1Bs\%3D.$ 

<sup>&</sup>lt;sup>47</sup> "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress."

<sup>&</sup>lt;sup>48</sup> "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress."

The likely collapse of the INF Treaty could also threaten Russia's security as the deployment of intermediate-range missiles in Europe would place main Soviet command points within range, a familiar circumstance in the mid-1980s that prompted the Soviet Union to sign the INF Treaty. Compared to the past, Russia faces a more dire situation currently as missiles deployed in newer NATO allies are able to reach its command points within five minutes and the accuracy of high-precision weapons could destroy critical infrastructure in Russia without the use of nuclear warheads.<sup>49</sup> Thus, there remains a feasibility that Russia would fall back on nuclear deterrence should political calculation call for it.<sup>50</sup>

#### 3.4 Russia-North Atlantic Treaty Organization Relations

In the 2014 Military Doctrine and 2015 National Security Strategy of the Russian Federation, Russia identified NATO as a military risk and security threat specifically the alliance's enlargement and placement of military infrastructure near Russian borders. NATO was established primarily to keep the Soviet Union out. Russian leaders had expressed interest for Russia to join NATO before and after the collapse of the Soviet Union. In1954, the Soviets had advocated for NATO membership at the Berlin Conference of Foreign Ministers but was expectedly rejected by the Western powers on the grounds of irreconcilable democratic and defensive goals. In his memorandum to the Soviet Presidium, Foreign Minister Molotov explained that the intent of raising the Soviet's interest in joining NATO was to "make things difficult for the organizers of the North Atlantic bloc... so that it would not be directed against

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<sup>&</sup>lt;sup>49</sup> William Tobey, Pavel Zolotarev and Ulrich Kühn, "The INF Quandary: Preventing a Nuclear Arms Race in Europe. Perspectives from the US, Russia and Germany."

<sup>&</sup>lt;sup>50</sup> William Tobey, Pavel Zolotarev and Ulrich Kühn.

<sup>&</sup>lt;sup>51</sup> "The Military Doctrine of the Russian Federation," The Embassy of the Russian Federation to the United Kingdom of Great Britain and Northern Ireland, June 29, 2015, http://rusemb.org.uk/press/2029.

<sup>&</sup>lt;sup>52</sup> Dave Majumdar, "Fact: Russia Pitched the Idea of Joining NATO in 1954," The National Interest, December 14, 2016, https://nationalinterest.org/blog/the-buzz/fact-russia-pitched-the-idea-joining-nato-1954-18737.

the USSR and the people's democracies"<sup>53</sup> and "would also undermine plans for the creation of the European Defense Community and the remilitarization of West Germany."<sup>54</sup> It was a winwin situation for the Soviets, regardless of the outcome, as Soviet admission into NATO would change the defensive nature of the pact, while a rejection would enable the Soviet Union to maintain sovereignty over its internal affairs. It was noted that the Soviet Union continued an "extensive and intensive campaign for European collective security" <sup>55</sup> until the Geneva Foreign Ministers Conference in October-November 1955.

Post-Soviet years, the idea of Russian NATO membership was again put forward explicitly during the period surrounding a conference between President Vladimir Putin and President George W. Bush held in Slovenia in June 2001 which coincided with NATO enlargement. Putin acknowledged before the conference that it is not possible to dissolve NATO.<sup>56</sup> He also commented during the dialogue with Bush that "[Russia's] attitude toward NATO was not towards an enemy organization,"<sup>57</sup> indicating that Moscow's foreign policy at this point could be to appease the idea of NATO expansion.<sup>58</sup> However, NATO's position remains that Russia needs to demonstrate its ability to uphold democracy and human rights before considering its membership, while Russia has made repeated requests for NATO to refuse its neighboring countries the membership.<sup>59</sup> Records have also shown that NATO has never formally offered

<sup>&</sup>lt;sup>53</sup> "Molotov's Proposal That the USSR Join NATO, March 1954," Wilson Center Digital Archive, March 26, 1954, https://digitalarchive.wilsoncenter.org/document/113924.

<sup>&</sup>lt;sup>54</sup> "Molotov's Proposal That the USSR Join NATO, March 1954."

<sup>55</sup> Majumdar, "Fact."

<sup>&</sup>lt;sup>56</sup> Peter Baker, "Putin Offers West Reassurances and Ideas on NATO," *Washington Post*, July 19, 2001, https://www.washingtonpost.com/archive/politics/2001/07/19/putin-offers-west-reassurances-and-ideas-on-nato/99892a84-fde0-43d6-aa10-35d9c842c50a/.

<sup>&</sup>lt;sup>57</sup> "CNN.Com - Transcript: Bush, Putin News Conference - June 18, 2001," accessed June 24, 2019, http://edition.cnn.com/2001/WORLD/europe/06/18/bush.putin.transcript/index.html.

<sup>58</sup> Baker, "Putin Offers West Reassurances and Ideas on NATO."

<sup>&</sup>lt;sup>59</sup> Madeline Roache, "Breaking Down the Complicated Relationship Between Russia and NATO," *Time*, April 4, 2019, https://time.com/5564207/russia-nato-relationship/.

Russia an invitation to join the alliance nor made a legally binding commitment to not expand NATO.<sup>60</sup> In sum, Russian NATO membership is not feasible.

There are two main sources for Russia's fear of NATO. First is its experience of numerous defensive wars with the West that culminated in Russia's embedded fear of being attacked by the West. A second source is related to the policies of NATO and the US after the Cold War. Russia's inability to integrate with NATO, chiefly owning to its political institutions and expansion eastward, conveyed to Russia that the alliance cannot be converted into a non-military one and that Russia was not recognized by the West. It is suggested that the Ukraine crisis reflected Russia's response over a loss of influence over a vital neighbor and not about an institutional structure. Beginning in the mid-1990s, NATO's actions shaped Russia's perception of it being a security threat as summarized in the following table:

**Table 1** NATO, Russia, and three crises in their relations.

		NATO's actions	Russia's perception	
	1991–93 1994–99	Discussion of future mission Enlargement-1; Russia-NATO Council	Alliance of Western democracies Vestige of Cold War; potential partner	
Crisis I	1999	Yugoslavia bombing	Military threat	
	2001-02 2002-04	Counter-terrorism; new Russia-NATO Council Enlargement-2; MDS	Partner Military threat	
Crisis II	2005-08	Support for enlargement-3 and colored revolutions	Tool of regime change	
	2009-10	Counter-terrorism; cyber threats	Limited partner	
Crisis III	2011-14	MDS; military ties with non-Russian states; support for revolution in Ukraine	Tool of Western expansionism	
	2014-16	Deterrence of Russia	Military & civilizational threat	

Source: Andrei P. Tsygankov, "The Sources of Russia's Fear of NATO"

<sup>&</sup>lt;sup>60</sup> Michael Rühle, "NATO Enlargement and Russia: Discerning Fact from Fiction," *American Foreign Policy Interests* 36, no. 4 (2014): 234–239, https://doi.org/10.1080/10803920.2014.947879.

<sup>&</sup>lt;sup>61</sup> Andrei P. Tsygankov, "The Sources of Russia's Fear of NATO," *Communist and Post-Communist Studies*, NATO, Russia, and regional security in Europe and Eurasia, 51, no. 2 (June 1, 2018): 101–11, https://doi.org/10.1016/j.postcomstud.2018.04.002.

<sup>&</sup>lt;sup>62</sup> Tsygankov.

<sup>63</sup> Rühle, "NATO Enlargement and Russia."

Russia's initial focus was to minimize the likely strain in relationship with the west caused by NATO enlargement.<sup>64</sup> As such, a Permanent Joint Council (PJC), a platform for consultation and cooperation, was created in 1997 by the Founding Act on Mutual Relations, Cooperation and Security Between NATO and the Russian Federation. NATO intervention in Yugoslavia in 1999 added a new aspect of the use of force to Russia's perception and more significantly, was applied against Russia's traditional Slavic/Orthodox ally without consulting Moscow. 65 Unlike its 1993 Military Doctrine that associated the use of nuclear weapons only with a global war, Russia expanded the conflict scenarios to include armed conflict and local and regional wars in its 2000 Military Doctrine following the alliance's mission in Kosovo. 66 Ensuing the US-Russia collaboration on the war on terror, a new Russia-NATO Council was established in 2002 to replace the PJC, expanding relations to include joint decision and action. However, US/NATO-Russia relations took a turn after 2003 as the alliance attempted a third round of expansion to extend membership to former Soviet states like Ukraine and Georgia, which also received US support for the colored revolutions, despite Russia's warning that it would result in a geopolitical shift requiring Moscow to modify its policy.<sup>67</sup> These developments confirmed the Russian perception that the alliance represented a security threat in the region and to the Kremlin regime. Washington's plans to deploy a missile defense system (MDS) in Europe in 2011, further elaborated in the next section, constituted a third crisis in Russia-NATO relations. The Ukraine crisis marked a shift in NATO's military policy, described further in the sixth chapter, that commenced at the 2014 Wales Summit and was regarded by Russia as Western aggression.

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<sup>&</sup>lt;sup>64</sup> Tsygankov, "The Sources of Russia's Fear of NATO."

<sup>&</sup>lt;sup>65</sup> Tsygankov.

<sup>&</sup>lt;sup>66</sup> "Russia's 2000 Military Doctrine," Nuclear Threat Initiative, accessed June 28, 2019, https://www.nti.org/analysis/articles/russias-2000-military-doctrine/.

<sup>&</sup>lt;sup>67</sup> Tsygankov, "The Sources of Russia's Fear of NATO."

#### 4. State of US-Russia Arms Control in Euro-Atlantic Security

#### 4.1 US-Russia Strategic Stability Framework

The state of US-Russia arms control is largely determined by their strategic stability framework. A significant turning point in the relationship was US withdrawal from the 1972 Anti-Ballistic Missile Treaty in 2002 which most countries referred to as a "cornerstone of strategic stability"68 because it paved the way for later arms control agreements. The US' subsequent contribution to NATO's ballistic missile defense (BMD) in 2011, known as the European Phase Adaptive Approach (EPAA) and is intended to protect Europe against short-, medium-, and intermediate-range ballistic missiles launched from Iran, is perceived by Russia as a threat to strategic stability as BMD could limit Russia's ability to conduct nuclear retaliatory strikes<sup>69</sup> as the anti-missile coverage may increase the fallacy of invulnerability<sup>70</sup> and consequently the likelihood of nuclear first use by the US. Both countries are the only nuclear powers capable of a launch-on-warning strike. 71 For this reason, BMD, and particularly the Aegis Shore System in Romania and Poland, remains as one of the most contested arms control issues between Russia and the US/NATO. Experts estimate that the current missile defenses lack the capability to seriously affect Russia's ability to retaliate thus would not undermine strategic stability<sup>72</sup> and NATO has stressed that its BMD is solely defensive.<sup>73</sup>

<sup>&</sup>lt;sup>68</sup> "U.S. Withdraws From ABM Treaty; Global Response Muted," Arms Control Association, August 2002, https://www.armscontrol.org/act/2002 07-08/abmjul aug02.

<sup>&</sup>lt;sup>69</sup> "Fundamentals of the State Policy of the Russian Federation in the Field of Naval Operations for the Period Until 2030."

<sup>&</sup>lt;sup>70</sup> "Lavrov Warns of Consequences in Deploying US Global Missile Defense System," TASS, April 26, 2017, https://tass.com/politics/943271.

<sup>&</sup>lt;sup>71</sup> Vladimir Dvorkin, "Preserving Strategic Stability Amid U.S.-Russian Confrontation," Carnegie Moscow Center, February 8, 2019, https://carnegie.ru/2019/02/08/preserving-strategic-stability-amid-u.s.-russian-confrontation-pub-78319.

<sup>&</sup>lt;sup>72</sup> Andrey Pavlov and Anastasia Malygina, "The Russian Approach to Strategic Stability:: Preserving a Classical Formula in a Turbulent World," in *The End of Strategic Stability?*, ed. Lawrence Rubin and Adam N. Stulberg, Nuclear Weapons and the Challenge of Regional Rivalries (Georgetown University Press, 2018), 41–65, https://doi.org/10.2307/j.ctv75db5d.6.

<sup>&</sup>lt;sup>73</sup> NATO, "Ballistic Missile Defence," NATO, April 15, 2019, http://www.nato.int/cps/en/natohq/topics 49635.htm.

The fourth phase of EPAA, initially scheduled for implementation in 2020, was cancelled in 2013 due to congressional funding cuts, its limitation in providing an effective defense against Iran's missile strikes, and possibly in exchange for Russia's buy-in to further reduce nuclear stockpiles. The preamble of the 2010 New START acknowledges Russia's BMD concern, stating "the existence of an interrelationship between strategic offensive arms and strategic defensive arms, that this interrelationship will become more important as strategic nuclear arms are reduced, and that current strategic defensive arms do not undermine the viability and effectiveness of the strategic offensive arms of the Parties." Russia's perceived fear of BMD and strategic stability concerns could motivate it to withdraw from New START and/or use it to form part of its strategy to abandon the European arms control framework. Thus, the unraveling of the INF Treaty threatens the future of arms control in relation to Euro-Atlantic security.

#### 4.2 New Strategic Arms Reduction Treaty

The New Strategic Arms Reduction Treaty (New START) was signed by President Barack Obama and Russian President Dmitri Medvedev in April 2010 with the aim of further reducing nuclear forces in both countries. It contains three main limits: (1) "no more than 800 deployed and nondeployed ICBM and SLBM launchers and deployed and nondeployed heavy bombers equipped to carry nuclear armaments"<sup>76</sup>; (2) within that total, "no more than 700 deployed ICBMs, deployed SLBMs, and deployed heavy bombers equipped to carry nuclear armaments"<sup>77</sup>; and (3) no more than 1,550 deployed warheads. The Treaty establishes an

<sup>&</sup>lt;sup>74</sup> "Pentagon Shifts Gears on Missile Defense | Arms Control Association," accessed June 19, 2019, https://www.armscontrol.org/act/2013 04/Pentagon-Shifts-Gears-on-Missile-Defense.

<sup>&</sup>lt;sup>75</sup> Pavlov and Malygina, "The Russian Approach to Strategic Stability."

<sup>&</sup>lt;sup>76</sup> Amy F Woolf, Paul K Kerr, and Mary Beth D Nikitin, "Arms Control and Nonproliferation: A Catalog of Treaties and Agreements," March 18, 2019, 72.

<sup>&</sup>lt;sup>77</sup> Woolf, Kerr, and Nikitin.

<sup>&</sup>lt;sup>78</sup> Woolf, Kerr, and Nikitin.

extensive verification regime, including on-site inspections and regular data exchanges and notifications regarding specific activities related to strategic offensive arms.<sup>79</sup>

New START has significantly reduced the aggregate numbers of strategic offensive arms over the years and data shows continued adherence as of March 1, 2019 (refer to Annex A). Most analysts agreed that Russia is compliant with the Treaty, and advocates of arms control fear that the US administration will withdraw from it<sup>80</sup> and attempt to replace it with a new and expanded agreement covering all types of nuclear weapons that includes China. However, in May 2019, China reiterated its rejection of the US' suggestion for it to be included in the arms control agreement. President Putin issued a warning on June 7, 2019 stating that Russia is prepared to drop the Treaty if the US continues to show no interest in extending it. Without an agreement to extend it, which would be the only remaining arms control agreement should the INF Treaty collapses, the New START will lapse in 2021 and leave no legal-binding limits for strategic warheads on the world's largest nuclear forces for the first time since 1972.

#### 4.3 European Conventional Arms Control

The state of arms control could first be reviewed through three main agreements in the Organization for Security and Cooperation in Europe (OSCE) region: The Conventional Armed Forces in Europe (CFE) Treaty, Vienna Document, and Open Skies Treaty. Russia unilaterally suspended its participation in the CFE Treaty in 2007 after its officials, military leaders, and political commentators increasingly referred to CFE as a Cold War agreement that is not relevant

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<sup>&</sup>lt;sup>79</sup> "Extending New START Is in America's National Security Interest," Arms Control Association, accessed April 18, 2019, https://www.armscontrol.org/act/2019-01/features/extending-new-start-americas-national-security-interest.

<sup>&</sup>lt;sup>80</sup> Robbie Gramer Seligman Lara, "The INF Treaty Is Dead. Is New START Next?," *Foreign Policy* (blog), February 1, 2019, https://foreignpolicy.com/2019/02/01/the-inf-treaty-is-dead-is-new-start-next-russia-arms/.

<sup>&</sup>lt;sup>81</sup> Amy F Woolf, "The New START Treaty: Central Limits and Key Provisions," May 30, 2019, 51.

<sup>&</sup>lt;sup>82</sup> "Russia: Putin Warns New START Nuclear Arms Treaty at Risk," accessed June 9, 2019, https://www.aljazeera.com/news/2019/06/russia-putin-warns-start-nuclear-arms-treaty-risk-190606163914989.html.

to the European security environment anymore. <sup>83</sup> As a result, there is now an absence of arms control tools providing an exhaustive amount of information on the might of Russia's conventional military forces in Europe." Russia has disregarded CFE's provision on host-country consent and stationed military forces in countries like Georgia and Ukraine. By 2011, talks to resolve the CFE dispute stalled. The US reciprocated by announcing that together with several, if not all, NATO allies they will cease their treaty obligations of base inspections, notifications of military activities and provision of military data towards Russia. <sup>85</sup> In 2015, Russia ended its participation in the Joint Consultative Group which deals with the compliance of the CFE Treaty.

Russia has also displayed a propensity to selectively implement Confidence and Security Building Measures (CBMs) that aim to make military planning and activities more transparent, <sup>86</sup> thereby weakening the web of arms control in Europe. Under the Vienna Document, states are required to notify other parties of certain military activities, such as those involving at least 9,000 troops. <sup>87</sup> It was estimated that 40,000 Russian troops were deployed to the Ukrainian-Russian border without notification. The OSCE observation team, assembled under the Vienna Document, were denied access into Crimea and were not granted optional additional inspections to gather more information when it exhausted its quota.

<sup>83</sup> Woolf, Kerr, and Nikitin, "Arms Control and Nonproliferation: A Catalog of Treaties and Agreements."

<sup>&</sup>lt;sup>84</sup> "Reducing the Risks of Conventional Deterrence in Europe: Arms Control in the NATO-Russia Contact Zones" (OSCE Network of Think Tanks and Academic Institutions, December 2019), http://osce-network.net/file-OSCE-Network/Publications/RISK\_SP.pdf.

<sup>&</sup>lt;sup>85</sup> "The Conventional Armed Forces in Europe (CFE) Treaty and the Adapted CFE Treaty at a Glance," Arms Control Association, August 2012, https://www.armscontrol.org/factsheet/cfe.

<sup>&</sup>lt;sup>86</sup> "Arms Control," OSCE, accessed May 18, 2019, https://www.osce.org/arms-control.

<sup>&</sup>lt;sup>87</sup> OSCE, "Vienna Document 2011 on Confidence- and Security-Building Measures," November 30, 2011.

<sup>&</sup>lt;sup>88</sup> Ariana Rowberry, "The Vienna Document, the Open Skies Treaty and the Ukraine Crisis," *Brookings* (blog), April 10, 2014, https://www.brookings.edu/blog/up-front/2014/04/10/the-vienna-document-the-open-skies-treaty-and-the-ukraine-crisis/.

Although the Open Skies Treaty, which permits treaty members to carry out surveillance flights over one another to improve mutual understanding about military activities, stipulates that flights cannot occur within 10 kilometers from the border with an adjacent state, <sup>89</sup> Russia asserted that South Ossetia and Abkhazia are independent states and accordingly restricted flights over those disputed borders. It also restricted observation over Chechnya and surrounding areas of southwestern Russia. The US responded by restricting Russian flights over America. As such, Russia's violation of the INF Treaty is a cumulation of non-compliance that threatens the security of Europe as a whole.

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<sup>89</sup> OSCE, "Treaty on Open Skies," accessed May 19, 2019, https://www.osce.org/library/14127?download=true.

#### 5. Credibility and Value of US Nuclear Capability

The principle underpinning the 2018 Nuclear Posture Review (NPR) and other security and military strategy documents issued by the administration is to achieve peace through strength where the US will project its reliability and determination to allies and foes by proliferating military resources combined with a display of willingness to use them. 90 This concept is clearly expressed by one of the four pillars in the December 2017 National Security Strategy known as "preserve peace through strength." The report made available by the National Defense Strategy Commission, a bipartisan commission comprised of former top officials selected by Congress, highlights that the "security and wellbeing of the United States are at greater risk than at any time in decades."92 It indicates that America's military predominance has deteriorated to a perilous state, and if the country does not take prompt action, the outcome will be grim and permanent.<sup>93</sup> The Worldwide Threat Assessment report published by the US Intelligence Community states that the country will face a greater security threat as China and Russia rival US and its allies for military superiority.94 US national security thus rests on nuclear deterrence, and it is vital that America modernizes its strategic nuclear capability and attend to its asymmetrical nonstrategic, or low-yield, nuclear weapons in order to strengthen deterrence.<sup>95</sup>

<sup>&</sup>lt;sup>90</sup> Trevor McCrisken and Maxwell Downman, "'Peace through Strength': Europe and NATO Deterrence beyond the US Nuclear Posture Review | International Affairs | Oxford Academic" 95, no. 2 (March 1, 2019): 277–295, https://academic-oup-com.ezproxy.library.tufts.edu/ia/article/95/2/277/5320514.

<sup>&</sup>lt;sup>91</sup> The White House, "National Security Strategy," December 2017, https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf.

<sup>&</sup>lt;sup>92</sup> Péczeli.

<sup>&</sup>lt;sup>93</sup> Péczeli.

<sup>&</sup>lt;sup>94</sup> "Worldwide Threat Assessment of the US Intelligence Community" (Office of the Director of National Intelligence, January 29, 2019), https://www.intelligence.senate.gov/sites/default/files/documents/os-dcoats-012919.pdf.

<sup>&</sup>lt;sup>95</sup> "4 Things to Know About the U.S. Nuclear Deterrence Strategy," U.S. Department of Defense, accessed June 11, 2019, https://www.defense.gov/explore/story/Article/1801797/4-things-to-know-about-the-us-nuclear-deterrence-strategy/.

The value of US nuclear capabilities lies in its contributions to prevent nuclear and non-nuclear attack; assure its allies; accomplish its objectives when deterrence is unsuccessful; and manage unpredictability of the future. <sup>96</sup> Effective American deterrence requires the conveyance of the following to potential adversaries: 1) The US is able to hold them accountable for acts of aggression; 2) non-nuclear strategic attacks will be defeated; and 3) an increase in the intensity of nuclear conflict will not achieve their goals and will be met with unbearable consequences. <sup>97</sup> It is not a coincidence that the US does not subscribe to a no first use nuclear policy as the adoption would amplify the possibility of destructive conflict, given that it could change how adversaries, allies, and partners perceive the credibility of US nuclear deterrence and its resolve to use it to protect critical interests. <sup>98</sup>

The 2018 NPR released by the Trump administration symbolizes a major jump backward in nuclear prohibition, embracing the obsolete view that nuclear predominance is important, <sup>99</sup> where its new strategy is founded on great power conflict rather than strategic stability that was the directive in the preceding NPR<sup>100</sup> released by the Obama administration in 2010. It highlights that the US is now confronted by a nuclear-threat environment that is more divergent and sophisticated than before. <sup>101</sup> Much like the 2010 NPR, the 2018 NPR exerts that the US would consider the use of nuclear weapons in drastic scenarios to defend the key interests of the country, its allies, and partners. <sup>102</sup> However, in contrast to the limited scope of events in which

<sup>&</sup>lt;sup>96</sup> "Nuclear Posture Review 2018," U.S. Department of Defense, February 2018, https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF.

<sup>97 &</sup>quot;Nuclear Posture Review 2018."

 <sup>98 &</sup>quot;Dangers of a Nuclear No First Use Policy" (U.S. Department of Defense, April 2019),
 https://media.defense.gov/2019/Apr/01/2002108002/-1/-1/1/DANGERS-OF-A-NO-FIRST-USE-POLICY.PDF.
 99 Tannenwald, "How Strong Is the Nuclear Taboo Today?"

<sup>&</sup>lt;sup>100</sup> Péczeli, "The Trump Administration's Nuclear Posture Review."

<sup>101 &</sup>quot;Nuclear Posture Review 2018."

<sup>102 &</sup>quot;Nuclear Posture Review 2018."

nuclear weapons will be deployed as specified by the 2010 NPR,<sup>103</sup> the 2018 NPR expanded the definition to include major non-nuclear strategic strikes.<sup>104</sup>

In addition, the US is enhancing its deterrence with non-strategic nuclear capabilities. The 2018 NPR reintroduced two low-yield warheads for the existing Trident Submarine-Launched Ballistic Missiles (SLBM), and a nuclear-capable Submarine-Launched Cruise Missile (SLCM)<sup>105</sup>, with the primarily purpose of conveying to Russia that Moscow will not benefit from launching limited nuclear strikes against the US or its allies, and to demonstrate the US's commitment and resolve towards its allies. <sup>106</sup> Furthermore, the Trump administration requested for about \$100 million from Congress in May 2019 for fiscal year 2020, \$28 million more than fiscal year 2019, to develop three new missile systems that would violate the range denoted by the INF Treaty. <sup>107</sup>

Opponents, on the other hand, felt that it could raise the probability of escalation and a non-strategic nuclear arms race with Russia<sup>108</sup> which seems to be already brewing. The INF Treaty prohibits not only ground-launched missiles with ranges between 500 to 5,500 kilometers; it eliminates all such short, medium, and intermediate-range missiles, regardless of the warheads they carry.<sup>109</sup> Thus, by abandoning the Treaty, it could give rise to non-nuclear arms race in the form of stockpiling on ground-launched missiles with conventional warheads. The most prominent development occurred in January 2019 when it was reported that Russia is in the midst of developing a new Kalibr-M missile that will have a maximum range of more than 4,500

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<sup>&</sup>lt;sup>103</sup> Department of Defense, "Nuclear Posture Review 2010," April 2010,

https://dod.defense.gov/Portals/1/features/defenseReviews/NPR/2010 Nuclear Posture Review Report.pdf.

<sup>104 &</sup>quot;Nuclear Posture Review 2018."

<sup>105 &</sup>quot;Nuclear Posture Review 2018."

<sup>&</sup>lt;sup>106</sup> Péczeli, "The Trump Administration's Nuclear Posture Review."

<sup>&</sup>lt;sup>107</sup> "Trump Increases Budget for Banned Missiles | Arms Control Association," accessed May 12, 2019, https://www.armscontrol.org/act/2019-05/news/trump-increases-budget-banned-missiles.

<sup>&</sup>lt;sup>108</sup> Péczeli, "The Trump Administration's Nuclear Posture Review."

<sup>&</sup>lt;sup>109</sup> Allport, "Russia's Conventional Weapons Are Deadlier Than Its Nukes."

kilometers.<sup>110</sup> The Kalibr-M is of concern for two reasons. First, they are sea-skimming missiles, making it hard for them to be detected by radar and leaving their targets less reaction time to bring them down.<sup>111</sup> The second and larger concern is the spread of Kalibrs which can also be installed on small Russian warships.<sup>112</sup> It significantly outranges America's Tomahawk cruise missile which reaches 1,700 kilometers and could possibly reach any part of Europe.<sup>113</sup>

Concurrently, the US plans to test a ground-launched variant of the Tomahawk within a 1,000 kilometer range and a ground-launched ballistic missile within 3,000 to 4,000 kilometers,<sup>114</sup> of Pershing II class deployed at the end of the Cold War<sup>115</sup>, after its treaty withdrawal takes effect on August 2. The deployment of Pershing II in West Germany was central to the signing of the INF Treaty.<sup>116</sup>

The 2018 NPR challenges NATO's nuclear policy in several ways. First, it affirmed America's willingness to participate in limited nuclear attacks, and suggests that NATO's nuclear posture lacked credibility. Since the end of the Cold War, NATO has significantly decreased the number of nuclear weapons situated in Europe and pledges to further reduce

<sup>&</sup>lt;sup>110</sup> "New Kalibr-M cruise missile with range of over 4,500 km in development in Russia - source," TASS, accessed May 11, 2019, http://tass.com/defense/1039123.

<sup>&</sup>lt;sup>111</sup> "Russia's New Cruise Missile Could Threaten U.S. Cities (and Much More)," *States News Service*, January 14, 2019, Academic OneFile,

http://link.galegroup.com/apps/doc/A569745060/AONE?u=mlin m tufts&sid=AONE&xid=7fa16b00.

<sup>112 &</sup>quot;Russia's New Cruise Missile Could Threaten U.S. Cities (and Much More)."

<sup>&</sup>lt;sup>113</sup> Mark Episkopos, "Russia's Dangerous 'Kalibr' Cruise Missile Could See Range Doubled: Report," Text, The National Interest, January 12, 2019, https://nationalinterest.org/blog/buzz/russias-dangerous-%E2%80%9Ckalibr%E2%80%9D-cruise-missile-could-see-range-doubled-report-41427.

<sup>114 &</sup>quot;U.S. to Test INF Treaty-Range Missiles | Arms Control Association," April 2019,

https://www.armscontrol.org/act/2019-04/news/us-test-inf-treaty-range-missiles.

<sup>&</sup>lt;sup>115</sup> Paul Sonne, "U.S. Military to Test Missiles Banned Under Faltering Nuclear Pact with Russia," *Washington Post*, March 13, 2019, sec. National Security, https://www.washingtonpost.com/world/national-security/us-military-to-test-missiles-banned-under-faltering-nuclear-pact-with-russia/2019/03/13/289f7860-45b6-11e9-9726-50f151ab44b9 story.html.

<sup>&</sup>lt;sup>116</sup> Steven Pifer, "With US-Russian Arms Control Treaties on Shaky Ground, the Future Is Worrying," Brookings, April 25, 2019, https://www.brookings.edu/blog/order-from-chaos/2019/04/25/nuclear-security-arms-control-and-the-us-russia-relationship/.

<sup>&</sup>lt;sup>117</sup> Trevor McCrisken and Maxwell Downman, "'Peace through Strength': Europe and NATO Deterrence beyond the US Nuclear Posture Review | International Affairs | Oxford Academic."

them.<sup>118</sup> Second, the enlargement of circumstances of nuclear use in the NPR contrasts NATO's consistent language. NATO's nuclear policy is based on its 2010 Strategic Concept and the 2012 Deterrence and Defense Posture Review, where the integral purpose of nuclear forces is deterrence and its present nuclear posture meets the needs for an effective deterrence.<sup>119</sup> NATO states that it will remain a nuclear alliance as long as nuclear weapons exist.<sup>120</sup>

The Belfer Center recommends that Congress take steps to revive the American leadership, including to reiterate the US' commitment to Article 5 of the NATO Treaty to shore up deterrence; to subject modification or withdrawal of the US' commitment to NATO Treaty to congressional approval; and to carry on funding the European Deterrence Initiative to strengthen America's defense capabilities in Europe and assist NATO allies to build theirs. Besides the aforementioned, the US could continue to target the Russian defense industry with sanctions through Section 231 of the Countering America's Adversaries Through Sanctions Act of 2017 (CAATSA) to deny Russia its source of revenue from global arms sales, a key source of income. Besides sticks, a carrot in the form of transparency arrangement similar to the one under New START could be negotiated with Russia, whereby its inspectors are given access to conduct onsite inspection of the two Aegis Ashore sites. 122

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<sup>&</sup>lt;sup>118</sup> NATO, "NATO's Nuclear Deterrence Policy and Forces," NATO, May 17, 2018, http://www.nato.int/cps/en/natohq/topics 50068.htm.

<sup>&</sup>lt;sup>119</sup> NATO.

<sup>&</sup>lt;sup>120</sup> NATO.

<sup>&</sup>lt;sup>121</sup> "NATO at Seventy: An Alliance in Crisis," Belfer Center for Science and International Affairs, February 2019, https://www.belfercenter.org/NATO70.

<sup>&</sup>lt;sup>122</sup>Bell, Robert G., "The Case for Saving the INF Treaty."

#### 6. The Future of the North Atlantic Treaty Organization

During the Cold War, nuclear weapons were part of NATO's adaptable response <sup>123</sup> in Europe and were intended to link US and allied security to restrict Soviet attempts to sow discord among NATO members. <sup>124</sup> The security of NATO members is ultimately ensured by their strategic nuclear weapons, especially those contributed by the US. <sup>125</sup> NATO at seventy, is experiencing challenges internally and externally. The greatest vulnerability from within is the absence of a strong American leadership for the first time in its history, despite being the world's strongest military alliance. <sup>126</sup> The issue at hand is an emerging security vacuum in Europe due to shrinking permanent US military presence since the 1990s and it not being countered by an increase in Europe's military capabilities. <sup>127</sup> This did not surface overnight. In fact, there have been talks about how to fill the void in the past two decades, but the Ukraine crisis gave it a new sense of urgency. <sup>128</sup>

The 2 percent of GDP burden-sharing defense spending by NATO, although not reflective of real output, continues to be debated and used as a yardstick of allies' commitment to Europe's security and a determining factor by the US administration in its commitment to provide security in Europe. In 2018, only 7 out of its 29 allies met the defense expenditure guideline of 2 percent GDP. However, collectively the alliance has increased its defense spending by \$87 billion

<sup>&</sup>lt;sup>123</sup> "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress."

<sup>&</sup>lt;sup>124</sup> "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress."

<sup>&</sup>lt;sup>125</sup> NATO, "NATO's Nuclear Deterrence Policy and Forces."

<sup>126 &</sup>quot;NATO at Seventy."

<sup>&</sup>lt;sup>127</sup> Jan Techau, "The Politics of 2 Percent: NATO and the Security Vacuum in Europe," Carnegie Europe, accessed May 12, 2019, https://carnegieeurope.eu/2015/09/02/politics-of-2-percent-nato-and-security-vacuum-in-europe-pub-61139.

<sup>128</sup> Techau

<sup>&</sup>lt;sup>129</sup> NATO, "Defence Expenditure of NATO Countries (2011-2018)," NATO, accessed April 27, 2019, http://www.nato.int/cps/en/natohq/news 164482.htm.

since Russia's annexation of Crimea in 2014.<sup>130</sup> More than half of allies have met the 20 percent target of defense spending on equipment.<sup>131</sup> Defense spending by NATO members is three times more than Russia and slightly more than China.<sup>132</sup> While the focus on the 2 percent rule has strained US-NATO relations, it has strengthened the alliance as members are now actively involved in military capability building.

Moreover, internal division over threat perceptions and views of Russia could jeopardize the credibility of the alliance's deterrence because it affects money and resources allocation. Southern and eastern flanks frequently compete over resources, as the former would like NATO to enlarge its role in North Africa and the Middle East, as these member states view issues such as terrorism and migration as more threatening than Russia; conversely, eastern flank countries see the need to increase their security against Russian intimidation. Whereas some allies such as Germany, France, and Italy do not foresee Russia attacking countries on the eastern flank, others, like the US and United Kingdom, think otherwise. The lack in alignment makes the alliance vulnerable to Russian countermeasures, such as the formation of two new military divisions in the western and southern parts of Russia in response to NATO's enhanced forward presence.

NATO Secretary General Jens Stoltenberg highlighted that even though the Cold War is over, significant challenges remain, as depicted by Russia's growing menacing and intolerable

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<sup>&</sup>lt;sup>130</sup> Nicholas Burns, "What America Gets Out of NATO," *The New York Times*, July 12, 2018, sec. Opinion, https://www.nytimes.com/2018/07/11/opinion/what-america-gets-out-of-nato.html.

<sup>&</sup>lt;sup>131</sup> NATO, "Defence Expenditure of NATO Countries (2011-2018)."

<sup>132 &</sup>quot;NATO at Seventy."

<sup>&</sup>lt;sup>133</sup> Judy Dempsey, "NATO's Eastern Flank and Its Future Relationship With Russia," Carnegie Europe, accessed June 15, 2019, https://carnegieeurope.eu/2017/10/23/nato-s-eastern-flank-and-its-future-relationship-with-russia-pub-73499.

<sup>&</sup>lt;sup>1</sup>34 Dempsey.

<sup>&</sup>lt;sup>135</sup> Dempsey.

<sup>&</sup>lt;sup>136</sup> "It Can't Go Unanswered': Russia Will Respond to NATO Buildup near Its Borders, Senior Diplomat Says," RT International, May 31, 2016, https://www.rt.com/russia/344954-senior-diplomat-promises-response-to/.

behavior,<sup>137</sup> operating outside of its boundaries and using force to change international borders. The form of warfare that would confront NATO is a combination of conventional military operations and nuclear threat, accompanied by political, economic, information and irregular warfare.<sup>138</sup> In its 2017 Strategic Foresight Analysis Report, NATO identifies the illegal annexation of Crimea and intervention in eastern Ukraine as symbols of hybrid warfare.<sup>139</sup>

As such, NATO should continue to pursue its two-track strategy of deterrence and dialogue to counter and contain Russia. <sup>140</sup> In an address to the US Congress, NATO Secretary General Stoltenberg conveyed that NATO has no plans to deploy nuclear missiles in Europe and will continue to boost its deterrence credibility. <sup>141</sup> Stoltenberg also highlighted in the same speech that "through NATO, the US has more friends and allies than any other power... [and] it's good to have friends." <sup>142</sup> In an opinion piece, Stoltenberg articulated a firm and predictable stance of strengthening NATO's collective conventional deterrence and defense to avoid a nuclear arms race. <sup>143</sup> Hence the immediate move is to reinforce NATO's conventional military capabilities with a possibility of enhancing its BMD in the near future.

The declaration made at the Wales Summit in 2014 was a response to the Ukraine crisis that marked a shift in Europe's security. The alliance agreed, among various initiatives, to implement a Readiness Action Plan (RAP), establish a Very High Readiness Joint Task Force (VJTF), and

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<sup>&</sup>lt;sup>137</sup> Jens Stoltenberg, "NATO Secretary General: The Cold War Is Over, but Big Challenges Remain," Defense News, December 12, 2018, https://www.defensenews.com/outlook/2018/12/10/nato-secretary-general-the-cold-war-is-over-but-big-challenges-remain/.

<sup>&</sup>lt;sup>138</sup> David A. Shlapak, "The Russian Challenge," 2018, https://www.rand.org/pubs/perspectives/PE250.html.

<sup>&</sup>lt;sup>139</sup> NATO, "2017 Strategic Foresight Analysis Report," 2017,

https://www.act.nato.int/images/stories/media/doclibrary/171004\_sfa\_2017\_report\_hr.pdf. <sup>140</sup> "NATO at Seventy."

<sup>&</sup>lt;sup>141</sup> "NATO: Good for Europe and Good for America' - Address to the United States Congress by NATO Secretary General Jens Stoltenberg," NATO, April 3, 2019, http://www.nato.int/cps/en/natohq/opinions\_165210.htm.

<sup>142</sup> "NATO"

<sup>&</sup>lt;sup>143</sup> "New Russian Missile Undermines European Security" - Op-Ed by NATO Secretary General Jens Stoltenberg," NATO, accessed May 4, 2019, http://www.nato.int/cps/en/natohq/opinions 160944.htm.

pledge to achieve the defense spending target of 2 percent of gross domestic product (GDP) by 2024. Under the same pledge, allies have also committed to spending 20 percent of defense spending on equipment. Since the Ukraine crisis, NATO has been implementing initiatives to boost its deterrence including tripling the size of its Response Force to 40,000 troops in 2015. 144 As agreed on at the 2016 Warsaw Summit, NATO's Enhanced Forward Presence in the eastern part of the alliance, with four multinational combat-ready battlegroups in Estonia, Latvia, Lithuania, and Poland, was launched in 2017 and reemphasizes the principle that an attack on an ally is an attack on the alliance. 145 It was also agreed at the Warsaw Summit to review the NATO Command Structure (NCS) to meet the needs of an evolving security environment. In 2017, NATO Defense Ministers outlined the plan, which included "a new Command for the Atlantic to ensure that sea lines of communication between Europe and North America remain free and secure; a new Command to improve the movement of troops and equipment within Europe; [and] reinforcing logistics elements across the NCS in Europe." At its 2018 Brussels Summit, NATO agreed to launch the NATO Readiness Initiative, also known as the "Four thirties" plan, in support of its deterrence and defense posture where "allies will offer an additional 30 major naval combatants, 30 heavy or medium maneuver battalions, and 30 kinetic air squadrons, with enabling forces, at 30 days' readiness or less."147

<sup>&</sup>lt;sup>144</sup> Pierre Meilhan and Steve Almasy CNN, "NATO to Triple Size of Reaction Force," CNN, June 25, 2015, https://www.cnn.com/2015/06/24/world/nato-troops/index.html.

<sup>&</sup>lt;sup>145</sup> NATO, "Boosting NATO's Presence in the East and Southeast," NATO, accessed May 12, 2019, http://www.nato.int/cps/en/natohq/topics 136388.htm.

<sup>&</sup>lt;sup>146</sup> "The NATO Command Structure Factsheet," NATO, February 2018,

 $https://www.nato.int/nato\_static\_fl2014/assets/pdf/pdf\_2018\_02/1802-Factsheet-NATO-Command-Structure~en.pdf.$ 

<sup>&</sup>lt;sup>147</sup> NATO, "Brussels Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels, 11-12 July 2018," NATO, accessed May 12, 2019, http://www.nato.int/cps/en/natohq/official texts 156624.htm.

While NATO has adapted a posture to deter a conflict in the Baltics, its position to deter and defeat Russia in a major conflict is a growing disadvantage. Notwithstanding that NATO has overall conventional military superiority over Russia, Russia possesses prevailing preeminence in the aspects of quantity, quality, and geography around its immediate region and could effortlessly hold off a conventional unexpected attack by NATO, coupled with the ability to guard its western province without having to redeploy its land-based intermediate-range weapons. It is estimated that Russia could force 30,000 to 50,000 fully ready troops within 10 days into the Baltics without having to divert resources from its military activities in Ukraine. NATO, conversely, would only be able to respond immediately with lightly armored forces comprising of Baltic military forces and limited forces from allies. Consequently, the conventional capabilities of NATO lack deterrence credibility presently.

In the face of growing challenges, NATO would require a more flexible decision-making process. The foremost step is to empower NATO Secretary General to make administrative, personnel and budgetary resource decisions in the daily operations of the alliance. Crisis decision-making should also be expedited by allowing the Supreme Allied Commander for Europe (SACEUR) to simultaneously plan operations based on intelligence indicators and consult NATO civilian officials. Such delegation of authorities is necessary because the alliance depends on the swift reinforcement of moderate forces based forward and can promote deterrence. Additionally, NATO could look into conducting its first full-scale drill of the

<sup>&</sup>lt;sup>148</sup> Brad Roberts, "Personal Statement by Brad Roberts to the U.K. Parliamentary Inquiry on Next Steps on the INF Treaty," January 18, 2019.

<sup>&</sup>lt;sup>149</sup> Péczeli and Péczeli, "Russia, NATO, and the INF Treaty."

<sup>&</sup>lt;sup>150</sup> Viljar Veebel and Illimar Ploom, "The Deterrence Credibility of NATO and the Readiness of the Baltic States to Employ the Deterrence Instruments," *Lithuanian Annual Strategic Review* 16, no. 1 (December 1, 2018): 171–200, https://doi.org/10.2478/lasr-2018-0007.

<sup>151 &</sup>quot;NATO at Seventy."

<sup>152 &</sup>quot;NATO at Seventy."

<sup>153 &</sup>quot;NATO at Seventy."

NATO Response Force (NRF), a 40,000-man combined unit created as a defense against a major attack such as a Russian invasion in the Baltics, and to frequently test its 4,000-man Spearhead Force, also known as Very High Readiness Joint Task Force (VJTF), within NRF. 154 On the political front, NATO has to agree on a Russia strategy that reconciles members' concerns and differences. NATO could consider reviving the NATO-Russia Founding Act and refreshing the security environment it was constructed based on two decades ago. NATO should keep its doors open to new members as it pursues the goal of ensuring a free and secure Europe. In addition, NATO could consider enhancing its defensive BMD through EPAA to complement its offensive conventional and nuclear forces as part of its overall deterrence strategy that is in line with its position that missile defense cannot replace nuclear capabilities in deterrence.<sup>155</sup> This may also involve an upgrade of NATO's current integrated air and missile defense system known as Air Command and Control Systems (ACCS), to increase the deployments of Airborne Warning and Control System (AWACS), and Theatre Missile Defense (TMD) systems such as Terminal High Altitude Area Defense (THAAD) to overcome a rise in Russian non-strategic ballistic deployments."156

Efforts to strengthen its deterrence aside, NATO has to recognize Russia as a major power and continue to keep dialogue channels open. NATO could work through its partner, the Organization for Security and Cooperation in Europe (OSCE), to refresh the Vienna Document to elevate the predictability and transparency of traditional forces in the region. The alliance could also take a stand that no members will field missiles banned under the INF Treaty or

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<sup>&</sup>lt;sup>154</sup> Ian Brzezinski, "Defining Success at NATO's Summit: Political Unity and Military Readiness," Atlantic Council, accessed May 12, 2019, https://www.atlanticcouncil.org/blogs/new-atlanticist/defining-success-at-nato-s-summit-political-unity-and-military-readiness.

<sup>&</sup>lt;sup>155</sup> NATO, "Deterrence and Defence Posture Review," NATO, May 21, 2012,

http://www.nato.int/cps/en/natohq/official\_texts\_87597.htm.

<sup>&</sup>lt;sup>156</sup> Bell, Robert G., "The Case for Saving the INF Treaty."

<sup>157 &</sup>quot;NATO at Seventy."

missiles with equivalent nuclear capabilities in exchange for Russia's commitment to not field treaty-prohibited missiles that can reach NATO's region, thereby requiring Russia to remove its deployed 9M729 missiles from western Russia.

<sup>&</sup>lt;sup>158</sup> "INF Treaty Crisis: Background and Next Steps."

#### 7. Conclusion

The paper sets out to evaluate the geopolitical implications of the unraveling of the US-Russia Intermediate-Range Nuclear Forces (INF) Treaty for NATO, the US, and Russia with the intent to prove the validity of these hypotheses:

- i. It will lead to a nuclear arms race between the US and Russia
- ii. It will increase Russia's threat to the security of Europe
- iii. It will reinforce the role of NATO in preserving international security

The research goal has been achieved as the analysis ascertained the validity of the three hypotheses. In response to the first hypothesis, as it is unlikely that Russia will return to compliance with the INF Treaty, the demise of the Treaty will not only lead to a nuclear arms race between the US and Russia, specifically a buildup in both non-strategic nuclear and non-nuclear strategic arsenals, but an enlargement of conventional forces in Europe too. There are several reasons for it: the nuclear taboo has deteriorated; Putin's rejection of the world order; the current US-Russia strategic stability framework has fallen apart; NATO's ongoing improvement of its conventional forces as part of deterrence; and Russia's perceived NATO fears as a military risk and security threat. The latter stood out as the main driving factor. A combination of unfeasible Russian NATO membership and NATO's political and military interventions in Moscow's backyard that demonstrated disregard for Russian concerns only serves to heighten Russia's interests in intermediate-range missiles.

As such, the dismantling of the INF Treaty will increase Russia's threat to the security of Europe as indicated by the second hypothesis. The US and its allies are already anticipating that Russia would engage in low-yield or limited use of nuclear weapons at the early stages of a conventional conflict to effect a change in the balance of power, making the Euro-Atlantic more

susceptible to nuclear strikes than before. Russia also possesses unbeatable conventional military superiority around its immediate vicinity and could easily mobilize troops and defeat a surprise attack by NATO. Thus, NATO lacks deterrence capability in terms of conventional forces.

Moreover, the present state of European Conventional Arms Control appears discouraging, as there is an absence of arms control tools following Russia's unilateral suspension of the CFE Treaty since 2007 and its selective implementation of CBMs. The Ukraine crisis also demonstrated the susceptibility of Europe to Russia's hybrid warfare. Hence, the above research suggests that Russia will continue its military aggression in a world order that does not recognize it as a major power.

Building on the research depicting the validity of the first two hypotheses, the role of NATO in preserving international security will be reinforced largely by circumstantial needs, such as the 2014 Ukraine crisis and the absence of strong American leadership in NATO for the first time in history. Since 2014, the alliance has taken significant active measures to boost its deterrence capability including working towards the two percent of GDP burden-sharing defense spending and the 20 percent target of defense spending on equipment. The alliance will continue to be relevant in the pursuit of its two-track strategy of deterrence and dialogue, acting as a bulwark against Russian aggression. Although enlargement remains feasible, NATO has to be cautious of its plans, as any actions deemed as political or military interventions will be met with Russian retaliation.

A fourth variable is the role of BMD in the arms control framework and how it intertwines with the fate of New START, which was not envisaged at the initial scoping of the project and emerged during the course of research, yet has not received significant attention at the point of writing. It is of concern because the unraveling of the INF Treaty could motivate NATO to

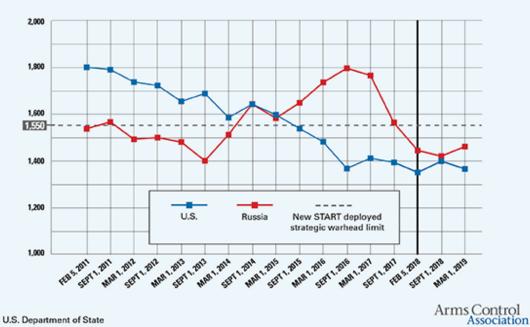
enhance its BMD systems. Recalling that the preamble of New START acknowledges the interrelationship between strategic offensive arms and strategic defensive arms, Russia's belief that BMD will limit its ability to conduct nuclear retaliatory strikes, and is thus a threat to strategic stability matched by an increase in BMD presence in Europe, would propel Russia to withdraw from New START. BMD by itself has been a constant subject of contestation between Russia and NATO/US.

Therefore, with the demise of the INF Treaty, an extension of New START must be sought as Euro-Atlantic security hinges on it. An extension will renew the balance in Russia-US strategic stability relationship while enabling NATO to pursue its deterrence strategy without risking the consequences of BMD expansion and restore Euro-Atlantic security. There is a way out of the abyss.

# **Deployed U.S. and Russian Nuclear Warheads:** The Path to Meeting New START Limits

The 2010 New Strategic Arms Reduction Treaty started a countdown to deployment limits that took effect February 5, 2018. The uneven path toward the limits reflects the nuclear weapons modernization programs implemented by both nuclear powers.

The treaty permits each side to have no more than 1,550 warheads on deployed intercontinental ballistic missiles (ICBMs), on deployed submarine-launched ballistic missiles (SLBMs), and nuclear warheads counted for deployed heavy bombers.



Source: U.S. Department of State

New START Treaty Aggregate Numbers of Strategic Offensive Arms<sup>159</sup>

	Deployed Delivery Systems		Warheads on Deployed Systems		Deployed and Non-Deployed Delivery Systems	
	U.S.	Russia	U.S.	Russia	U.S.	Russia
June' 11	882	521	1800	1537	1124	865
Oct. '11	822	516	1790	1566	1043	871
April '12	812	494	1737	1492	1040	881
June '12	812	494	1737	1492	1040	881
Oct. '12	806	491	1722	1499	1034	881
Sept. '12	806	491	1722	1499	1034	884
March '13	792	492	1654	1480	1028	900
Sept. '13	809	473	1688	1400	1015	894
March '14	778	498	1585	1512	952	905
Sept. '14	794	528	1642	1643	912	911
March '15	785	515	1597	1582	898	890
Sept. '15	762	526	1538	1648	898	877
March '16	741	521	1481	1735	878	856
Sept. '16	681	508	1367	1796	848	847
March '17	673	523	1411	1765	820	816
Sept. '17	660	501	1393	1561	800	790
Feb. '18	652	527	1350	1420	800	775
Sept. '18	659	517	1398	1444	800	779
March '19	656	524	1365	1461	800	760
New START Ceilings:	700	700	1550	1550	800	800

<sup>&</sup>lt;sup>159</sup> "Latest New START Figures Show US, Russia Remain in Compliance," Russia Matters, accessed April 19, 2019, https://www.russiamatters.org/blog/latest-new-start-figures-show-us-russia-remain-compliance.

### **Bibliography**

- "4 Things to Know About the U.S. Nuclear Deterrence Strategy." U.S. Department of Defense. Accessed June 11, 2019. https://www.defense.gov/explore/story/Article/1801797/4-things-to-know-about-the-us-nuclear-deterrence-strategy/.
- "2018 Report on Adherence to and Compliance With Arms Control, Nonproliferation, and Disarmament Agreements and Commitments." *United States Department of State* (blog). Accessed June 1, 2019. https://www.state.gov/2018-report-on-adherence-to-and-compliance-with-arms-control-nonproliferation-and-disarmament-agreements-and-commitments/.
- "A Question of Dollars and Sense: Assessing the 2018 Nuclear Posture Review | Arms Control Association." Accessed May 26, 2019. https://www.armscontrol.org/act/2018-03/features/question-dollars-sense-assessing-2018-nuclear-posture-review.
- Allport, Rowan. "Russia's Conventional Weapons Are Deadlier Than Its Nukes." Foreign Policy, January 17, 2019. https://foreignpolicy.com/2019/01/17/russias-conventional-weapons-are-deadlier-than-its-nukes/.
- Arbatov, Alexey. "Nuclear Deterrence: A Guarantee or Threat to Strategic Stability?" Carnegie Moscow Center. Accessed June 12, 2019. https://carnegie.ru/2019/03/22/nuclear-deterrence-guarantee-or-threat-to-strategic-stability-pub-78663.
- "Arms Control." OSCE. Accessed May 18, 2019. https://www.osce.org/arms-control.
- Baker, Peter. "Putin Offers West Reassurances and Ideas on NATO." *Washington Post*, July 19, 2001. https://www.washingtonpost.com/archive/politics/2001/07/19/putin-offers-west-reassurances-and-ideas-on-nato/99892a84-fde0-43d6-aa10-35d9c842c50a/.
- Bell, Robert G. "The Case for Saving the INF Treaty," November 5, 2018.
- Brad Roberts. "Personal Statement by Brad Roberts to the U.K. Parliamentary Inquiry on Next Steps on the INF Treaty," January 18, 2019.
- Brzezinski, Ian. "Defining Success at NATO's Summit: Political Unity and Military Readiness." Atlantic Council. Accessed May 12, 2019. https://www.atlanticcouncil.org/blogs/new-atlanticist/defining-success-at-nato-s-summit-political-unity-and-military-readiness.
- Burns, Nicholas. "What America Gets Out of NATO." *The New York Times*, July 12, 2018, sec. Opinion. https://www.nytimes.com/2018/07/11/opinion/what-america-gets-out-of-nato.html.
- CNN, Pierre Meilhan and Steve Almasy. "NATO to Triple Size of Reaction Force." CNN, June 25, 2015. https://www.cnn.com/2015/06/24/world/nato-troops/index.html.
- "CNN.Com Transcript: Bush, Putin News Conference June 18, 2001." Accessed June 24, 2019.
- http://edition.cnn.com/2001/WORLD/europe/06/18/bush.putin.transcript/index.html.
- "Dangers of a Nuclear No First Use Policy." U.S. Department of Defense, April 2019. https://media.defense.gov/2019/Apr/01/2002108002/-1/-1/1/DANGERS-OF-A-NO-FIRST-USE-POLICY.PDF.
- Dempsey, Judy. "NATO's Eastern Flank and Its Future Relationship With Russia." Carnegie Europe. Accessed June 15, 2019. https://carnegieeurope.eu/2017/10/23/nato-s-eastern-flank-and-its-future-relationship-with-russia-pub-73499.
- Department of Defense. "Nuclear Posture Review 2010," April 2010. https://dod.defense.gov/Portals/1/features/defenseReviews/NPR/2010\_Nuclear\_Posture\_Review\_Report.pdf.

- Dvorkin, Vladimir. "Preserving Strategic Stability Amid U.S.-Russian Confrontation." Carnegie Moscow Center, February 8, 2019. https://carnegie.ru/2019/02/08/preserving-strategic-stability-amid-u.s.-russian-confrontation-pub-78319.
- Episkopos, Mark. "Russia's Dangerous 'Kalibr' Cruise Missile Could See Range Doubled: Report." Text. The National Interest, January 12, 2019. https://nationalinterest.org/blog/buzz/russias-dangerous-%E2%80%9Ckalibr%E2%80%9D-cruise-missile-could-see-range-doubled-report-41427.
- "Extending New START Is in America's National Security Interest." Arms Control Association. Accessed April 18, 2019. https://www.armscontrol.org/act/2019-01/features/extending-new-start-americas-national-security-interest.
- "Foreign Minister Sergey Lavrov's Remarks and Answers to Media Questions at a News Conference on the Results of Russian Diplomacy in 2018 Moscow, January 16, 2019." Accessed May 31, 2019. http://www.mid.ru/foreign\_policy/news/-/asset\_publisher/cKNonkJE02Bw/content/id/3476729.
- "Fundamentals of the State Policy of the Russian Federation in the Field of Naval Operations for the Period Until 2030." Russia Maritime Studies Institute, July 20, 2017. http://dnnlgwick.blob.core.windows.net/portals/0/RMSI\_RusNavyFundamentalsENG\_FINAL%20(1).pdf?sr=b&si=DNNFileManagerPolicy&sig=i110Z1rxZVzKbB%2BdHJ1CZuTxvwL3N7W34%2FLpksgT1Bs%3D.
- Gordon, Michael R. "On Brink of Arms Treaty Exit, U.S. Finds More Offending Russian Missiles." *Wall Street Journal*, January 31, 2019, sec. Politics. https://www.wsj.com/articles/on-brink-of-arms-treaty-exit-u-s-finds-more-offending-russian-missiles-11548980645.
- Hutchison, Kay Bailey. "How Russia Undermined Over 30 Years of Nuclear Arms Control." *The New York Times*, February 13, 2019, sec. Opinion. https://www.nytimes.com/2019/02/10/opinion/russia-inf-treaty.html.
- "INF Treaty Crisis: Background and Next Steps." Arms Control Association. Accessed April 18, 2019. https://www.armscontrol.org/issue-briefs/2019-02/inf-treaty-crisis-background-next-steps.
- "Intermediate-Range Nuclear Forces Treaty (INF Treaty)." U.S. Department of State. Accessed April 18, 2019. http://www.state.gov/t/avc/trty/102360.htm.
- "It Can't Go Unanswered': Russia Will Respond to NATO Buildup near Its Borders, Senior Diplomat Says." RT International, May 31, 2016. https://www.rt.com/russia/344954-senior-diplomat-promises-response-to/.
- "Latest New START Figures Show US, Russia Remain in Compliance." Russia Matters. Accessed April 19, 2019. https://www.russiamatters.org/blog/latest-new-start-figures-show-us-russia-remain-compliance.
- "Lavrov Warns of Consequences in Deploying US Global Missile Defense System." TASS, April 26, 2017. https://tass.com/politics/943271.
- Majumdar, Dave. "Fact: Russia Pitched the Idea of Joining NATO in 1954." The National Interest, December 14, 2016. https://nationalinterest.org/blog/the-buzz/fact-russia-pitched-the-idea-joining-nato-1954-18737.
- "Meeting of the Valdai International Discussion Club." President of Russia, October 14, 2014. http://en.kremlin.ru/events/president/news/46860.

- "Molotov's Proposal That the USSR Join NATO, March 1954." Wilson Center Digital Archive, March 26, 1954. https://digitalarchive.wilsoncenter.org/document/113924. NATO. "2017 Strategic Foresight Analysis Report," 2017. https://www.act.nato.int/images/stories/media/doclibrary/171004 sfa 2017 report hr.pdf -. "Ballistic Missile Defence." NATO, April 15, 2019. http://www.nato.int/cps/en/natohq/topics 49635.htm. —. "Boosting NATO's Presence in the East and Southeast." NATO. Accessed May 12, 2019. http://www.nato.int/cps/en/natohq/topics 136388.htm. -. "Brussels Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels, 11-12 July 2018." NATO. Accessed May 12, 2019. http://www.nato.int/cps/en/natohg/official texts 156624.htm. -. "Defence Expenditure of NATO Countries (2011-2018)." NATO. Accessed April 27, 2019. http://www.nato.int/cps/en/natohg/news 164482.htm. . "Deterrence and Defence Posture Review." NATO, May 21, 2012. http://www.nato.int/cps/en/natohq/official texts 87597.htm. -. "NATO's Nuclear Deterrence Policy and Forces." NATO, May 17, 2018. http://www.nato.int/cps/en/natohq/topics 50068.htm. "NATO at Seventy: An Alliance in Crisis." Belfer Center for Science and International Affairs, February 2019. https://www.belfercenter.org/NATO70. "NATO: Good for Europe and Good for America" - Address to the United States Congress by NATO Secretary General Jens Stoltenberg." NATO, April 3, 2019. http://www.nato.int/cps/en/natohq/opinions 165210.htm. "New Kalibr-M cruise missile with range of over 4,500 km in development in Russia - source." TASS. Accessed May 11, 2019. http://tass.com/defense/1039123. "New Russian Missile Undermines European Security" - Op-Ed by NATO Secretary General Jens Stoltenberg." NATO. Accessed May 4, 2019. http://www.nato.int/cps/en/natohq/opinions 160944.htm. Nichols, Tom. "Mourning the INF Treaty," March 4, 2019. https://www.foreignaffairs.com/articles/2019-03-04/mourning-inf-treaty. "Nuclear Posture Review 2018." U.S. Department of Defense, February 2018. https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF. "Nuclear Weapons: Who Has What at a Glance | Arms Control Association," June 2018. https://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat. "Open Skies Treaty: A Quiet Legacy Under Threat | Arms Control Association." Accessed May 19, 2019. https://www.armscontrol.org/act/2019-01/features/open-skies-treaty-quietlegacy-under-threat. OSCE. "Treaty on Open Skies." Accessed May 19, 2019. https://www.osce.org/library/14127?download=true.
- Pavlov, Andrey, and Anastasia Malygina. "The Russian Approach to Strategic Stability:: Preserving a Classical Formula in a Turbulent World." In *The End of Strategic Stability?*, edited by Lawrence Rubin and Adam N. Stulberg, 41–65. Nuclear Weapons and the

30, 2011.

-. "Vienna Document 2011 on Confidence- and Security-Building Measures," November

- Challenge of Regional Rivalries. Georgetown University Press, 2018. https://doi.org/10.2307/j.ctv75db5d.6.
- Péczeli, Anna. "The Trump Administration's Nuclear Posture Review: Back to Great Power Competition." *Journal for Peace and Nuclear Disarmament* 1, no. 2 (July 3, 2018): 238–55. https://doi.org/10.1080/25751654.2018.1530741.
- Péczeli, Ulrich Kühn, Anna, and Ulrich Kühn Péczeli Anna. "Russia, NATO, and the INF Treaty." Carnegie Endowment for International Peace. Accessed May 4, 2019. https://carnegieendowment.org/2017/02/28/russia-nato-and-inf-treaty-pub-68124.
- "Pentagon Shifts Gears on Missile Defense | Arms Control Association." Accessed June 19, 2019. https://www.armscontrol.org/act/2013\_04/Pentagon-Shifts-Gears-on-Missile-Defense.
- Pifer, Steven. "The INF Treaty, Russian Compliance and the U.S. Policy Response." *Brookings* (blog), July 17, 2014. https://www.brookings.edu/testimonies/the-inf-treaty-russian-compliance-and-the-u-s-policy-response/.
- ——. "With US-Russian Arms Control Treaties on Shaky Ground, the Future Is Worrying." Brookings, April 25, 2019. https://www.brookings.edu/blog/order-from-chaos/2019/04/25/nuclear-security-arms-control-and-the-us-russia-relationship/.
- "Reducing the Risks of Conventional Deterrence in Europe: Arms Control in the NATO-Russia Contact Zones." OSCE Network of Think Tanks and Academic Institutions, December 2019. http://osce-network.net/file-OSCE-Network/Publications/RISK SP.pdf.
- Roache, Madeline. "Breaking Down the Complicated Relationship Between Russia and NATO." *Time*, April 4, 2019. https://time.com/5564207/russia-nato-relationship/.
- Rose, Frank A. "The End of an Era? The INF Treaty, New START, and the Future of Strategic Stability." *Brookings* (blog), February 12, 2019. https://www.brookings.edu/blog/order-from-chaos/2019/02/12/the-end-of-an-era-the-inf-treaty-new-start-and-the-future-of-strategic-stability/.
- Rowberry, Ariana. "The Vienna Document, the Open Skies Treaty and the Ukraine Crisis." *Brookings* (blog), April 10, 2014. https://www.brookings.edu/blog/up-front/2014/04/10/the-vienna-document-the-open-skies-treaty-and-the-ukraine-crisis/.
- Rühle, Michael. "NATO Enlargement and Russia: Discerning Fact from Fiction." *American Foreign Policy Interests* 36, no. 4 (2014): 234–239. https://doi.org/10.1080/10803920.2014.947879.
- "Russia: Putin Warns New START Nuclear Arms Treaty at Risk." Accessed June 9, 2019. https://www.aljazeera.com/news/2019/06/russia-putin-warns-start-nuclear-arms-treaty-risk-190606163914989.html.
- "Russia Would Attack NATO Only in Mad Person's Dream' Putin." RT International. Accessed May 4, 2019. https://www.rt.com/news/265399-putin-nato-europe-ukraine-italy/.
- "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress." Congressional Research Service, February 8, 2019. https://crsreports.congress.gov/product/pdf/R/R43832/34.
- "Russian National Security Strategy Full-Text Translation," December 2015. http://www.ieee.es/Galerias/fichero/OtrasPublicaciones/Internacional/2016/Russian-National-Security-Strategy-31Dec2015.pdf.
- "Russia's 2000 Military Doctrine." Nuclear Threat Initiative. Accessed June 28, 2019. https://www.nti.org/analysis/articles/russias-2000-military-doctrine/.

- "Russia's New Cruise Missile Could Threaten U.S. Cities (and Much More)." *States News Service*, January 14, 2019. Academic OneFile. http://link.galegroup.com/apps/doc/A569745060/AONE?u=mlin\_m\_tufts&sid=AONE&xid=7fa16b00.
- Seligman, Robbie Gramer, Lara. "The INF Treaty Is Dead. Is New START Next?" *Foreign Policy* (blog), February 1, 2019. https://foreignpolicy.com/2019/02/01/the-inf-treaty-is-dead-is-new-start-next-russia-arms/.
- Shlapak, David A. "The Russian Challenge," 2018. https://www.rand.org/pubs/perspectives/PE250.html.
- Sokolsky, Paul Stronski, Richard, and Paul Stronski Sokolsky Richard. "The Return of Global Russia: An Analytical Framework." Carnegie Endowment for International Peace. Accessed April 28, 2019. https://carnegieendowment.org/2017/12/14/return-of-global-russia-analytical-framework-pub-75003.
- Sonne, Paul. "U.S. Military to Test Missiles Banned Under Faltering Nuclear Pact with Russia." *Washington Post*, March 13, 2019, sec. National Security. https://www.washingtonpost.com/world/national-security/us-military-to-test-missiles-banned-under-faltering-nuclear-pact-with-russia/2019/03/13/289f7860-45b6-11e9-9726-50f151ab44b9 story.html.
- Sputnik. "Scrapping Medium-Range Ballistic Missiles a Mistake Ivanov-1." Accessed May 4, 2019. https://sputniknews.com/russia/2007020760350944/.
- Stoltenberg, Jens. "NATO Secretary General: The Cold War Is Over, but Big Challenges Remain." Defense News, December 12, 2018. https://www.defensenews.com/outlook/2018/12/10/nato-secretary-general-the-cold-war-is-over-but-big-challenges-remain/.
- Tannenwald, Nina. "How Strong Is the Nuclear Taboo Today?" *The Washington Quarterly* 41, no. 3 (July 3, 2018): 89–109. https://doi.org/10.1080/0163660X.2018.1520553.
- Techau, Jan. "The Politics of 2 Percent: NATO and the Security Vacuum in Europe." Carnegie Europe. Accessed May 12, 2019. https://carnegieeurope.eu/2015/09/02/politics-of-2-percent-nato-and-security-vacuum-in-europe-pub-61139.
- "The Conventional Armed Forces in Europe (CFE) Treaty and the Adapted CFE Treaty at a Glance." Arms Control Association, August 2012. https://www.armscontrol.org/factsheet/cfe.
- "The Future of the Nuclear Order | Arms Control Association," April 2019. https://www.armscontrol.org/act/2019-04/features/future-nuclear-order.
- "The Military Doctrine of the Russian Federation." The Embassy of the Russian Federation to the United Kingdom of Great Britain and Northern Ireland, June 29, 2015. http://rusemb.org.uk/press/2029.
- "The NATO Command Structure Factsheet." NATO, February 2018. https://www.nato.int/nato\_static\_fl2014/assets/pdf/pdf\_2018\_02/1802-Factsheet-NATO-Command-Structure\_en.pdf.
- The White House. "National Security Strategy," December 2017. https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf.
- "Time to Terminate Escalate to De-Escalate It's Escalation Control." War on the Rocks, April 24, 2018. https://warontherocks.com/2018/04/time-to-terminate-escalate-to-de-escalateits-escalation-control/.

- Trenin, Dmitri. "Strategic Stability in the Changing World." Carnegie Moscow Center. Accessed May 4, 2019. https://carnegie.ru/2019/03/21/strategic-stability-in-changing-world-pub-78650.
- Trevor McCrisken, and Maxwell Downman. "'Peace through Strength': Europe and NATO Deterrence beyond the US Nuclear Posture Review | International Affairs | Oxford Academic" 95, no. 2 (March 1, 2019): 277–295. https://academic-oupcom.ezproxy.library.tufts.edu/ia/article/95/2/277/5320514.
- "Trump Increases Budget for Banned Missiles | Arms Control Association." Accessed May 12, 2019. https://www.armscontrol.org/act/2019-05/news/trump-increases-budget-banned-missiles.
- Tsygankov, Andrei P. "The Sources of Russia's Fear of NATO." *Communist and Post-Communist Studies*, NATO, Russia, and regional security in Europe and Eurasia, 51, no. 2 (June 1, 2018): 101–11. https://doi.org/10.1016/j.postcomstud.2018.04.002.
- University, Stanford. "What U.S. Suspension of INF Treaty with Russia Means." Stanford News, February 1, 2019. https://news.stanford.edu/2019/02/01/u-s-suspension-nuclear-armstreaty-russia-means/.
- "U.S. to Test INF Treaty-Range Missiles | Arms Control Association," April 2019. https://www.armscontrol.org/act/2019-04/news/us-test-inf-treaty-range-missiles.
- "U.S. Withdraws From ABM Treaty; Global Response Muted." Arms Control Association, August 2002. https://www.armscontrol.org/act/2002\_07-08/abmjul\_aug02.
- Veebel, Viljar, and Illimar Ploom. "The Deterrence Credibility of NATO and the Readiness of the Baltic States to Employ the Deterrence Instruments." *Lithuanian Annual Strategic Review* 16, no. 1 (December 1, 2018): 171–200. https://doi.org/10.2478/lasr-2018-0007.
- William Tobey, Pavel Zolotarev and Ulrich Kühn. "The INF Quandary: Preventing a Nuclear Arms Race in Europe. Perspectives from the US, Russia and Germany." Russia Matters. Accessed April 19, 2019. https://www.russiamatters.org/analysis/inf-quandary-preventing-nuclear-arms-race-europe-perspectives-us-russia-and-germany.
- Woolf, Amy F. "The New START Treaty: Central Limits and Key Provisions," May 30, 2019, 51.
- Woolf, Amy F, Paul K Kerr, and Mary Beth D Nikitin. "Arms Control and Nonproliferation: A Catalog of Treaties and Agreements," March 18, 2019, 72.
- "Worldwide Threat Assessment of the US Intelligence Community." Office of the Director of National Intelligence, January 29, 2019. https://www.intelligence.senate.gov/sites/default/files/documents/os-dcoats-012919.pdf.
- Zysk, Katarzyna. "Escalation and Nuclear Weapons in Russia's Military Strategy." *The RUSI Journal* 163, no. 2 (March 4, 2018): 4–15. https://doi.org/10.1080/03071847.2018.1469267.