



THE POST-INF EUROPEAN MISSILE BALANCE: THINKING ABOUT NATO'S DETERRENCE STRATEGY

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The demise of the INF Treaty in 2019 raises questions about the future of deterrence in Europe. For more than a decade, Russia has sought to leverage the potential of precision-strike technologies to strengthen its missile arsenal, having developed systems that either violated INF range regulations or were just below the threshold. As the termination of the treaty removes any outstanding legal barriers to the deployment of ground-based, "theater-range" systems, questions related to the missile balance become central to European security. Of particular importance is the Baltic region, where Russia appears to have acquired a position of "local escalation dominance" that could drive a strategic wedge within NATO. In this essay, we assess what a post-INF Treaty context may mean in light of recent NATO efforts to deter Russia. We argue that the introduction of ground-based, theater-range missiles could help NATO restore the local strategic balance in the Baltic region, thereby strengthening deterrence and helping to create the necessary leverage to get Russia back into meaningful arms control talks in the future.

Precision-guided technologies, once confined to the United States and its allies, have become increasingly available to other countries, including Russia and China. Those specific countries have leveraged such technologies to acquire military capabilities like precision-guided anti-ship, anti-aircraft, land-attack, and anti-satellite cruise and ballistic missiles.¹ Accordingly, many observers and analysts worry about the sustainability of U.S. deterrence

in Europe and East Asia. In Europe specifically, ever since Russia's annexation of Crimea in 2014, a debate has unfolded around Moscow's short- and medium-range missiles, and their potential to undermine regional deterrence.² Russia has been consistently investing in precision-strike systems since the mid-2000s. In so doing, it has added to its growing arsenal of advanced land-based missiles in Kaliningrad and its Western Military District, as well as several sea- and air-launched missiles as-

1 See, Thomas G. Mahnken, "Weapons: The Growth and Spread of the Precision Strike Regime," *Daedalus* 140, no. 3 (Summer 2011): 45–57, <https://www.jstor.org/stable/23047347>. For another view regarding U.S. military superiority, see, Andrea Gilli and Mauro Gilli, "Why China Has not Caught Up Yet: Military-Technological Superiority and the Limits of Imitation, Reverse Engineering, and Cyber Espionage," *International Security* 43, no. 3 (Winter 2018/19): 141–89, https://doi.org/10.1162/isec_a_00337.

2 Stephan Frühling and Guillaume Lasconjarias, "NATO, A2/AD and the Kaliningrad Challenge," *Survival* 58, no. 2 (2016): 96, <https://doi.org/10.1080/00396338.2016.1161906>; Luis Simón, "The 'Third' US Offset Strategy and Europe's 'Anti-access' Challenge," *Journal of Strategic Studies* 39, no. 3 (2016): 417–45, <https://doi.org/10.1080/01402390.2016.1163260>; Fabrice Pothier, "An Area-Access Strategy for NATO," *Survival* 59, no. 3 (2017): 73–80, <https://doi.org/10.1080/00396338.2017.1325600>; Robert Dalsjö, Christofer Berglund, and Michael Jonsson, *Bursting the Bubble: Russian A2/AD in the Baltic Sea Region: Capabilities, Countermeasures, and Implications* (Stockholm: Swedish Defense Research Agency [FOI], 2019); Alexander Lanoszka and Michael A. Hunzeker, *Conventional Deterrence and Landpower in Northeastern Europe* (Carlisle, PA: Strategic Studies Institute, 2019); and Keir Giles and Mathieu Bouleque, "Russia's A2/AD Capabilities: Real and Imagined," *Parameters* 49, no. 1–2 (Spring/Summer 2019): 21–36.

signed to the Kaliningrad-based Baltic Fleet and elsewhere. Complementing these capabilities are Russia's efforts to modernize and expand its missile defense system, aimed at both strengthening Russian defenses in case of Western retaliation and securing a missile architecture that can perform offensive functions. Critically, the termination of the Intermediate-Range Nuclear Forces (INF) Treaty in 2019 — which had prohibited land-based missiles with ranges between 500 and 5,500 kilometers — removes any possible barriers to Russia fully exploiting its technological advances to deploy more theater-range missiles on land.³

Theater-range missiles constitute the centerpiece of what many observers describe to be Russia's anti-access/area denial (A2/AD) strategy in the Baltic region.⁴ The purpose of Russia's short- and medium-range missile architecture in this area — and the broader A2/AD strategy it purportedly supports — is to interdict efforts by the United States and its North Atlantic Treaty Organization (NATO) allies to enter and to operate in the air and maritime space across the region. Put differently, if Russia were to try to take the Baltic countries, NATO would have to pay a prohibitively high price in trying to burst the Russian A2/AD bubble.⁵ Russia thus aims to undermine the credibility of the deterrence guarantees that the United States and, to a lesser extent, Western Europe have extended to Eastern European allies, while shifting the local strategic and political balance in its favor.

Some experts have raised skepticism about Russian capabilities and strategy, whereas the broader utility of the A2/AD concept has been subject to mounting criticism in both Asia and Europe.⁶ To be sure, Russia's A2/AD bubble is not impenetrable.⁷ The promise of NATO — and, in particular, U.S., British, and French — air-to-ground and ship- and submarine-launched missiles partly offsets any local advantages Russia may have in the Baltic region. Moreover, NATO's recent decision to deploy multinational battalions in the Baltic states and Po-

land demonstrates that older NATO members have "skin" in the local deterrence game.⁸ Nevertheless, bringing those combat aircraft and long-range missiles to bear could be profoundly escalatory because Russia will almost certainly reject NATO precision-strikes in its territory. Moreover, that the local missile balance favors Russia raises questions about NATO's ability to bring airpower into the theater. At worst, the evolving missile balance in the Baltic region gives Russia local escalation dominance, thereby undermining deterrence. At best, the perception of Russian local escalation dominance — and Moscow's sustained efforts to decouple local, regional, and global levels of deterrence — will drive a wedge within the alliance, enabling Russia to behave more aggressively even without engaging in traditional military operations.⁹ Simply put, Russia can leverage its improved missile capabilities not only to sever Europe from North America in security terms, but also European countries from each other. How should NATO respond?

We make two claims in this essay. First, whatever our feelings regarding the A2/AD concept, Russian advances in deploying theater-range missiles mean that the Baltic region is likely to remain a contested environment. NATO countries would pay dearly in defending against conventional aggression if deterrence were to fail. The three Baltic countries of Estonia, Latvia, and Lithuania might receive reinforcements in the event of war, but they still have incentives to prepare for contingencies lest those reinforcements are slow to arrive or suffer high attrition rates. Second, and critically, NATO defense planners should reconsider the missile balance, which is likely to become the center of gravity of deterrence and security in Europe in a post-INF and maturing precision-strike context. Our main contribution is to examine how theater-range missiles could help strengthen deterrence in NATO's northeastern flank — that is, Poland and the three Baltic countries — by giving NATO more intermediate options on the deterrence ladder. NATO

3 "Theater-range missiles" refer to those missiles that are based in the theater of operations in question — Europe in this case — and can reach different targets within that very theater. Theater-range missiles thus include short-, medium-, and intermediate-range missiles. The latter two were covered by the INF Treaty.

4 See, footnote 2.

5 Pothier, "An Area-Access Strategy for NATO."

6 See, e.g., Giles and Boulegue, "Russia's A2/AD Capabilities"; Michael Kofman, "It's Time to Talk About A2/AD: Rethinking the Russian Military Challenge," *War on the Rocks*, Sept. 5, 2019, <https://warontherocks.com/2019/09/its-time-to-talk-about-a2-ad-rethinking-the-russian-military-challenge/>; John Richardson, "Deconstructing A2/AD," *The National Interest*, Oct. 3, 2016, <http://nationalinterest.org/feature/chief-naval-operations-adm-john-richardson-deconstructing-17918>; and B.J. Armstrong, "The Shadow of Air-Sea Battle and the Sinking of A2/AD," *War on the Rocks*, Oct. 5, 2016, <https://warontherocks.com/2016/10/the-shadow-of-air-sea-battle-and-the-sinking-of-a2ad/>.

7 Dalsjö, Berglund, and Jonsson, "Bursting the Bubble."

8 "NATO's Enhanced Forward Presence: Factsheet," NATO, May 2017, https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2017_05/1705-factsheet-efp.pdf.

9 See, Diego A. Ruiz Palmer, "Back to the Future? Russia's Hybrid Warfare, Revolutions in Military Affairs, and Cold War Comparisons," NATO Defense College, Research Paper No. 120 (October 2015).

Secretary-General Jens Stoltenberg has ruled out nuclear-tipped missiles, but has implicitly allowed for the possibility of conventional missiles being deployed.¹⁰ We specifically make the case for the deployment of ground-based, land-attack, theater-range, road-mobile conventional missiles in Europe.¹¹ These missiles can hold at risk Russian assets, whether in Kaliningrad or elsewhere, while pushing Russia to make costly investments aimed at trying to improve its own capabilities. Such a move would help restore the local strategic balance in a post-INF context, thus creating leverage to get Russia back into meaningful arms control talks in the future. Moreover, as COVID-19 will likely take a toll on defense spending, NATO will be compelled to look for cost-efficient solutions to deterrence. Ground-based, theater-range missiles may be cheaper than existing alternatives such as additional F-35s or Rafales.

The fact that Washington has begun to think about the potential role of ground-based, theater-range missiles in strengthening deterrence in East Asia could lead to important synergies, in that some of the technologies and systems developed could also be used in a European context. For example, upgrading U.S. Army programs like the Multiple Launch Rocket System and the High Mobility Artillery Rocket System with longer-range missiles such as the U.S. Army's Tactical Missile System could offer relatively fast and cost-efficient solutions to close the local missile gap in the Baltic region. However, any NATO response to Russia's local missile advantage should be as collective and widely distributed as possible. In this regard, Poland's plans to introduce the above systems means that upgrades to them could pave the way for a European contribution to NATO's theater-range missile capabilities.¹² Moreover, allies located within range of Russian missiles can also play an important role by hosting missiles in their territories, ensuring their own security and, in the case of Germany and Poland at least, even taking part in the future development of theater-range missile systems. Beyond such measures, those more capable Western European allies that are eager to assert

their strategic and technological autonomy should think harder about developing ground-based, theater-range missile capabilities.

This essay proceeds as follows. We begin with a discussion of how missiles matter for deterrence, arguing that their importance will grow in Europe (and, for that matter, East Asia) given the proliferation of precision-strike technologies and the demise of the INF Treaty. We then examine the evolution of the European missile balance since the end of the Cold War, focusing mainly on NATO's north-eastern flank, and assess how the local missile balance affects NATO's deterrence posture in that region. We go on to propose several measures that are now available to NATO and the United States for addressing existing deterrence gaps in the new post-INF environment. Specifically, we argue in favor of deploying ground-based, theater-range missiles in Europe and discuss their advantages vis-à-vis other missiles and how they may relate to other elements of NATO's deterrence strategy. We also address potential counterarguments to their deployment. In the conclusion, we discuss how the debate over ground-based, theater-range missiles may tie in to the debate over transatlantic burden-sharing and identify a number of relevant questions going forward.

Deterrence Theory, Missiles, and the INF Treaty

Because our argument centers on how ground-based, theater-range missiles can enhance deterrence, it is helpful to review what is the theoretical motivation underpinning this mission. Put plainly, deterrence aims at preventing an adversary from using military force to revise the status quo. The scholarly literature on deterrence can be broken down into three waves.¹³ The first wave grappled with the advent of nuclear weapons following the end of World War II. In this period of nuclear unipolarity, deterrence theory was largely detached from policy discussions. The second wave of deterrence theory — its purported golden age — ran until the

10 "Secretary General: NATO Response to INF Treaty Demise Will Be Measured and Responsible," NATO, Aug. 2, 2019, https://www.nato.int/cps/en/natohq/news_168177.htm. Other types of missiles, including anti-ship or anti-air missiles, could complement these missiles. However, we confine our analysis to ground-based missiles, especially because the termination of the INF Treaty permits their possible deployment in Europe.

11 Given the unwieldiness of this phrase, we use "ground-based, theater-range missiles" as an imprecise shorthand in its place.

12 Allen Cone, "Lockheed Awarded \$492.1M to Produce HIMARS for U.S., Poland, Romania," *UPI*, July 16, 2019, <https://www.upi.com/Defense-News/2019/07/16/Lockheed-awarded-4921M-to-produce-HIMARS-for-US-Poland-Romania/7991563279020/>.

13 In recent years, a so-called fourth wave in deterrence theory has focused on non-traditional areas, addressing such questions as how to deter non-state actors or how to achieve deterrence in cyberspace. See, e.g., Jeffrey W. Knopf, "The Fourth Wave in Deterrence Research," *Contemporary Security Policy* 31, no. 1 (2010): 1–33, <https://doi.org/10.1080/13523261003640819>; Uri Tor, "'Cumulative Deterrence' as a New Paradigm for Cyber Deterrence," *Journal of Strategic Studies* 40, no. 1–2 (2017): 92–117, <https://doi.org/10.1080/01402390.2015.1115975>. On the different waves in deterrence theory, see, Robert Jervis, "Deterrence Theory Revisited," *World Politics* 31, no. 2 (January 1979): 289–324, <https://doi.org/10.2307/2009945>; and Colin S. Gray, *Strategic Studies: A Critical Assessment* (London: Aldwych Press, 1982), 15–17.



end of the 1960s. Building on the problems and assumptions identified during the previous wave, the second wave became inextricably tied to policy discussions, as the Soviet Union's development of nuclear weapons and delivery systems compelled U.S. decision-makers to think about deterrence in a bipolar context characterized by parity or near parity. Scholars like Bernard Brodie, Thomas Schelling, or Hermann Kahn assumed a rational actor model and applied game theory to nuclear strategy. With the focus mostly on the deterrence relationship between the two superpowers, deterrence revolved around the threat of punishment, and — more specifically — that of mutual assured destruction.

Ultimately, deterrence rests on the promise that any of the parties can engage in some form of escalation, which means that all the capabilities possessed by the United States and its allies (both in Europe and globally) should be considered when examining their deterrence relationship with Russia.

The third wave developed in reaction to the second by trying to remedy its perceived gaps. It challenged the assumption of rationality and emphasized the psychological, cultural, and other real-life factors that make deterrence inherently complex. In doing so, it focused on empirical analysis rather than abstract modeling. Importantly for our purposes, this wave of deterrence theory sought to ad-

dress the problem of extended deterrence — that is, those situations aimed at deterring an adversary from attacking one's allies.¹⁴ Because the Soviet Union achieved nuclear parity with the United States by the early 1970s, the association between successful deterrence and having intermediate options between doing nothing and declaring all-out war gained traction in U.S. strategic circles.¹⁵ This consideration produced the notion of limited nuclear war and other warfighting doctrines, thus heralding a shift in deterrence thinking toward denial strategies that are based on the ability and willingness to fight effectively against adversaries.¹⁶ Of course, punishment strategies remained in place as the ultimate threat at the top of the escalation ladder. Yet, theorists paid more attention to escalation at lower levels of conflict that might arise from adversaries probing extended deterrence commitments. Deterrence-by-punishment thus co-exists with deterrence-by-denial.¹⁷ The former threatens to inflict unacceptable costs in one fell swoop, whereas the latter implements measures that would make a given action operationally difficult to execute and prohibitively costly. Denial is often the default option for the weaker party in a deterrence relationship because the weaker party presumably has fewer options for counter-escalation, encouraging it to use asymmetric means to raise the perceived costs of an attack.

To simplify the theory in light of these waves of scholarship, deterrence is operative when several conditions hold.¹⁸ First, the deterring state communicates which actions involving military force are unacceptable. Second, the deterring state indicates its ability and willingness to impose prohibitively high costs only if the adversary engages in those unacceptable actions. Third, the adversary judges that the likely costs for using force are unacceptable and so refrains from the proscribed behavior.

Deterrence theory has been subject to intense criticism on analytical grounds, not least because it hinges on the adversary having certain intentions

14 Paul K. Huth, "Extended Deterrence and the Outbreak of War," *American Political Science Review* 82, no. 2 (June 1988): 423–43, <https://doi.org/10.2307/1957394>.

15 Barry Buzan, *An Introduction to Strategic Studies: Military Technology and International Relations* (London: Macmillan, 1987), 157.

16 See, Colin S. Gray, "War-Fighting for Deterrence," *Journal of Strategic Studies* 7, no. 1 (1984): 5–28, <https://doi.org/10.1080/01402398408437174>.

17 For a seminal discussion on denial and punishment, see, Glenn H. Snyder, *Deterrence and Defense: Toward a Theory of National Security* (Princeton, NJ: Princeton University Press, 1961).

18 See, Patrick M. Morgan, *Deterrence Now* (Cambridge, UK: Cambridge University Press, 2003); and Stephen L. Quackenbush, "Deterrence Theory: Where Do We Stand?" *Review of International Studies* 37, no. 2 (April 2011): 741–62, <https://doi.org/10.1017/S0260210510000896>.

regarding the status quo despite intentions being extremely difficult to divine.¹⁹ Just because nothing happened does not mean deterrence worked. For example, some scholars argue that deterrence was not operative in Europe during the Cold War because the Soviet Union never contemplated launching a surprise invasion of Western Europe.²⁰ Nevertheless, because we do not know whether the Soviet Union would *not* have attacked Western Europe in the absence of NATO and any forward-deployed military forces, we cannot dismiss the possibility that deterrence was psychologically in effect. From a planning perspective, deterrence theory thus remains a guide for thinking about crisis prevention and management under circumstances of profound uncertainty.

The military balance factors into the cost-benefit analysis that underpins deterrence. In this essay, we address the missile balance in Europe, focusing specifically on how it may affect deterrence in NATO's northeastern flank. The missile balance refers to the missile capabilities — both offensive and defensive — of two states or coalitions. Since missiles pertain to the air domain, the missile balance is intimately linked to the airpower balance, which, in turn, affects the broader military balance that underpins deterrence relationships.²¹ Yet, the particularities of missiles warrant giving the missile balance a separate treatment. Likewise, the specificities of NATO's northeastern flank — buffered from the southeastern flank by Belarus and Ukraine and delimited in the north by the Baltic Sea and non-NATO partners Sweden and Finland — makes it deserving of individual analytical treatment, especially given its proximity to Russia's power base.²² However, the military balance, much less the missile balance, in NATO's northeastern flank cannot be isolated from the broader regional or even global balance of power between NATO and Russia. Ultimately, deterrence rests on the promise that any of the parties can engage in some form of escalation, which means that all the capabilities possessed by the United States and its allies (both in Europe and globally)

should be considered when examining their deterrence relationship with Russia.²³ And so, in assessing the missile balance in NATO's northeastern flank, we highlight its broader functional and geographical connections.

Missiles and missile defense systems come in many forms. Missiles vary on the basis of their means of propulsion, type of trajectory, range, and payload. With respect to propulsion, three different types of missiles exist. Ballistic missiles are rocket-propelled before following a largely unpowered, parabolic, and free-falling trajectory toward their target. Jet engines propel cruise missiles, which, although they are normally slower, are more maneuverable than ballistic missiles because of their constant propulsion. Hypersonic boost-glide weapons are initially powered by a ballistic missile or a rocket booster but largely glide on a non-parabolic trajectory. They are also more maneuverable than ballistic missiles, although slower. Missiles can be ground-launched (delivered from a silo or mobile platform), air-launched (delivered from an aircraft), or sea-launched (delivered from a submarine or destroyer). Regarding range, there are four different categories of missiles: short range (less than 1,000 km), medium range (1,000–3,000 km), intermediate range (3,000–5,500 km), and intercontinental (traveling more than 5,500 km). Missiles can also vary in their guidance systems, especially if they are directed at moving targets. A final, relevant category relates to payload and yield. Missiles are capable of delivering conventional or nuclear payloads, or both. Warheads themselves can also vary by yield, with some new high-yield conventional missiles now being developed in the United States.²⁴ Missiles that have trouble overcoming enemy defenses are less effective for deterrence, whereas those that do not are more effective because they potentially hold at risk assets that the adversary values. Accordingly, missile defense systems themselves feature different characteristics with regard to the type and range of the missile it is intercepting (strategic, theater, or tactical), the trajectory

19 See, e.g., Robert Jervis, *Perception and Misperception in International Politics* (Princeton, NJ: Princeton University Press, 1976); and Charles L. Glaser, "Political Consequences of Military Strategy: Expanding and Refining the Spiral and Deterrence Models," *World Politics* 44, no. 4 (July 1992): 497–538, <https://doi.org/10.2307/2010486>; and David M. Edelstein, "Managing Uncertainty: Beliefs About Intentions and the Rise of Great Powers," *Security Studies* 12, no. 1 (Autumn 2002): 1–40.

20 Richard Ned Lebow and Janice Gross Stein, "Deterrence and the Cold War," *Political Science Quarterly* 110, no. 2 (Summer 1995): 157–81, <https://www.jstor.org/stable/2152358>.

21 Lebow and Stein, "Deterrence and the Cold War," 13.

22 See, Luis Simón, "Assessing NATO's Eastern European 'Flank,'" *Parameters* 44, no. 3 (Autumn 2014): 67–79.

23 On NATO's limited escalation options, see, Michael Fitzsimmons, "Horizontal Escalation: An Asymmetric Approach to Russian Aggression?" *Strategic Studies Quarterly* 13, no. 1 (Spring 2019): 95–133, <https://www.jstor.org/stable/26585376>.

24 Bruce M. Sugden, "Speed Kills: Analyzing the Deployment of Conventional Ballistic Missiles," *International Security* 34, no. 1 (Summer 2009): 121–23, <https://doi.org/10.1162/isec.2009.34.1.113>.

phase where the interception occurs (boost, mid-course, or terminal phase), and whether the interception takes place inside or outside the Earth's atmosphere.²⁵

Throughout the Cold War, the missile balance was central to the East-West competition and to deterrence in Europe. Although missiles favor offense over defense, the notion that defending against them would be too costly and difficult meant that they posed an effective deterrent. Indeed, the Soviet Union decided early in the Cold War to develop ballistic missiles rather than bombers for its nuclear deterrent.²⁶ Its deployment of the intermediate-range ballistic SS-20 missile caused tensions with NATO because the intermediate-range missile exclusively posed a risk to targets in Europe, thereby threatening to decouple NATO allies from the United States. Beseched by allies like West Germany, which worried about the quality of U.S. extended nuclear deterrence, and after much intense debate within the alliance, the United States and NATO adopted the Dual-Track Decision in 1979. The Dual-Track Decision called for deploying the ground-based Pershing II ballistic missiles and the longer-range BGM-109G Gryphon cruise missiles while pushing for a mutual limit on such intermediate forces.²⁷ This decision was hugely controversial among European publics at the time. Nevertheless, thanks to the effective integration of their technological advantages in electronics, computing, the Global Positioning System, and stealth, the United States and its allies were able to develop precision-strike systems, thereby outpacing the Soviet Union in military-technological terms.²⁸ These developments worried the Soviet Union: The progressive consolidation of precision-strike technologies underscored the growing importance of conventional military power for deterrence and, more specifically, that of missiles.²⁹ The Soviet leader-

ship feared that U.S. modernization efforts could lead to a first-strike capability.³⁰ That NATO went forward with its missile deployments despite domestic opposition demonstrated a strong political will on the part of the alliance's leaders to pursue deterrence.³¹ In the end, the pressure of Western precision-strike capabilities on the Soviets helped pave the way for the signing of the INF Treaty between the Soviet Union and the United States in 1987, subsequently making the missile balance much less important in European security discussions.

The INF Treaty prohibited the signatories from developing and fielding medium- and intermediate-range, land-based missiles regardless of whether they were armed with a nuclear weapon. Air- and sea-launched missiles, however, were still permitted. Moreover, by excluding intercontinental missiles from its prohibitions, the INF Treaty preserved mutual deterrence while removing Europe's status as a key battleground or bargaining chip in U.S.-Soviet relations. From Moscow's perspective, the INF Treaty made strategic sense.³² The Soviet Union could not keep pace with the U.S.-led precision-strike revolution given the economic difficulties and bureaucratic paralysis it was experiencing in the 1980s. It became too vulnerable to the precision-strike systems that would allow the United States to "see deep" and "strike deep" into Eastern European territory.³³ With the INF Treaty, the United States would no longer be able to target Soviet (and later Russian) territory with missiles positioned on European soil. The extended nuclear deterrence mission never went away, even after the Soviet Union collapsed. Still, in subsequent years, thanks largely to advances in precision-strike technologies and capabilities, the United States became so vastly superior to its potential adversaries in terms of conventional military power that deterrence could be assumed.

25 For a more comprehensive discussion on missile defense, see, Thomas Karako, ed., *Missile Defense and Defeat: Considerations for the New Policy Review* (Washington, DC: Center for Strategic and International Studies, 2017).

26 Pavel Podvig, ed., *Russian Strategic Nuclear Forces* (Cambridge, MA: MIT Press, 2001), 4–5.

27 Leopoldo Nuti, "The Origins of the 1979 Dual Track Decision – A Survey," in *The Crisis of Détente in Europe: From Helsinki to Gorbachev, 1975–1985*, ed. Leopoldo Nuti (London: Routledge, 2009).

28 See, e.g., Mahnken, "Weapons." To be sure, Russia still had about 360 SS-20s opposite to NATO at the time, each with three nuclear warheads. Thus, it was well above the number of NATO Long-Range Theater Nuclear Forces warheads.

29 Mary C. FitzGerald, "Marshal Ogarkov on the Modern Theater Operation," *Naval War College Review* 39, no. 4 (Autumn 1986): 6–25, <https://digital-commons.usnwc.edu/nwc-review/vol39/iss4/3/>. See also, Amy Wilson, "Computer Gap: The Soviet Union's Missed Revolution and Its Implications for Russian Technology Policy," *Problems of Post-Communism* 56, no. 4 (2009): 41–51, <https://doi.org/10.2753/PPC1075-8216560404>.

30 Podvig, *Russian Strategic Nuclear Forces*, 18.

31 We thank Lt. Gen. (ret.) Ben Hodges, U.S. Army, for this point.

32 See, e.g., Mahnken, "Weapons."

33 Justin V. Anderson and Amy J. Nelson, "The INF Treaty: A Spectacular, Inflexible, Time-Bound Success," *Strategic Studies Quarterly* 13, no. 2 (Summer 2019): 97–98, https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-13_Issue-2/Anderson.pdf.

The Evolving Missile Balance in Northeastern Europe

Despite the so-called peace dividend of the 1990s that the INF Treaty helped bring about, concerns about the missile balance slowly regained salience in the early 2000s. Because that agreement was confined to the United States and Russia, China was able to develop the capabilities covered by the INF Treaty in order to strengthen its strategic position in East Asia. And so, beginning in the late 2000s, U.S. defense experts started to worry that China's exemption from the INF Treaty and its efforts to incorporate precision-strike systems into its military were allowing the country to develop an A2/AD envelope in East Asia, thereby undermining America's strategic position in the region and eroding regional deterrence.³⁴ In Europe, relations between Russia and the West worsened over the course of the 2000s, with each side blaming the other for causing tensions. Russian leaders protested NATO enlargement and decried the decision of the Bush administration to withdraw from the Anti-Ballistic Missile Treaty in 2002 — a move that the United States said was necessary for confronting new missile threats from countries like Iran. For their part, the United States and its NATO allies saw in Russia an increasingly authoritarian, revisionist power willing to weaponize energy supplies in neighborly disputes and perpetuate frozen conflicts in territories that were once part of the Soviet Union.³⁵

Most alarmingly, at a time when European defense budgets remained low, Russia used its natural gas revenue to fund major increases in its military spending in the 2000s. This uptick in defense expenditures facilitated Russian advances in precision-guided missiles, including the 9K720 Iskander and the Kalibr cruise missile family. The land-based Iskander was already being designed in the 1990s, finally entering into service in 2007, and has since featured prominently in military exercises.³⁶ The

Iskander-M variant is mounted on ground-based transporter erector launchers and has a range of up to 500 km, thereby extending Russia's missile reach to cover the Baltic states in their entirety as well as much of Poland. Ground, air, and sea platforms could launch Kalibr missiles to ranges up to 1,500 km, reaching almost as far as the United Kingdom if those platforms are based in Kaliningrad.³⁷ The recent deployment of the 9M729 Iskander-M variant in brigades belonging to Russia's Western Military District deepened concerns about the country's capabilities, partly because this nuclear-capable missile does not follow a ballistic flight path, instead pursuing an evasive flight path that could allow it to defeat missile defense systems.³⁸

These developments have impacted European security in two ways. The first is that, according to many observers, these new missiles have enabled Russia to erect an A2/AD bubble around Kaliningrad. As Stephan Frühling and Guillaume Lasconjarias note, "[b]y emplacing highly capable and long-range anti-air, anti-shipping and surface-to-surface missiles in ... the Kaliningrad enclave ... Russia can deny NATO forces the use of large areas of the sea and air surrounding, and even within, the Alliance's territory."³⁹ For the Baltic countries, this development raises the prospect of a *fait accompli* much like what Russia was able to achieve with its annexation of Crimea in 2014. NATO reinforcements would find defending the Baltic countries simply too difficult of a proposition. The second is that by violating the INF Treaty and developing the 9M729 missile (NATO codename: SSC-8 "Screwdriver"), Russia acquired an even greater missile advantage and pushed the United States to withdraw from the treaty. Russia had already developed the 9M720 missile (the SS-26 "Stone") from the earlier OTR-23 (the SS-23 "Spider") design — missiles which were just under the threshold of the INF Treaty.⁴⁰ The concern surrounding the SSC-8 is that it enables Russia to strike military reinforcement-related infrastructure and European capitals at a

34 See, e.g., Thomas G. Mahnken, "China's Anti-Access Strategy in Historical and Theoretical Perspective," *Journal of Strategic Studies* 34, no. 3 (2011): 299–323, <https://doi.org/10.1080/01402390.2011.574971>; and Evan Braden Montgomery, "Contested Primacy in the Western Pacific: China's Rise and the Future of U.S. Power Projection," *International Security* 38, no. 4 (Spring 2014): 115–49.

35 For a discussion on U.S. deterrence strategy in an era of great-power competition, see, Elbridge Colby, "Against the Great Powers: Reflections on Balancing Nuclear and Conventional Power," *Texas National Security Review* 2, no. 1 (November 2018): 144–52, <http://dx.doi.org/10.26153/tsw/864>.

36 Some observers argue that Russia may aim to inflict "prescribed or 'dosed' ... levels of damage" against opponents. See, Dave Johnson, "Russia's Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds," *Livermore Papers on Global Security*, no. 3 (February 2018): 46.

37 Tor Bukkvol and Roger N. McDermott, *Russia in the Precision-Strike Regime — Military Theory, Procurement, and Operational Impact* (Oslo: Norwegian Defence Research Agency [FFI], 2017), 11–14.

38 For a discussion of Russia's evolving missile capabilities as they relate to the INF Treaty, see, Douglas Barrie, "Allegation, Counter-Allegation and the INF Treaty," *Survival* 59, no. 4 (2017): 35–43, <https://doi.org/10.1080/00396338.2017.1349768>. For an overview of how missile forces have evolved in the post-Cold War context, see, Ian Anthony, "European Security After the INF Treaty," *Survival* 59, no. 6 (2017): 61–76, <https://doi.org/10.1080/00396338.2017.1399728>.

39 Frühling and Lasconjarias, "NATO, A2/AD, and the Kaliningrad Challenge," 96.

40 We thank Diego Ruiz Palmer for this point.

greater distance, thereby increasing Russia's ability to intimidate NATO members into accepting *faits accomplis* on the alliance's northeastern flank.⁴¹ Controversy over whether the SSC-8 could use the ground-based Iskander-M launcher in Europe has thus stoked fears that Russia could threaten NATO allies with INF-prohibited weapons.⁴²

To be sure, the United States and its European allies do bring some missile and missile defense capabilities to bear in the Baltic region. In September 2009, President Barack Obama announced the European Phased Adaptive Approach — a plan designed to protect Europe against Iranian medium- and intermediate-range missiles.⁴³ It consists of sea- and land-based configurations of the Aegis missile defense system, the centerpiece of which is the Standard Missile-3 (SM-3).⁴⁴ The Integrated Air and Missile Defense system can also help address the Russian missile threat more directly, but it largely comprises radar facilities of varying quality that serve to augment military surveillance over NATO airspace. Because the European Phased Adaptive Approach was not explicitly designed with Russia in mind, and the Integrated Air and Missile Defense system helps primarily with detection and tracking, Poland has strengthened its own missile defense capabilities to contribute to NATO missile defenses in theater. In April 2015,

Warsaw announced it would acquire eight Patriot batteries by 2025, with two delivered within three years of a final deal.⁴⁵ The Polish Ministry of Defense announced in March 2018 a \$4.75 billion deal to purchase and co-produce a mix of air and missile defenses comprising two layers, known as Wisła and Narew. Currently in its first phase of development, Wisła would include a version of Raytheon's SkyCeptor missiles and several Patriot Advanced Capability-3 Missile Segment Enhancement interceptors. The exact system to be used for the Narew short-range air defense program is yet to be decided, but, if approved, it could involve lower-cost interceptors that would replace Poland's Soviet-era missile systems.⁴⁶ Poland's capabilities constitute an important foundation for NATO's efforts to respond to Russia's theater-range missiles. Still, missile defense is very costly and may have limited effectiveness against the SSC-8. Non-NATO member Finland has also invested in short-range anti-ship missile capabilities, whereas Sweden has expanded its air missile defense system coverage to extend over the island of Gotland in the Baltic Sea.⁴⁷ Finally, NATO also relies on U.S., British, and French conventional air-to-ground and ship- and submarine-launched missiles in order to deter Russia from using its theater-range missiles in northeastern Europe.

41 Heinrich Brauss and Christian Mölling, "Europas Sicherheit ohne INF-Vertrag: Politische und strategische Handlungsoptionen für Deutschland und die NATO," *DGAP Kompakt*, no. 1 (2019): 2.

42 See, Alexander Lanoszka, "The INF Treaty: Pulling Out in Time," *Strategic Studies Quarterly* 13, no. 2 (Summer 2019): 54, https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-13_Issue-2/Lanoszka.pdf. See also, Jacob Cohn et al., *Leveling the Playing Field: Reintroducing U.S. Theater-Range Missiles in a Post-INF World* (Washington, DC: Center for Strategic and Budgetary Assessments, 2019); and Evan Braden Montgomery, *Extended Deterrence in the Second Nuclear Age* (Washington, DC: Center for Strategic and Budgetary Assessments, 2016). Alarm over China's growing missile forces in the Asia-Pacific also played a role in President Donald Trump's decision to withdraw the United States from the INF Treaty. Not being party to the treaty, China was able not only to close the missile gap with the United States and Russia, but also to field over 2,000 missiles that hold at risk both U.S. partners and U.S. military assets in Asia. See, Debalina Ghoshal, "China and the INF Treaty," *Comparative Strategy* 35, no. 5 (2016): 364–65, <https://doi.org/10.1080/01495933.2016.1240982>. On how the United States can address China's missile threat in the Western Pacific, see, Thomas G. Mahnken, "Countering Missiles with Missiles: U.S. Military Posture After the INF Treaty," *War on the Rocks*, July 16, 2019, <https://warontherocks.com/2019/07/countering-missiles-with-missiles-the-u-s-military-after-the-inf-treaty/>.

43 Jaganath Sankaran, *The United States' European Phased Adaptive Approach Missile Defense System: Defending Against Iranian Missile Threats Without Diluting the Russian Deterrent* (Santa Monica, CA: RAND Corporation, 2015), 4.

44 The European Phased Adaptive Approach comprises three phases. Phase 1 consists of a radar in Turkey, a command center at Ramstein Air Base in Germany, and four ballistic missile defense-capable Aegis destroyers equipped with SM-3 interceptors that will patrol primarily in the Mediterranean and be home ported in Rota, Spain. Phase 2 features a land-based SM-3 interceptor or Aegis Ashore site in Romania to protect against incoming medium-range missiles. Phase 3 will see the deployment of an SM-3 interceptor or Aegis Ashore site in Poland to intercept longer-range missiles. Phases 1 and 2 have been operational since 2012 and 2016 respectively, whereas Phase 3 is expected to be operational by 2020 instead of the original 2018 target. Former Secretary of Defense Chuck Hagel cancelled a fourth phase given budgetary constraints and the mounting need to strengthen ballistic missile defense in Asia in light of North Korea's advancements in missile technology. See, David M. Herszenhorn and Michael R. Gordon, "U.S. Cancels Part of Missile Defense that Russia Opposed," *New York Times*, March 16, 2013, <https://www.nytimes.com/2013/03/17/world/europe/with-eye-on-north-korea-us-cancels-missile-defense-russia-opposed.html>. This phase would have entailed an advanced SM-3 Block IIB interceptor whose function would have been to shoot down intercontinental ballistic missiles.

45 "Poland," Missile Defense Advocacy Alliance, June 26, 2018, https://missiledefenseadvocacy.org/intl_cooperation/poland/.

46 We thank Marek Świerczyński for this observation. Rafał Lesiecki, "Wisła i Patrioty za 4,75 mld dolarów. Kontrakt podpisany," *Defence24*, March 28, 2018, <https://www.defence24.pl/wisla-i-patrioty-za-475-mld-dolarow-kontrakt-podpisany>; and Matthew Kroenig, "Poland's Missile Defenses Are Critical for the Defense of Europe," *Defence24*, Sept. 19, 2019, <https://www.defence24.com/polands-missile-defenses-are-critical-for-the-defense-of-europe-opinion>.

47 Corporal Frisk, "A Further Look at the Gabriel 5," *Corporal Frisk – Analysis and Consulting*, July 16, 2018, <https://corporalfrisk.com/2018/07/16/a-further-look-at-the-gabriel-5/>; and "The Swedish Defence Commission Presents Its White Book on Sweden's Security Policy and the Development of Its Military Defence," Swedish Ministry of Defence, May 14, 2019, <https://www.government.se/articles/2019/05/the-swedish-defence-commission-presents-its-white-book-on-swedens-security-policy-and-the-development-of-its-military-defence/>. For a pre-2014 review of European missile defense capabilities, see, Keir Giles and Andrew Monaghan, *European Missile Defense and Russia* (Carlisle, PA: Strategic Studies Institute, 2014).

Despite concerns about Russia's theater-range missiles, scholars and analysts increasingly doubt whether the A2/AD bubble is as robust as often alleged.

Despite concerns about Russia's theater-range missiles, scholars and analysts increasingly doubt whether the A2/AD bubble is as robust as often alleged. Indeed, whether analysts focus on Europe or East Asia, an emerging consensus holds that the very concept of A2/AD is deeply problematic. With regard to Europe, a recent Swedish Defense Research Agency report shows that Russian air defense systems are limited in their ability to detect, track, and shoot down aircraft at high altitudes and long ranges.⁴⁸ Alexander Lanoszka and Michael Hunzeker, as well as Keir Giles and Mathieu Boulegue, argue that Kaliningrad is more of a liability for Russia than an asset precisely because the exclave can be isolated.⁴⁹ NATO could develop its own A2/AD capabilities to complicate Russia's ability to reinforce Kaliningrad. Michael Kofman directly challenges the very notion that the development of A2/AD capabilities is central to Russian military planning.⁵⁰

Nevertheless, even if NATO can burst the A2/AD bubble does not mean that the price of doing so would be low or even politically acceptable. Giles and Boulegue observe that Russian A2/AD systems are vulnerable to saturation, but acknowledge that "casualty-averse Western forces must expose themselves to risk and the likelihood of losses."⁵¹ Still, this scenario assumes that escalation will remain under control despite the possibility of nuclear exchange. Amid concerns that Russia has an escalate-to-de-escalate strategy, whereby it would threaten limited nuclear use in order to deter military intervention, NATO countries might become reluctant to get involved in a major crisis with Russia.⁵² As such, the Baltic countries still have incentives to invest in deterrence-by-denial capabilities — specifically, insurgency tactics that can attrite Russian forces over a protracted period — rather than assume that reinforcements would come quickly.⁵³ Kofman admits that "the [A2/AD] concept has utility when looking at a *maritime* theater in-

volving Russia or China," but argues that Russia faces a deeper naval challenge than NATO.⁵⁴ If Kofman is right that Russia's war plans involve theater-strike weapons that could destroy critical nodes in adversaries' command-and-control structures, then war over the Baltics would still be ugly, however unlikely. The A2/AD concept certainly should not imply impenetrability and immobility — indeed, military competition has always been about denying access and movement to an adversary. Instead, the A2/AD concept should denote that costs must be paid in order to operate in a particular theater.⁵⁵ For a state implementing an A2/AD strategy, these costs serve to deter external aggression. Alternatively, if a state has offensive motives, systems that have A2/AD characteristics raise the costs for states that are otherwise expected to defend allies that fall within the very range of those systems.

From a force planning perspective, an improved understanding of Russia's capabilities and approach to war does not fundamentally alter the strategic needs and problems facing NATO and the Baltic countries. The same strategic dilemma remains: NATO may have global escalation dominance, or even regional escalation dominance if we consider Europe as a whole, but Russia still has local escalation dominance in the Baltic region. Indeed, with its missile strategy, Russia's aim is to decouple local deterrence from regional and global deterrence.

The Potential Role for Ground-Based, Theater-Range Missiles in Current NATO Strategy

Recognizing the growing strategic importance of missiles, the U.S. Army has set to rebuild its artillery arm for large-scale warfare after decades of neglect.⁵⁶ Indeed, the demise of the INF Treaty has sparked intense debate in the United States about the poten-

48 Dalsjö, Berglund, and Jonsson, "Bursting the Bubble," 31.

49 Lanoszka and Hunzeker, *Conventional Deterrence*; and Giles and Boulegue, "Russia's A2/AD Capabilities," 26.

50 Kofman, "It's Time to Talk."

51 Giles and Boulegue, "Russia's A2/AD Capabilities," 25–26.

52 Analysts are divided as to whether Russia really has such a strategy. See, Kristin Ven Bruusgaard, "The Myth of Russia's Lowered Nuclear Threshold," *War on the Rocks*, Sept. 22, 2017, <https://warontherocks.com/2017/09/the-myth-of-russias-lowered-nuclear-threshold/>; and Katarzyna Zysk, "Escalation and Nuclear Weapons in Russia's Military Strategy," *The RUSI Journal* 163, no. 2 (2018): 4–15, <https://doi.org/10.1080/03071847.2018.1469267>. For a useful overview of post-Soviet Russian nuclear thinking, see, Michael Kofman, Anya Fink, and Jeffrey Edmonds, "Russian Strategy for Escalation Management: Evolution of Key Concepts," CNA, April 2020, https://www.cna.org/CNA_files/PDF/DRM-2019-U-022455-1Rev.pdf.

53 Alexander Lanoszka and Michael A. Hunzeker, "Confronting the Anti-Access/Area Denial and Precision Strike Challenge in the Baltic Region," *The RUSI Journal* 161, no. 5 (2016): 12–18, <https://doi.org/10.1080/03071847.2016.1253367>; and Lionel Beehner and Liam Collins, "Can Volunteer Forces Deter Great Power War? Evidence from the Baltics," *Journal of Strategic Security* 12, no. 4 (2019): 50–68, <https://doi.org/10.5038/1944-0472.12.4.1747>.

54 Kofman, "It's Time to Talk." See also, Corporal Frisk, "The True Face of the Baltic Fleet," *Corporal Frisk – Analysis and Consulting*, Oct. 12, 2019, <https://corporalfrisk.com/2019/10/12/the-true-face-of-the-baltic-fleet/>.

55 Luis Simón, "Demystifying the A2/AD Buzz," *War on the Rocks*, Jan. 4, 2017, <https://warontherocks.com/2017/01/demystifying-the-a2ad-buzz/>.

56 See, Sydney J. Freedberg Jr., "Army Rebuilds Artillery Arm for Large-Scale War," *Breaking Defense*, April 27, 2020, <https://breakingdefense.com/2020/04/army-rebuilds-artillery-arm-for-large-scale-war/>.

tial role of theater-range missiles in strengthening deterrence in key regions.⁵⁷ East Asia has so far been the main focus of this debate: China's growing theater-range missile arsenal and North Korea's nuclear and missile programs have raised questions about U.S. extended deterrence guarantees.⁵⁸ Many U.S. officials and experts contend that long-range strike capabilities underscore Washington's global escalation dominance, offsetting China's theater-level advances and guaranteeing deterrence.⁵⁹ Yet, others worry that the lack of in-theater capabilities to balance Chinese (or North Korean) military power may lead some U.S. allies to fear decoupling and alliance abandonment.⁶⁰ Unsurprisingly, the debate over theater-range missiles in East Asia is mixed up with political considerations. Though some experts and policymakers in the region understand the strategic logic of deploying these missiles, domestic political opposition remains high, especially in Australia, Japan, and South Korea.⁶¹ But as the European experience from NATO's 1979 Dual-Track Decision suggests, these attitudes may yet change or prove to be surmountable.

In Europe, the debate over the possible deployment of theater-range missiles is much less advanced. This lack of serious discussion may be due to diverging European perceptions about the Russian threat as well as the fact that Russia's arsenal of theater-range missiles is more limited than China's and that NATO enjoys much greater strategic depth in Europe than the U.S.-led alliance system does in East Asia. Nevertheless, the worsening of NATO-Russia relations, growing awareness about Russia's newer military capabilities and their impact on the Baltic region, and the termination of the INF Treaty call for greater debate within NATO on how theater-range missiles may enhance deterrence. Additionally, the ongoing discussion about

the potential and pitfalls of theater-range missiles in an East Asian context is likely to spill over to Europe, not least because the development and fielding of such systems might encourage their deployment in multiple regions.

Despite the lack of discussion about new ground-based, theater-range missile deployments, Europe has not been idle since 2014. In the past six years, NATO has adopted several measures to reassure its Central and Eastern European members in addition to enhancing deterrence in the Baltic region.⁶² Such measures have included the Very High Readiness Joint Task Force, an uptick in joint military exercises, a bolstering of the Baltic Air Policing mission, and the multinational battlegroups that make up the enhanced Forward Presence in Poland, Estonia, Latvia, and Lithuania. More recently, NATO has revamped its command structure following the April 2019 adoption of its new military strategy (MC400/4).⁶³ This military strategy emphasizes horizontal escalation and the imperatives of a theater-wide approach so as to further improve the alliance's readiness, responsiveness, and reinforcement capacity for addressing the challenge from Russia. In adopting such measures, NATO has sought to signal that it will consider any attack on a single or a few of its allies as an act of aggression against the entire alliance, and will respond to it with a wide variety of actions across the entire Euro-Atlantic area. Notwithstanding these improvements, Russia's widening missile advantage creates major gaps in NATO's deterrence posture and could foster the perception in the Kremlin that it can aggress with relative impunity in the Baltic region.

How can ground-based, theater-range missiles serve NATO's deterrence strategy in the Baltic region? To begin with, relying on theater-range missiles poses fewer problems than relying largely on

57 See, e.g., Jim Thomas, "Why the US Army Needs Missiles: A New Mission to Save the Service," *Foreign Affairs* 92, no. 3 (May/June 2013): 137–44, <https://www.foreignaffairs.com/articles/united-states/2013-04-03/why-us-army-needs-missiles>; David W. Kearns Jr. "The Future of US Deterrence in East Asia: Are Conventional Land-Based IRBMs a Silver Bullet?" *Strategic Studies Quarterly* 7, no. 4 (Winter 2013): 93–116, <https://www.jstor.org/stable/26270779>; Shahryar Pasandideh, "The End of the 'INF Treaty' and the US-China Military Balance," *The Nonproliferation Review* 26, no. 3–4 (2019): 267–87, <https://doi.org/10.1080/10736700.2019.1646466>.

58 See, e.g., Lionel P. Fatton, "Japan Is Back: Autonomy and Balancing Amidst an Unstable China-U.S.-Japan Triangle," *Asia & the Pacific Policy Studies* 5, no. 2 (May 2018): 264–78, <https://doi.org/10.1002/app5.240>.

59 Inwook Kim and Soul Park, "Deterrence Under Nuclear Asymmetry: THAAD and the Prospects for Missile Defense on the Korean Peninsula," *Contemporary Security Policy* 40, no. 2 (2019): 165–92, <https://doi.org/10.1080/13523260.2018.1558750>.

60 See, e.g., Cohn et al., *Leveling the Playing Field*. For allied views on abandonment, see, e.g., Stephan Frühling, "Managing Escalation: Missile Defence, Strategy and US Alliances," *International Affairs* 92, no. 1 (January 2016): 81–95, <https://doi.org/10.1111/1468-2346.12501>; and Benjamin Schreer, "Abandonment, Entrapment, and the Future of US Conventional Extended Deterrence in East Asia (Part I)," *The Strategist* (Australian Strategic Policy Institute), Sept. 21, 2012, <https://www.aspistrategist.org.au/abandonment-entrapment-and-the-future-of-us-conventional-extended-deterrence-in-east-asia-part-i/>.

61 Benjamin Schreer, "After the INF: What Will US Indo-Pacific Allies Do?" *Washington Quarterly* 43, no. 1 (2020): 143–57, <https://doi.org/10.1080/0163660X.2020.1736885>.

62 On NATO's reassurance and deterrence measures in relation to Russia since 2014, see, Diego A. Ruiz Palmer, "A Strategic Odyssey: Constancy of Purpose and Strategy-Making in NATO, 1949–2019," National Defense College, Research Paper no. 3 (June 2019), <http://www.ndc.nato.int/news/news.php?icode=1330>; and Sara Bjerg Møller, "Building the Airplane while Flying: Adapting NATO's Force Structure in an Era of Uncertainty," National Defense College, Policy Brief no. 11 (May 2019), <http://www.ndc.nato.int/news/news.php?icode=1315>.

63 We thank an anonymous reviewer for raising this point.

air and sea combat assets based in Western Europe or on U.S.-based ICBMs. The reason is simple: A gap exists between NATO capabilities already in theater (i.e., four multinational battalions and an embryonic missile-defense architecture) and the promise of long-range air and missile power. The extreme downsizing of military forces in post-Cold War Europe has hobbled conventional deterrence in part because the alliance has few counter-attack options. For example, a U.S. brigade could take at least two weeks to arrive in Europe from the United States, thereby leaving allies vulnerable to territorial *faits accomplis*.⁶⁴ Given the lack of a serious military footprint in northeastern Europe, this gap means that NATO has no intermediate options, forcing the alliance to take a significant escalatory leap in order to deter further aggression by Russia in a crisis. An additional problem concerns the assumption that air reinforcements based in Western Europe would be able to get into theater. Unfortunately, they may encounter sufficient resistance from Russia's theater-range missiles so as to discourage them from being dispatched in the first place. This problem may be mitigated as F-35 fighter jets come online, but Russia could potentially learn to identify these stealth aircraft with data collected from S-400s sold to Turkey if those air-defense systems become activated.

Ground-based, theater-range missiles would also close the gap in another way. Current NATO deterrence measures have largely been premised on "contact warfare" with Russia. Shortly after the annexation of Crimea, the United States began to pre-position military hardware in the region for possible use by ground forces in some future contingency. Following the 2016 Warsaw Summit, NATO countries agreed to create the enhanced Forward Presence, deploying a multinational battalion-sized battlegroup to each of the Baltic countries and Poland. The United States also rotates an armored brigade combat team and additional forces in Poland while pouring money into various infrastructure projects aimed at improving logistical links between local allies. Yet, some critics argue that such measures are too tethered to land. As Kofman writes, "proposing to engage Russian forces in contact warfare, a metal-on-metal ground fight, is not a good strategy. Russia holds a lot of

advantages in land warfare near its borders. This plan does not hold at risk what Russia values, and misses important changes in how Moscow sees the character of modern warfare."⁶⁵ Though Kofman overlooks the assurance that ground forces can provide to allies that host them, his critique does highlight gaps in NATO's deterrence posture.⁶⁶

Deploying ground-based, theater-range missiles could complement the NATO ground presence in northeastern Europe. As one recent report highlights, "ground-launched theater-range missiles could hold high-value enemy targets at risk while helping U.S. air and naval forces obtain access to hotly contested battlefields, thereby contributing to military operations in challenging warfighting scenarios."⁶⁷ Ground-based missiles have certain advantages over sea-launched and air-launched missiles. If dispersed and well-hidden, road-mobile transporter erector launchers can complicate targeting by creating uncertainty about their location, thereby requiring Russia to track and monitor their movements. Russia cannot simply target airfields or naval bases. Moreover, the European theater offers much more territorial depth for ground-based missiles than East Asia, where the maritime environment is more of a constraining factor to their deployment. To be sure, sea-launched missiles can be effective deterrents, especially if very quiet submarines carry them. The problem with these missiles is not so much the so-called discrimination problem, whereby Russia would be unsure whether an incoming missile is carrying a conventional weapon or a nuclear one, but that surface warships armed with them can be tracked once deployed to the region. For their part, surface warships carrying sea-launched missiles need to be outside the range of opposing defenses in order to be most effective. Finally, strategic bombers by their nature do not represent an intermediate option: Countries may be reluctant to deploy theater bombers and other delivery aircraft lest they suffer high attrition rates due to anti-aircraft systems positioned in Kaliningrad and elsewhere in Russia's supposed A2/AD bubble. We make the case specifically for land-attack missiles because it is in the land domain where Russia's missile advantage is clearest and most relevant to the local balance. That said, anti-ship missiles still have much value in holding

64 Robert C. Owen, "US Air Force Airlift and the Army's Relevance," *Parameters* 47, no. 2 (Summer 2017): 103–12.

65 Michael Kofman, "Permanently Stationing U.S. Forces in Poland Is a Bad Idea, but One Worth Debating," *War on the Rocks*, Oct. 12, 2018, <https://warontherocks.com/2018/10/permanently-stationing-u-s-forces-in-poland-is-a-bad-idea-but-one-worth-debating/>.

66 See, Michael Allen Hunzeker and Alexander Lanoszka, "Landpower and American Credibility," *Parameters* 45, no. 4 (Winter 2015–16): 17–26, <https://publications.armywarcollege.edu/pubs/3711.pdf>.

67 Cohn et al., *Leveling the Playing Field*, ii.

Russian naval assets in the Baltic Sea at risk.⁶⁸

Ground-based, theater-range missiles complement NATO's ground presence in another way. NATO countries are unable and unwilling to provide the conventional forces in Poland and the Baltic region needed to deny Russian armed forces victory on the battlefield. Meanwhile, the Baltic countries themselves are dwarfed by Russia's capabilities and face massive manpower and budgetary limitations such that they cannot develop a suite of denial capabilities against Russia.⁶⁹ Western European countries may be larger and much richer, but their own militaries have been hollowed out by under-spending in the post-Cold War period, overstretched across multiple missions around the globe, or both.⁷⁰ Ground-based, theater-range missiles offer a

deterrence solution that can be strategically attractive and, comparatively speaking, politically feasible since it would not involve Western European governments paying for a forward ground presence. Moreover, the fact that the United States is going to develop such missiles suggests that there will be significant economies of scale, making them relatively attractive from a cost perspective. For NATO allies in Europe, these missiles represent a solution that is cheaper than alternatives such as the F-35 or Rafale fighters. Indeed, cost-efficiency is likely to be an increasingly important consideration in light of the COVID-19 pandemic and its economic impact. Although it may be too early to assess the implications of the novel coronavirus, it is relatively safe to assume that the question of trade-offs between policy priorities (including in defense) will become increasingly acute. With cuts to defense spend-

ing possible, there will be growing pressure to find cost-efficient solutions to deterrence.⁷¹

Ground-based, theater-range missiles also have a useful role to play in the strategic competition presently unfolding between the United States and Russia. The biggest worry revolving around the enhanced Forward Presence battlegroups is their impermanent nature. Russia will always be a neighbor and

NATO ought to deploy just enough missiles to threaten those critical elements of Russia's missile and A2/AD architecture...

so may be biding

its time for complacency to develop within NATO. It can simply wait out these deployments. However, a deployment of ground-based, theater-range missiles in northeastern Europe could address this issue in two ways. The first is that missiles can complement existing deterrence measures in a more durable manner and at a relatively low cost. Depending on the force package, a missile force — based, for example, in western Poland — could have a small footprint yet boast an outsized punch. NATO could then range and hold at risk Russian targets on a perpetual basis. Even if the United States prioritizes China and prepares to fight only a single major war against that great-power competitor, these missiles could help the United States address key deterrence challenges that persist in the European context.⁷² The second is that these deployments can pressure Rus-

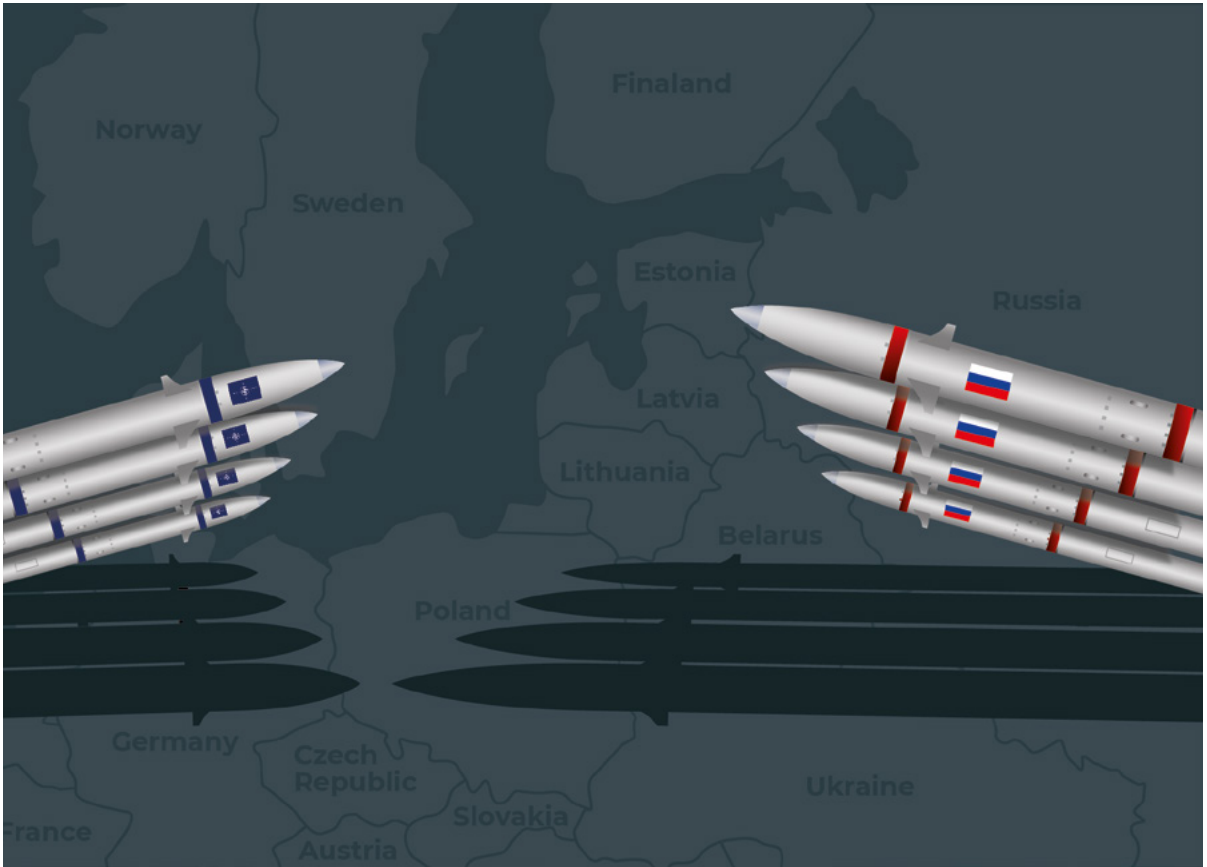
68 On the evolving naval balance in the Baltic Sea as it relates to the broader strategic balance in the Baltic region, see, Heinrich Lange et al., "To the Seas Again: Maritime Defense and Deterrence in the Baltic Region," International Centre for Defense and Security (April 2019), https://icds.ee/wp-content/uploads/2019/04/ICDS_Report_To_the_Seas_Again_Lange_Combes_Jermalavicius_Lawrence_April_2019.pdf.

69 Lanoszka and Hunzeker, *Conventional Deterrence*.

70 See, e.g., Christian Mölling, "Europe Without Defence: The States of Europe Have to Re-evaluate the Interrelationship Between Political Sovereignty, Military Effectiveness and Economic Efficiency," German Institute for International and Security Affairs, SWP Comment 2011/C 38 (November 2011), <https://www.swp-berlin.org/en/publication/europe-without-defence/>; and Daniel Keohane, "Is Britain Back? The 2015 UK Defense Review," CSS Analyses in Security Policy, no. 185 (February 2016): 1–2, <https://css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/CSSAnalysen-185-EN.pdf>.

71 For preliminary analyses of how COVID-19 might impact defense, see, David Barno and Nora Bensahel, "Five Ways the U.S. Military Will Change After the Pandemic," *War on the Rocks*, April 28, 2020, <https://warontherocks.com/2020/04/five-ways-the-u-s-military-will-change-after-the-pandemic/>; and Daniel Fiott, "Will European Defence Survive Coronavirus?" *Elcano Royal Institute*, March 27, 2020, http://www.realinstitutoelcano.org/wps/portal/riecano_en/contenido?WCM_GLOBAL_CONTEXT=/elcano/elcano_in/zonas_in/commentary-fiott-will-european-defence-survive-coronavirus.

72 See, Hal Brands and Evan Braden Montgomery, "One War Is Not Enough: Strategy and Force Planning for Great Power Competition," *Texas National Security Review* 3, no. 2 (Spring 2020), <https://tnsr.org/2020/03/one-war-is-not-enough-strategy-and-force-planning-for-great-power-competition/>.



sia to invest in costly missile-defense and targeting systems, rather than power projection capabilities.⁷³ Such deployments could help improve the current strategic balance by forcing Russia to move from a largely offensive strategy toward a more defensive one and increasing U.S.-NATO bargaining leverage in future arms control talks. At present, Russia has no incentives to engage in such negotiations, whereas NATO itself has few concessions it can make since its eastern members will never agree to a deal that could directly jeopardize their security. A new dual-track process may thus be helpful.⁷⁴

The operational value of ground-based missiles is twofold in the Baltic region. The first is that, in the opening phases of a military confrontation, theater-range missiles can knock out air defense systems located in Kaliningrad and other missile hubs in Russia's Western Military District so as to allow NATO reinforcements to have more freedom to maneuver. The second is that local allies — especially the Baltic

states — will not be forced to exhaust their combat power quickly by trying to burst the A2/AD bubble from within. It is in this regard that surface-to-ship missiles can, for example, also punch through any blockade that Russia might try to impose on a Baltic city from the sea. None of this is to imply that NATO must match Russia capability for capability with regard to the missile balance.⁷⁵ However, NATO can mitigate the risk of decoupling and thus strengthen deterrence in the Baltic region. It should prioritize the missile balance in-theater and complement its missile defense efforts with the deployment of theater-range, ground-based, land-attack, road-mobile conventional missiles in northeastern Europe, as well as anti-ship missiles that can hold off the Russian navy in the Baltic Sea. Doing so would help create a layered series of defensive fires that would make the Baltic region a difficult target for conventional aggression or military coercion.

NATO ought to deploy just enough missiles to

73 Brands and Montgomery, "One War Is Not Enough." Of course, depending on where in Europe NATO would station these new missiles, they could also be targeted by Russian precision-strikes. In fact, Russia might prefer attacking them to intercepting them in flight with air defenses. Allies should also consider the possibility of deploying ground-based, theater-range missiles in Western Europe.

74 On the difficulties of arms control in the present environment, see, Artur Kacprzyk and Łukasz Kulesa, "Dilemmas of Arms Control: Meeting the Interests of NATO's North-Eastern Flank," International Centre for Defence and Security (April 2020), <https://icds.ee/dilemmas-of-arms-control-meeting-the-interests-of-natos-north-eastern-flank/>. These authors similarly argue that NATO should consider new ground-based, theater-range missile deployments.

75 Comprehensive coverage against the cruise missile threat would also be prohibitively costly.

threaten those critical elements of Russia's missile and A2/AD architecture, including missile nodes as well as relevant command-and-control, intelligence, surveillance, and reconnaissance assets. Indeed, the quantitative requirements may not be very high if the missiles can disrupt Russia's war plans.⁷⁶ Critically, if the positioning of NATO theater-range, ground-based, land-attack conventional missile batteries overlapped with U.S. and Polish Patriot surface-to-air missile deployments in Poland, then those batteries would be less vulnerable to a Russian first strike. A broader question relates to whether NATO theater-range missiles could be linked to an upgrading of the Multiple Launch Rocket System and High Mobility Artillery Rocket System with longer-range missiles, such as the U.S. Army's Tactical Missile System.⁷⁷ Currently, the Block 1A missile that this last system uses has a 300 km range, but the U.S. Army is funding development of a version that could exceed 500 km.⁷⁸ Linking such systems together would make clear that the upgrade is tactical and non-nuclear in nature, thereby increasing the chances of the deployments being politically acceptable to NATO members. To be sure, any such upgrades would require examining the associated surveillance, targeting, cueing, command-and-control, and communications capabilities. It would also require determining which level of NATO command would have authority to engage such missiles following decisions by the North Atlantic Council, be it the Supreme Allied Commander Europe, the Joint Force Commander, or NATO Air Command, as part of an integrated air campaign.

European allies are far behind in the development of ground-based, theater-range missiles, with relevant programs in France and the United Kingdom having been suspended decades ago. Accordingly, a U.S.-led solution appears to be the only realistic way for NATO to close the local missile gap with Russia in the short term. Several NATO allies (including France, Germany, Italy, and the United Kingdom) have the Multiple Launch Rocket System, but only Greece, Turkey, and the United States have the Army Tactical Missile System. For their part, Poland and Romania plan to introduce both the Multiple Launch Rocket System and the High Mobility Artillery Rocket System launchers with Army Tacti-

cal Missile System missiles.⁷⁹ Whether France, the United Kingdom, Germany, Italy, or Spain would consider procuring the current or extended range version of the Army Tactical Missile System remains unclear. Nevertheless, European allies that are procuring the Multiple Launch Rocket System and the High Mobility Artillery Rocket System with Army Tactical Missile System missiles, like Poland or Romania, would benefit from any potential upgrades. Additionally, those European allies located within range of Russian missiles can also play an important role by hosting missiles on their territories so as to enhance their own security. Such hosting arrangements could be analogous to existing nuclear-sharing arrangements in Western Europe — arrangements that serve to reassure those partners while enhancing NATO's deterrence and war-fighting capabilities.⁸⁰ Allies like Germany and Poland can also participate in the (co)development of theater-range missile systems. Moreover, given how the post-INF and maturing precision-strike context highlights the centrality of the missile balance for European security, European allies with greater technological expertise and aspirations of strategic autonomy should think harder about the potential of theater-range missiles. Thus, for instance, France, the United Kingdom, or even Germany may need to think about developing European theater-range missiles in order to lessen their technological dependency on the United States.

Rebutting Potential Counter-Arguments

Critics might advance at least two sets of objections to our argument. The first is that missiles would undermine strategic stability and so further worsen relations with Russia, and that new missile deployments would unleash an arms race that would destabilize European security. The second is that new missile deployments would severely damage NATO cohesion at a time when discord already characterizes the alliance.

First, consider the argument that missiles would undermine strategic stability.⁸¹ According to Thomas Schelling and Morton Halperin's formulation,

76 We thank Toshi Yoshihara for this observation.

77 We thank Diego Ruiz Palmer for raising this important point.

78 Author's communication with NATO official, March 27, 2020.

79 *The Military Balance 2020* (London: International Institute for Strategic Studies, 2020), 73.

80 David S. Yost, "Assurance and US Extended Deterrence in NATO," *International Affairs* 85, no. 4 (July 2000): 759–61, <https://www.jstor.org/stable/27695089>.

81 See, e.g., Tom Countryman and Kingston Reif, "Intermediate-Range Missiles Are the Wrong Weapon for Today's Security Challenges," *War on the Rocks*, Aug. 13, 2019, <https://warontherocks.com/2019/08/intermediate-range-missiles-are-the-wrong-weapon-for-todays-security-challenges/>.

strategic stability is a situation in which neither side in a conflict has the ability to launch a disarming first strike against the other.⁸² This fear of attack can be especially dangerous if war seems likely. However, many analysts worry about Russian intentions precisely because Russia might have the ability to launch such an attack on those NATO members located on the alliance's north-eastern flank. Even if Russia may not go so far as launching such an attack, its suite of missile capabilities could give it the confidence to behave aggressively at levels that would not trigger Article 5.⁸³ Far from granting NATO the ability to launch a bolt-out-of-the-blue strike, new missile deployments in Europe would complicate Russia's ability to undertake *faits accomplis* by creating new sources of risks and expanding the set of liabilities that Russia would incur. Indeed, the deployment of conventional missiles will not dramatically affect the nuclear balance, if at all. One 2019 estimate holds that "Russia has a stockpile of roughly 4,490 nuclear warheads assigned for use by long-range strategic launchers and shorter-range tactical nuclear forces" in addition to having over 1,800 warheads assigned to nonstrategic and defensive forces.⁸⁴ Conventional military deployments of the sort we propose would thus not undermine Russia's ability to deter NATO at higher levels of violence. Theater-range missiles could even enhance strategic stability because they would ensure mutual vulnerability — something that arms control advocates themselves endorse. Russian missiles are already enveloping large swaths of NATO territory within their ranges — theater-range missiles would simply level the playing field.

Some critics may similarly worry that an arms race would be destabilizing. Yet, Russia is already building up its arsenal. It may be doing so for defensive purposes, but NATO defense planners cannot be certain of this in light of Russia's behavior in recent years.⁸⁵ Still, arms races are an inherent feature of strategic competition: If one party refuses to counter a move, it gives the other party an edge, thereby endangering strategic stability.⁸⁶ Accordingly, NATO's failure to respond to Russia's INF Treaty violation could lead

to instability in the European system and endanger the security of Eastern European states. A decisive — while still proportional — response on the part of NATO could, in fact, help lead to an arms control agreement because of the added pressure it would put on Russia. As noted above, one reason why the Soviet Union agreed to the INF Treaty was because the United States and its NATO allies had leverage over it. Accepting an unfavorable missile balance deprives NATO of the ability to even attempt to recover that lost leverage while making arms control agreements tantamount to unilateral disarmament.

Still, some critics may argue that new missile deployments would further undermine, if not antagonize, relations with Russia. They could cause Moscow to fear escalation even more, in a manner that destabilizes European security. Moscow would likely argue that any stated restrictions placed on the new missile deployments — whether in terms of their range, payload, or some other characteristic — lack believability. To prevent such deployments from happening, Moscow could engage in a campaign of political warfare against members of NATO. However, worries about how Russia might respond should not be overblown. The fear of nuclear escalation remains an effective deterrent mechanism such that the existence of viable intermediate options in the form of conventional theater-range missiles lends greater credibility to the threat of nuclear war. In current NATO strategy, however, a yawning gap exists between the tripwire-like forces represented by the enhanced Forward Presence battlegroups at the tactical level and the possibility of full conventional or nuclear retaliation at the strategic level. This gap exists precisely because Russia has already been developing an arsenal of theater-range missiles, some of which were prohibited by the now-defunct INF Treaty. Finally, NATO countries should assume that Russia would wage political warfare to forestall *any* new measures implemented by the alliance. Russia began broadcasting disinformation with the goal of damaging public support for the enhanced Forward Presence battlegroups when they were first set up in the Baltic region, albeit with little effect

82 Thomas C. Schelling and Morton H. Halperin, *Strategy and Arms Control* (New York: The Twentieth Century Fund, 1961), 9.

83 See, Alexander Lanoszka, "Russian Hybrid Warfare and Extended Deterrence in Eastern Europe," *International Affairs* 92, no. 1 (January 2016): 175–95, <https://doi.org/10.1111/1468-2346.12509>.

84 Hans M. Kristensen and Matt Korda, "Russian Nuclear Forces, 2019," *Bulletin of the Atomic Scientists* 75, no. 2 (2019): 73–74, <https://doi.org/10.1080/00963402.2019.1580891>.

85 For a relatively benign view of Russia's military program, see, Bettina Renz, *Russia's Military Revival* (Cambridge, UK: Polity, 2018). Debates regarding high-precision weapons in Russia have tended to examine defensive scenarios, but the line between offensive and defensive operations may become increasingly blurred and may be in the eyes of the beholder. See, Roger N. McDermott and Tor Bukkvoll, "Tools of Future Wars—Russia Is Entering the Precision-Strike Regime," *Journal of Slavic Military Studies* 31, no. 2 (2018): 191–213, <https://doi.org/10.1080/13518046.2018.1451097>.

86 See, e.g., Bradford Lee, "Strategic Interaction: Theory and History for Practitioners," in *Competitive Strategies for the 21st Century: Theory, History and Practice*, ed. Thomas G. Mahnken (Stanford, CA: Stanford University Press, 2012): 28–46.

thus far.⁸⁷ To counter such narratives in the future, NATO should remind its public that Russia was responsible for violating the INF Treaty, and that any new deployments are intended to rectify the imbalance that currently favors Russia. Still, to echo the Dual-Track Decision of 1979, NATO should pledge that it is open to reversing the deployments provided that Russia returns to arms control negotiations in good faith.

A second objection that critics might raise is that new missile deployments would damage NATO cohesion at a time when it is already under major duress from within. With President Donald Trump exhibiting an aversion to NATO amid an intense dispute over collective burden-sharing, NATO can ill afford another controversy.⁸⁸ The reasoning here is that new missile deployments will be controversial because even frontline allies will not want them deployed in their country and might, in fact, resist them, while those less concerned by Russia would fear being dragged into a war that they do not want to fight. Even though some frontline allies like Poland might be reluctant to accept missile deployments initially, they might feel compelled to in order to enhance deterrence of Russia. After all, an ally cannot complain of being vulnerable to a Russian attack while rejecting measures that would help reduce that very vulnerability. To do so could lead the United States to doubt the sincerity of its ally's threat assessments. Still, threat perceptions within NATO do vary. Not every member considers Russia to be the alliance's main threat. Some might even value Russian cooperation and so would reject measures that could be seen as provocative. But blaming missiles for any intra-alliance discord would put the horse before the cart since divergent threat perceptions already exist. Alliance cohesion might still unravel if certain members feel that they cannot get the strong security guarantees they need and must remain vulnerable because the sensibilities of other allies would be otherwise offended. Simply put, Russian missiles are what drive disagreements within NATO — not U.S. missiles.

That said, new missile deployments on NATO soil would ideally have alliance consensus. Absent such a consensus, however, states interested in theater-range missile deployments could seek out extra-alliance solutions that limit the damage to

NATO's cohesion. After all, many of the deterrence and defense measures currently being implemented on the northeastern flank do not have a NATO stamp. These measures include U.S. rotational deployments to Poland, growing security linkages between Poland and the Baltic states, increased security cooperation between Sweden and Finland, and an expansion of Nordic-Baltic ties.⁸⁹ Ground-based, theater-range missile deployments could reinforce NATO's agenda even if done outside of the alliance's remit, while giving political cover to those allies that would have rejected such measures. Any NATO allies that decline to support the deployment of ground-based conventional missiles may have to consider expanding their own arsenal of air-to-surface missiles that would be compatible with the F-35 and other similar platforms. Still, even these capabilities cannot be acquired in isolation from others. Countries going down this path would still have to contemplate the implications this sort of strategy would have for intelligence, surveillance, and reconnaissance; suppressing enemy air defenses; and air-to-air refueling. Moreover, they would still have to wrestle with the arms control implications of the dual-capable nature of some of these systems, to say nothing of their questionable appropriateness for dealing with Russian ground missiles.⁹⁰

Conclusion

The missile balance has become central to deterrence and security in contemporary Europe. The demise of the INF Treaty and Russia's embrace of the precision-strike paradigm have allowed Moscow to consolidate a position of local escalation dominance in the Baltic region. In order to remedy that situation, we make the case that NATO ought to deploy ground-based, land-attack, theater-range, road-mobile conventional missiles in Europe. Such a move would enhance deterrence and help restore strategic stability between NATO and Russia in a post-INF Treaty context, with the chance to give NATO the necessary leverage to force Russia back into arms control negotiations.

The deployment of ground-based, theater-range missiles in Europe should be limited and propor-


87 Alexander Lanoszka, "Disinformation in International Politics," *European Journal of International Security* 4, no. 2 (June 2019): 227–48, <https://doi.org/10.1017/eis.2019.6>.

88 On how Trump's criticisms of NATO may have paradoxically reinvigorated the alliance, see, James Sperling and Mark Webber, "Trump's Foreign Policy and NATO: Exit and Voice," *Review of International Studies* 45, no. 3 (July 2019): 511–26, <https://doi.org/10.1017/S0260210519000123>.

89 Luis Simón, Alexander Lanoszka, and Hugo Meijer, "Nodal Defence: The Changing Structure of US Alliance Systems in Europe and East Asia," *Journal of Strategic Studies* (2019): 1–29, <https://doi.org/10.1080/01402390.2019.1636372>.

90 We thank Diego Ruiz Palmer for raising this important point.

tional. It ought to be confined to the conventional domain so as to eliminate any misunderstandings that the missiles could be nuclear-tipped.⁹¹ In terms of targeting, these missiles should be restricted to those critical elements of Russia's missile and A2/AD architecture, including both missile nodes as well as relevant command-and-control, intelligence, surveillance, and reconnaissance assets. Further research should examine what kind of posture would provide the right balance between restoring stability and avoiding an escalation spiral. Greater attention should also be paid to questions related to the appropriate mix of defensive and offensive missile capabilities in NATO's strategy, corresponding changes to the alliance's command-and-control architecture, how these debates relate to Europe's contribution to its own security, and questions of transatlantic burden-sharing.

Indeed, U.S. defense planners and analysts have already been thinking about the potential strategic role of ground-based, theater-range missiles in East Asia. How these policy discussions unfold will have implications for U.S. defense strategy in Europe. For these and other reasons, an upgrade of existing U.S. Army programs would arguably constitute the fastest and most reliable way for NATO to develop a theater-range missile capability. However, greater involvement from other European allies would make NATO's response to Russia's missile advantage collective and more widely distributed across the alliance, thereby increasing the shared risk and by extension enhancing deterrence. European allies located within range of Russian missiles can also play an important role by hosting missiles on their territories so as to improve their own security. Moreover, their participation in current U.S. missile programs means that allies like Poland or, potentially, Germany, could collaborate with the United States on the (co)development of theater-range missile systems. More broadly, for initiatives regarding European strategic autonomy to have any impact, both Western and Central European states should invest in the development of advanced theater-range missile capabilities, perhaps even drawing on the European Defence Fund to finance their development and to demonstrate that E.U. defense initiatives are in line with NATO's deterrence needs.⁹² 

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Photo: Latonja Martin, U.S. Navy

91 Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca, NY: Cornell University Press, 1991).

92 On the need for greater complementarity between the technological-industrial and strategic pillars of European defense, and how that relates to E.U.-NATO relations, see, Luis Simón, "EU-NATO Cooperation in an Era of Great-Power Competition," George Marshall Fund, Policy Brief no. 28, November 2019, <https://www.gmfus.org/publications/eu-nato-cooperation-era-great-power-competition>.